UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
18/479,720	10/02/2023	Zvi Tannenbaum	ZTANN.002P1C9

CONFIRMATION NO. 4435

20995
Knobbe, Martens, Olson & Bear, LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

PUBLICATION NOTICE

OC000000075171820

Date Mailed: 07/15/2024

Title:CLUSTER COMPUTING

Publication No.US-2024-0223433-A1
Publication Date:07/04/2024

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be viewed using the USPTO's publicly available Searchable Databases via the Patent Public Search tool at www.uspto.gov. The direct link to access the Patent Public Search tool is currently https://ppubs.uspto.gov/pubwebapp/static/pages/ppubsbasic.html.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through Patent Center, the USPTO's electronic patent application filing and management system. The direct link to access this status information is currently https://patentcenter.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of Patent Center.

Further assistance in electronically accessing the publication, or about Patent Center, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/479,720	10/02/2023	Zvi Tannenbaum	ZTANN.002P1C9	4435

20995 7590 06/25/2024

Knobbe, Martens, Olson & Bear, LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
ASRES, HERMON	

ART UNIT	PAPER NUMBER
2449	

NOTIFICATION DATE	DELIVERY MODE
06/25/2024	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Atty.AdminCoordinator@knobbe.com
efiling@knobbe.com

APPLICATION NO.	ISSUE DATE	PATENT NO.
18/479,720	25-Jun-2024	12021679

Knobbe, Martens, Olson & Bear, LLP
2040 MAIN STREET
IRVINE, CA 92614

EGRANT NOTIFICATION

Your electronic patent grant (eGrant) is now available, which can be accessed via Patent Center at https://patentcenter.uspto.gov

The electronic patent grant is the official patent grant under 35 U.S.C. 153. For more information, please visit https://www.uspto.gov/electronicgrants

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/479,720	06/25/2024	12021679	ZTANN.002P1C9	4435

20995 7590 06/05/2024

Knobbe, Martens, Olson & Bear, LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

ISSUE NOTIFICATION

The projected patent number and issue date are specified above. The patent will issue electronically. The electronically issued patent is the official patent grant pursuant to 35 U.S.C. § 153. The patent may be accessed on or after the issue date through Patent Center at https://patentcenter.uspto.gov/. The patent will be available in both the public and the private sides of Patent Center. Further assistance in electronically accessing the patent, or about Patent Center, is available by calling the Patent Electronic Business Center at 1-888-217-9197.

The USPTO is implementing electronic patent issuance with a transition period, during which period the USPTO will mail a ceremonial paper copy of the electronic patent grant to the correspondence address of record. Additional copies of the patent (i.e., certified and presentation copies) may be ordered for a fee from the USPTO's Certified Copy Center at https://certifiedcopycenter.uspto.gov/index.html. The Certified Copy Center may be reached at (800)972-6382.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Center (https://patentcenter.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Patents Stakeholder Experience (OPSE), Stakeholder Support Division (SSD) at (571)-272-4200.

INVENTOR(s) (Please see PATENT CENTER site https://patentcenter.uspto.gov for additional inventors):

Zvi Tannenbaum, Palo Alto, CA;
Dean E. Dauger, Huntington Beach, CA;

APPLICANT(s) (Please see PATENT CENTER site https://patentcenter.uspto.gov for additional applicants):

Advanced Cluster Systems, Inc., Newport Beach, CA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 1 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	1	2023/0308339 (Attorney Docket No. ZTANN.002P1C8) U.S. Application No. 18/158,283 and its entire prosecution history**	09-28-2023	Tannenbaum et al.	
	2	5,423,046	06-06-1995	Nunnelley et al.	
	3	5,881,315	03-09-1999	Cohen	
	4	5,930,768	07-27-1999	Hooban	
	5	6,006,259	~~11-28-1999~~ 12/1999	Adelman et al.	
	6	6,067,609	05-23-2000	Meeker et al.	
	7	6,074,427	06-13-2000	Fought et al.	
	8	6,108,699	08-22-2000	Moiin	
	9	6,195,680	02-27-2001	Goldszmidt et al.	
	10	6,202,080	03-13-2001	Lu et al.	
	11	6,546,403	04-08-2003	Carlson, Jr. et al.	
	12	6,578,068	06-10-2003	Bowman-Amuah	
	13	6,604,134	08-05-2003	Haury	
	14	6,691,216	02-10-2004	Kelly et al.	
	15	6,751,698	06-15-2004	Deneroff et al.	
	16	6,782,537	08-24-2004	Blackmore et al.	
	17	6,968,335	11-22-2005	Bayliss et al.	
	18	6,968,359	11-22-2005	Miller	
	19	7,015,915	03-21-2006	Diard	
	20	7,031,944	04-18-2006	Tanioka	
	21	7,093,004	08-15-2006	Bernardin et al.	
	22	7,136,924	11-14-2006	Dauger	
	23	7,139,882	11-21-2006	Suzuoki et al.	
	24	7,162,590	01-09-2007	Pruvost et al.	
	25	7,174,381	02-06-2007	Gulko et al.	
	26	7,177,874	02-13-2007	Jardin	

Change(s) applied to document, /M.E.G./ 5/10/2024

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/479,720	05/16/2024 02:29:20 PM Z ET	ZTANN.002P1C9

Title of Invention

CLUSTER COMPUTING

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	4435	FILED BY	LaNecia McElvain
PATENT CENTER #	65554375	AUTHORIZED BY	Damien Howard
CUSTOMER #	20995	FILING DATE	10/02/2023
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Zvi Tannenbaum

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
CARD / 2564	E20245FE30536134	Jennifer Huang

PRE-AUTHORIZED ACCOUNT	PRE-AUTHORIZED CATEGORY
111410	37 CFR 1.16 (National application filing, search, and examination fees); 37 CFR 1.17 (Patent application and reexamination processing fees)

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
1501	UTILITY ISSUE FEE	1200.00	1	1200.00
			TOTAL AMOUNT:	$1,200.00

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/479,720	**05/16/2024 02:29:20 PM Z ET**	**ZTANN.002P1C9**

Title of Invention

CLUSTER COMPUTING

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	4435	FILED BY	LaNecia McElvain
PATENT CENTER #	65554375	FILING DATE	10/02/2023
CUSTOMER #	20995	FIRST NAMED INVENTOR	Zvi Tannenbaum
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Damien Howard

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
2024-05-16 Comments on Allowance - ZTANN.002P1C9.pdf	2	Post Allowance Communication - Incoming	22 KB
2024-05-16 Issue Fee Transmittal - ZTANN.002P1C9.pdf	1	Issue Fee Payment (PTO-85B)	183 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)

2024-05-16 Comments on Allowance - ZTANN.002P1C9.pdf	DD135CD0035385E399D4B312FF7E4F931EFCEE3E9102326B3EB3B48AB8510398C3F97B0368B8A0B796F5BDC542A20C73631C5B5C418096B7A31C7E71997804D0
2024-05-16 Issue Fee Transmittal - ZTANN.002P1C9.pdf	2F10BCEA5353BA15DC5AA15FCF9E9FA5097DE54CF9CABE529E09161D17A70983413DE4D63752950C0B99D7D91070AC075DF9401F6DCC3C9809B027D3A886F1E0

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

COMMENTS ON EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

First Inventor: Tannenbaum, Zvi	**Conf. No.:** 4435
App. No.: 18/479720	**Filed:** October 02, 2023
Examiner: Hermon Asres	**Art Unit:** 2449
Title: CLUSTER COMPUTING	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

As noted during prosecution of earlier family members of this application, several of the references listed or provided in Information Disclosure Statements are from litigation for related patent applications. The relevant litigation, as identified in those documents, is the following. Advanced Cluster Systems, Inc. ("ACS") filed suit against NVIDIA Corporation ("NVIDIA") in the U.S. District Court for the District of Delaware (Case No. 1:19-cv-02032-UNA) on October 28, 2019, alleging infringement of various issued patents, including U.S. Patent Nos. 8,082,289, 8,140,612, 8,676,877, and 10,333,768. Certain documents were received by ACS from NVIDIA during discovery. These documents, including invalidity contentions, and other documents obtained during the litigation have previously been reviewed by the Examiner during prosecution of the present application. For example, in the IDS filed October 3, 2023 and reviewed April 20, 2024, items 525-600 relate to the litigation. The above identified litigation is no longer ongoing.

Further, in response to the Examiner's Statement of Reasons for Allowance included in the previous Notice of Allowance mailed on May 6, 2024 (the "Reasons"), Applicant respectfully submits the following comments.

Applicant thanks the Examiner for the diligent examination of each of the pending claims and acknowledging the patentability thereof. Applicant wishes to point out that each claim is separately patentable based on the combination of features recited therein and not on any particular feature or group of features. Accordingly, to the extent that the Reasons omit claim elements, add claim elements, group claims together, or identify purportedly similar features or distinguishing features of a claim or a group of claims, Applicant respectfully disagrees with the Reasons. Additionally, to the extent that the Reason's paraphrasing of the subject matter of the claims

deviates from the actual language recited in each individual claim, Applicant respectfully disagrees with the Reasons. Applicant respectfully disagrees with the Reasons to the extent there is any implication that the patentability of the dependent claims is dependent on, or these claims have the same scope as, the independent claim from which each depends. As noted above, patentability of each claim rests on each claim taken as a whole on its own merits. For dependent claims, their additional limitations may also provide additional reasons for patentability.

The Reasons (as well as other Office communications) characterize cited references. Applicant respectfully disagrees with the Reasons to the extent that such characterizations differ from the actual teachings of each of such references. Applicant also respectfully reserves the right to traverse the characterizations of what any particular reference shows or teaches, of what any combination of references shows or teaches, or the appropriateness of combining references in the future.

Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the application's disclosure. Accordingly, reviewers of this or any child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter.

Applicant attaches herewith payment of the issue fee and requests that the application proceed to issuance. Should the Examiner have any concerns, the Examiner is invited to contact the undersigned at the telephone number below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,
KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: May 16, 2024

By: /Damien J. Howard/
Damien J. Howard
Registration No. 70,256
Registered Practitioner
(949) 760-0404

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via the USPTO patent electronic filing system.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

20995 7590 05/06/2024
Knobbe, Martens, Olson & Bear, LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via the USPTO patent electronic filing system or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/479,720	10/02/2023	Zvi Tannenbaum	ZTANN.002P1C9	4435

TITLE OF INVENTION: CLUSTER COMPUTING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	08/06/2024

EXAMINER	ART UNIT	CLASS-SUBCLASS
ASRES, HERMON	2449	709-223000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Knobbe, Martens,
Olson & Bear, LLP
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: Advanced Cluster Systems, Inc.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Newport Beach, CA

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required)

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via the USPTO patent electronic filing system ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge ~~the required fee(s),~~ any deficiency, or credit any overpayment to Deposit Account No. 11-1410

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

☐ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

☐ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Damien Howard/ Date 2024-05-15

Typed or printed name Damien J. Howard Registration No. 70,256

Ex.1002 / Page 13 of 382
Intel Corporation et al

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
18/479,720	10/02/2023	2449	1980	ZTANN.002P1C9	19	1

CONFIRMATION NO. 4435

CORRECTED FILING RECEIPT

20995
Knobbe, Martens, Olson & Bear, LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

OC00000007511022

Date Mailed: 05/14/2024

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Zvi Tannenbaum, Palo Alto, CA;
Dean E. Dauger, Huntington Beach, CA;

Applicant(s)

Advanced Cluster Systems, Inc., Newport Beach, CA;

Power of Attorney: The patent practitioners associated with Customer Number 20995

Domestic Priority data as claimed by applicant

This application is a CON of 18/158,283 01/23/2023 PAT 11,811,582
which is a CON of 17/374,864 07/13/2021 PAT 11,563,621
which is a CON of 16/449,084 06/21/2019 PAT 11,128,519
and said 18/158,283 01/23/2023 is a CON of 17/374,789 07/13/2021 PAT 11,570,034
which is a CON of 16/449,084 06/21/2019 PAT 11,128,519
which is a CON of 14/181,112 02/14/2014 PAT 10,333,768
which is a CON of 13/423,063 03/16/2012 PAT 8,676,877
which is a CON of 12/040,519 02/29/2008 PAT 8,140,612
which is a CIP of 11/744,461 05/04/2007 PAT 8,082,289
which claims benefit of 60/813,738 06/13/2006
and claims benefit of 60/850,908 10/11/2006

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 10/17/2023

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 18/479,720**

Projected Publication Date: 07/04/2024

Non-Publication Request: No

Early Publication Request: No

Title

CLUSTER COMPUTING

Preliminary Class

709

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign

patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

REQUEST FOR UPDATED OR CORRECTED FILING RECEIPT

First Inventor: Tannenbaum, Zvi	**Conf. No.:** 4435
App. No.: 18/479720	**Filed:** October 2, 2023
Examiner: Asres, Hermon	**Art Unit:** 2449
Title: CLUSTER COMPUTING	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Applicant hereby requests the Office issue an Updated Filing Receipt to correct information identified on the Corrected Application Data Sheet filed herewith.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: May 9, 2024

By: /Damien J. Howard/
Damien J. Howard
Registration No. 70,256
Registered Practitioner
(949) 760-0404

59537424

APPLICATION DATA SHEET

Application Information

Application Number: 18/479720

Filing Date: October 2, 2023

Title: CLUSTER COMPUTING

Attorney Docket Number: ZTANN.002P1C9

Domestic Priority Information

Application:	Continuity Type:	Parent Application:	Parent Filing Date:
This Application	continuation of	18/158,283	2023-01-23
18/158,283	continuation of	17/374,864	2021-07-13
17/374,864	continuation of	16/449,084	2019-06-21
18/158,283	continuation of	17/374,789	2021-07-13
17/374,789	continuation of	16/449,084	2019-06-21
16/449,084	continuation of	14/181,112	2014-02-14
14/181,112	continuation of	13/423,063	2012-03-16
13/423,063	continuation of	12/040,519	2008-02-29
12/040,519	continuation in part of	11/744,461	2007-05-04
11/744,461	Claims benefit of provisional	60/813,738	2006-06-13
11/744,461	Claims benefit of provisional	60/850,908	2006-10-11

Dated: May 9, 2024

By: /Damien J. Howard/
Damien J. Howard
Registration No. 70,256
Registered Practitioner
Customer No. 20995
(949) 760-0404

59537421

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/479,720	**05/09/2024 07:22:47 PM Z ET**	**ZTANN.002P1C9**

Title of Invention

CLUSTER COMPUTING

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	4435	FILED BY	LaNecia McElvain
PATENT CENTER #	65450849	FILING DATE	10/02/2023
CUSTOMER #	20995	FIRST NAMED INVENTOR	Zvi Tannenbaum
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Damien Howard

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
2024-05-09 Request for Updated Filing Receipt - ZTANN.002P1C9.pdf	1	Request for Corrected Filing Receipt	15 KB
2024-05-09 Corrected ADS - ZTANN.002P1C9.pdf	1	Application Data Sheet	33 KB

Warning: This is not a USPTO supplied ADS fillable form. Data in the form cannot be automatically loaded to other USPTO systems.

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)

2024-05-09 Request for Updated Filing Receipt - ZTANN.002P1C9.pdf	FA63F48E3D99682A0DD4C7B7A7D9100F38EB497F03F3665E7E494C5AFF6298A87C5E981BF20B349B7F45C502CB14C2FDF0568215BB1BB4338EEAFE0F74E834D4
2024-05-09 Corrected ADS - ZTANN.002P1C9.pdf	EADFE6927325B06FCD17E27EA1DCB31A111E026615D8D25D631DD410E133690A2CEC0644F79F0121E49770E882F1C1B1D77B880EF2BFCA08BF2DC7095AEF2CE8

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

20995 7590 05/06/2024

Knobbe, Martens, Olson & Bear, LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
ASRES, HERMON	
ART UNIT	**PAPER NUMBER**
2449	

DATE MAILED: 05/06/2024

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/479,720	10/02/2023	Zvi Tannenbaum	ZTANN.002P1C9	4435

TITLE OF INVENTION: CLUSTER COMPUTING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	08/06/2024

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 40% the amount of undiscounted fees, and micro entity fees are 20% the amount of undiscounted fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PTOL-85 (Rev. 11/23)

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via the USPTO patent electronic filing system.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

20995 7590 05/06/2024
Knobbe, Martens, Olson & Bear, LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via the USPTO patent electronic filing system or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/479,720	10/02/2023	Zvi Tannenbaum	ZTANN.002P1C9	4435

TITLE OF INVENTION: CLUSTER COMPUTING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	08/06/2024

EXAMINER	ART UNIT	CLASS-SUBCLASS
ASRES, HERMON	2449	709-223000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required)

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via the USPTO patent electronic filing system ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

❑ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

❑ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/479,720	10/02/2023	Zvi Tannenbaum	ZTANN.002P1C9	4435

20995 7590 05/06/2024

Knobbe, Martens, Olson & Bear, LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
ASRES, HERMON	

ART UNIT	PAPER NUMBER
2449	

DATE MAILED: 05/06/2024

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 11/23)

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. The United States Patent and Trademark Office (USPTO) collects the information in this record under authority of 35 U.S.C. 2. The USPTO's system of records is used to manage all applicant and owner information including name, citizenship, residence, post office address, and other information with respect to inventors and their legal representatives pertaining to the applicant's/owner's activities in connection with the invention for which a patent is sought or has been granted. The applicable Privacy Act System of Records Notice for the information collected in this form is COMMERCE/PAT-TM-7 Patent Application Files, available in the Federal Register at 78 FR 19243 (March 29, 2013).
https://www.govinfo.gov/content/pkg/FR-2013-03-29/pdf/2013-07341.pdf

Routine uses of the information in this record may include disclosure to:

1) law enforcement, in the event that the system of records indicates a violation or potential violation of law;
2) a federal, state, local, or international agency, in response to its request;
3) a contractor of the USPTO having need for the information in order to perform a contract;
4) the Department of Justice for determination of whether the Freedom of Information Act (FOIA) requires disclosure of the record;
5) a Member of Congress submitting a request involving an individual to whom the record pertains, when the individual has requested the Member's assistance with respect to the subject matter of the record;
6) a court, magistrate, or administrative tribunal, in the course of presenting evidence, including disclosures to opposing counsel in the course of settlement negotiations;
7) the Administrator, General Services Administration (GSA), or their designee, during an inspection of records conducted by GSA under authority of 44 U.S.C. 2904 and 2906, in accordance with the GSA regulations and any other relevant (i.e., GSA or Commerce) directive, where such disclosure shall not be used to make determinations about individuals;
8) another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c));
9) the Office of Personnel Management (OPM) for personnel research purposes; and
10) the Office of Management and Budget (OMB) for legislative coordination and clearance.

If you do not furnish the information requested on this form, the USPTO may not be able to process and/or examine your submission, which may result in termination of proceedings, abandonment of the application, and/or expiration of the patent.

Notice of Allowability	Application No. 18/479,720	Applicant(s) Tannenbaum et al.	
	Examiner HERMON ASRES	Art Unit 2449	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to 03/19/2024.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 2-20 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some* c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☑ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☑ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/HERMON ASRES/
Primary Examiner, Art Unit 2449

DETAILED ACTION

REASONS FOR ALLOWANCE

Claims 2-20 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

In interpreting the claims, in light of the specification the Examiner finds the claimed invention to be patentably distinct from the prior art of record.

Block et al. (2005/0021751) teaches an apparatus, program product and method utilize cluster data port services within a cluster infrastructure to provide reliable and efficient communications between nodes in a clustered computer system. The cluster data port services present an abstracted transport service that encapsulates and manages the establishment of multiple connection paths between a source node, a target node and one or more backup nodes in such a manner that a cluster data port is effectively utilized as single data port from the perspective of a user program. **(See Abstract).**

Fought et al. (6,074,427) teaches a system and method for simulating multiple clusters of independent computer nodes in a single machine. A cluster contains one or more computer nodes interconnected by a communications link. A user can simulate a cluster of n nodes by generating n user-level procedures where each user-level procedure represents the

kernel of a respective node. An additional mechanism is provided which allows a user to exercise the operation of any intended function in any of the nodes in any of the clusters. **(See Abstract).**

Singh (8,601,101) teaches a system and method for each node in a cluster including a peer-to-peer communication channel compiling and maintaining its own cluster membership are disclosed. In one embodiment, each cluster node may be coupled to every other node and commonly-accessible storage through a network. When a node starts up and attempts to join the cluster, it may access cluster information data stored in the commonly-accessible storage. This information may include a list of all nodes that are potential cluster members. Based on the cluster membership information, the joining node may request a peer-to-peer connection with each potential cluster member. When such a request results in establishment of a connection, the joining node may add the name of the target node to its cluster membership list. Likewise, when a member node grants a connection to a node, it may add the joining node to its cluster membership list. **(See Abstract).**

However, the prior art of records fail to teach or suggest individually or in combination as set forth in independent claims 2 filed on 03/19/2024. Claims 3-20 are also allowed for the same reasons.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submission should clearly labeled “Comments on statement of Reason for Allowance”.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HERMON ASRES whose telephone number is (571)272-4257. The examiner can normally be reached Monday to Friday 9AM to 5PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Vivek Srivastava can be reached on (571)272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: https://patentcenter.uspto.gov. Visit https://www.uspto.gov/patents/apply/patent-center for more information about Patent Center and https://www.uspto.gov/patents/docx for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HERMON ASRES/
Primary Examiner, Art Unit 2449

Examiner-Initiated Interview Summary	**Application No.** 18/479,720	**Applicant(s)** Tannenbaum et al.		
	Examiner HERMON ASRES	**Art Unit** 2449	**AIA (First Inventor to File) Status** No	**Page** 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	**Title**	**Type**
HERMON ASRES	Primary Examiner	Telephonic
Jordan Cox REG NO (70,875)	Attorney	

Date of Interview: 18 April 2024

Issues Discussed:

Other

Examiner contacted applicant to file a Terminal Disclaimer in order to put the application in condition for allowance. Terminal Disclaimer was filed and approved on 04/18/2024.

/HERMON ASRES/ Primary Examiner, Art Unit 2449	

Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04
Please further see:
MPEP 713.04
Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b)
37 CFR § 1.2 Business to be transacted in writing

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Notice of References Cited	Application/Control No. 18/479,720	Applicant(s)/Patent Under Reexamination Tannenbaum et al.	
	Examiner HERMON ASRES	Art Unit 2449	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date YYYY-MM-DD	Name	CPC Classification	US Classification
*	A	US-20050021751-A1	2005-01-27	Block, Timothy Roy	H04L67/1017	714/E11.073
*	B	US-20070073705-A1	2007-03-29	Gray; Theodore W.	G06F9/451	1/1
*	C	US-8601101-B1	2013-12-03	Singh; Servesh Pratap	H04L69/40	370/254
*	D	US-6968359-B1	2005-11-22	Miller; Robert	G06F9/5061	709/205
*	E	US-20070094532-A1	2007-04-26	SENGUPTA; Sabyasachi	G06F11/3632	714/E11.207
*	F	US-20030195938-A1	2003-10-16	Howard, Kevin David	G06F15/163	709/208
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date YYYY-MM-DD	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in YYYY-MM-DD format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/479,720	Tannenbaum et al.
	Examiner	Art Unit
	HERMON ASRES	2449

CPC - Searched*		
Symbol	Date	Examiner
H04L41/04, G06F9/5072, G06G9/54, G04F/76	04/20/2024	HA

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
709	223	04/20/2024	HA

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Searched (US Patents, USPGPubs, EPO, JPO, Derwent, IBM)	04/20/2024	HA
See search history attached	04/20/2024	HA
Inventor research performed	04/20/2024	HA
Key word search performed in NPL (google scholar and ip.com)	04/20/2024	HA
Inventor search performed	04/20/2024	HA

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/479,720	Tannenbaum et al.
	Examiner	Art Unit
	HERMON ASRES	2449

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
709	223	04/20/2024	HA

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/479,720	Tannenbaum et al.
	Examiner	**Art Unit**
	HERMON ASRES	2449

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	04/20/2024								
	1	-								
	2	=								
	3	=								
	4	=								
	5	=								
	6	=								
	7	=								
	8	=								
	9	=								
	10	=								
	11	=								
	12	=								
	13	=								
	14	=								
	15	=								
	16	=								
	17	=								
	18	=								
	19	=								
	20	=								

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/479,720	Tannenbaum et al.
	Examiner	**Art Unit**
	HERMON ASRES	2449

CPC							
Symbol						**Type**	**Version**
H04L	/	41	/	04		F	2013-01-01
G06F	/	9	/	5072		I	2013-01-01
G06F	/	9	/	54		I	2013-01-01
G06F	/	15	/	76		I	2013-01-01

CPC Combination Sets								
Symbol						**Type**	**Set**	**Ranking**	**Version**
	/		/						

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	19	
/HERMON ASRES/ Primary Examiner, Art Unit 2449	20 April 2024	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office — Part of Paper No.: 20240420

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/479,720	Tannenbaum et al.
	Examiner	**Art Unit**
	HERMON ASRES	2449

INTERNATIONAL CLASSIFICATION					
CLAIMED					
H04L41/04	/	41	/	04	
G06F9/50	/	9	/	50	
G06F9/54	/	9	/	54	
G06F15/76	/	15	/	76	

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**
709	223

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	19	
/HERMON ASRES/ Primary Examiner, Art Unit 2449	20 April 2024	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office — Part of Paper No.: 20240420

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/479,720	Tannenbaum et al.
	Examiner	**Art Unit**
	HERMON ASRES	2449

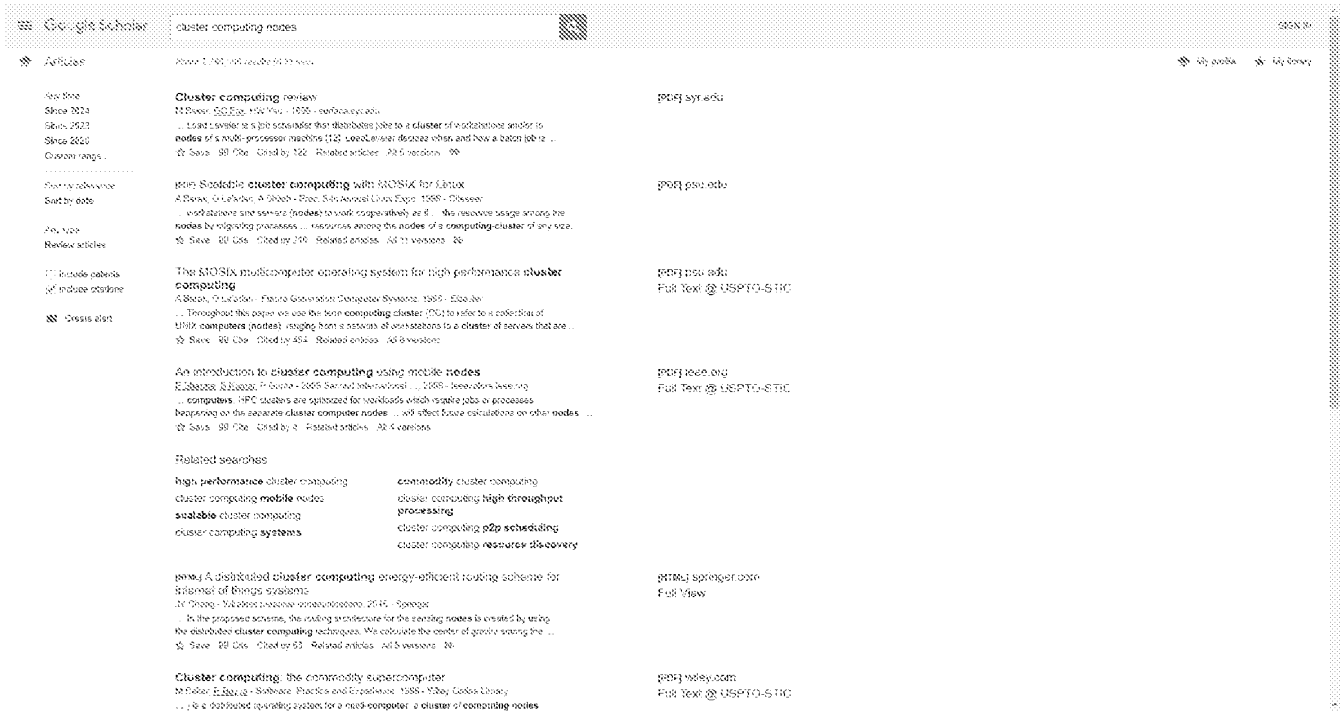
☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	2	10	11	19	20										
2	3	11	12												
3	4	12	13												
4	5	13	14												
5	6	14	15												
6	7	15	16												
7	8	16	17												
8	9	17	18												
9	10	18	19												

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	19	
/HERMON ASRES/ Primary Examiner, Art Unit 2449	20 April 2024	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office Part of Paper No.: 20240420


Google Scholar
cluster computing nodes
Articles
Any time
Since 2024
Since 2023
Since 2020
Custom range...
Sort by relevance
Sort by date
Any type
Review articles
Include patents
Include citations
Create alert
My profile
My library
Cluster computing review
M Baker, G Fox - NPAC Syr. Univ., 1999 - surfaces.ucsb.edu
... Load Leveler is a job scheduler that distributes jobs to a cluster of workstations and/or nodes of a multi-processor machine [12]. LoadLeveler decides when and how a batch job is ...
Save 99 Cite Cited by 122 Related articles All 5 versions
[PDF] syr.edu
gMOSIX: Scalable cluster computing with MOSIX for Linux
A Barak, O La'adan, A Shiloh - Proc. 5th Annual Linux Expo, 1998 - Citeseer
... workstations and servers (nodes) to work cooperatively as if ... the resource usage among the nodes by migrating processes ... resources among the nodes of a computing-cluster of any size.
Save 99 Cite Cited by 210 Related articles All 11 versions
[PDF] psu.edu
The MOSIX multicomputer operating system for high performance cluster computing
A Barak, O La'adan ... - Future Generation Computer Systems, 1998 - Elsevier
... Throughout this paper we use the term computing cluster (PC) to refer to a collection of UNIX computers (nodes), ranging from a network of workstations to a cluster of servers that are ...
Save 99 Cite Cited by 464 Related articles All 8 versions
[PDF] nsu.edu
Full Text @ USPTO-SITC
An introduction to cluster computing using mobile nodes
R Baraglia, R Ferrini, P Dazzi - 2008 Second International ..., 2008 - ieeexplore.ieee.org
... computers. HPC clusters are optimized for workloads which require jobs or processes happening on the separate cluster computer nodes ... will affect future calculations on other nodes ...
Save 99 Cite Cited by 8 Related articles All 4 versions
[PDF] ieee.org
Full Text @ USPTO-SITC
Related searches
high performance cluster computing
cluster computing mobile nodes
scalable cluster computing
cluster computing systems
commodity cluster computing
cluster computing high throughput processing
cluster computing p2p scheduling
cluster computing resource discovery
gDRAG: A distributed cluster computing energy-efficient routing scheme for Internet of things systems
JY Chung - Wireless Personal Communications, 2015 - Springer
... In the proposed scheme, the routing architecture for the sensing nodes is created by using the distributed cluster computing techniques. We calculate the center of gravity using the ...
Save 99 Cite Cited by 63 Related articles All 5 versions
[HTML] springer.com
Full View
Cluster computing: the commodity supercomputer
M Baker, R Buyya - Software: Practice and Experience, 1999 - Wiley Online Library
... / a distributed operating system for a multi-computer. a cluster of computing nodes
[PDF] wiley.com
Full Text @ USPTO-SITC

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	6	((Zvi) near2 (Tannenbaum)).INV.	(USPAT)	OR	OFF	OFF	2015/07/24 08:25 PM
L2	7	((Dean) near2 (Dauger)).INV.	(USPAT)	OR	OFF	OFF	2015/07/24 08:25 PM
L3	177	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:26 PM
L4	24	L3 and interpret	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:26 PM
L5	28950	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:26 PM
L6	5291	H04L41/0213.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:27 PM
L7	1692	H04L29/08072.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:27 PM
L8	27776	H04L29/06.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:27 PM
L9	6793	H04L41/22.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:28 PM
L10	8156	H04L41/12.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:28 PM
L11	0	L3 and L6	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:28 PM
L12	0	L3 and L7	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:28 PM
L13	15	L3 and L8	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:28 PM
L14	0	L3 and L9	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:28 PM
L15	2	L3 and L10	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/24 08:28 PM
L16	99	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"2003019593	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/25 12:54 PM

		8"|"20040110209"|"200 40157203"|"200402527 10"|"20050021751"|"20 050038852"|"20050060 237"|"20050076105"|"2 0050108394"|"2005018 0095"|"20060053216"|" 20060106931"|"200700 44099"|"20070073705"| "20080250347"|"20080 281997"|"5423046"|"58 81315"|"5930768"|"610 8699"|"6202080"|"6546 403"|"6578068"|"67516 98"|"6782537"|"696833 5"|"7093004"|"7136924" |"7174381"|"7249357"|" 7334232"|"7437460"|"7 472193"|"7554949"|"79 37455"|"8082289"|"814 0612"|"8402083"|"8676 877").PN.				
L17	177	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/25 01:19 PM
L18	10	(computer with cluster) same nodes same kernel and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/25 01:20 PM
L19	177	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/07/25 01:23 PM
L20	10	("8402080").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2015/11/29 11:38 PM
L21	2	("8849889").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2015/11/29 11:38 PM
L22	92	US-1234567-$.DID. OR US-5423046-$.DID. OR US-5881315-$.DID. OR US-5930768-$.DID. OR US-6108699-$.DID. OR US-6202080-$.DID. OR US-6546403-$.DID. OR US-6578068-$.DID. OR US-6751698-$.DID. OR US-6782537-$.DID. OR US-6968335-$.DID. OR US-7093004-$.DID. OR US-7136924-$.DID. OR US-7174381-$.DID. OR US-7249357-$.DID. OR US-7334232-$.DID. OR US-7437460-$.DID. OR US-7472193-$.DID. OR US-7554949-$.DID. OR	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2015/11/29 11:39 PM

		US-7937455-$.DID. OR US-8082289-$.DID. OR US-8140612-$.DID. OR US-8402083-$.DID. OR US-8676877-$.DID. OR US-20020049859-$.DID. OR US-20030005266-$.DID. OR US-20030051062-$.DID. OR US-20030135621-$.DID. OR US-20030195931-$.DID. OR US-20030195938-$.DID. OR US-20040110209-$.DID. OR US-20040157203-$.DID. OR US-20040252710-$.DID. OR US-20050021751-$.DID. OR US-20050038852-$.DID. OR US-20050060237-$.DID. OR US-20050076105-$.DID. OR US-20050108394-$.DID. OR US-20050180095-$.DID. OR US-20060053216-$.DID. OR US-20060106931-$.DID. OR US-20070044099-$.DID. OR US-20070073705-$.DID. OR US-20080250347-$.DID. OR US-20080281997-$.DID. OR JP-1234567-$.DID. OR JP-0887473-$.DID. OR JP-2002117010-$.DID. OR US-6131999-$.DID.					
L23	4	(computer with cluster) same (nodes) same (single-node with kernel)	(USPAT)	OR	OFF	OFF	2016/06/17 07:19 PM
L24	10	(computer with cluster) same (nodes) same (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/06/17 07:20 PM
L25	11	(computer with cluster) same (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/06/17 07:20 PM
L26	11	(computer with cluster) and (nodes) and (single-node with	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/06/17 07:20 PM

		kernel)					
L27	224	(computer with cluster) and (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/06/17 07:20 PM
L28	145	(computer with cluster) same (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/06/17 07:21 PM
L29	6	(computer with cluster) same (nodes) and (single with kernel) and 709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/06/17 07:22 PM
L30	10	(computer with cluster) same (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/07 04:08 PM
L31	79	(computer with cluster) and (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/07 06:41 PM
L32	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2016/07/08 12:43 PM
L33	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2016/07/08 03:47 PM
L34	1505	(computer with cluster) and kernel and nodes and request	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 03:53 PM
L35	271	L34 and mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 03:53 PM
L36	178750	L34 and mathematical smae kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 03:53 PM
L37	10	L34 and mathematical same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 03:53 PM
L38	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2016/07/08 03:54 PM
L39	29	(single with node with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 04:10 PM
L40	22	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 04:11 PM
L41	22	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 05:18 PM
L42	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2016/07/08 05:24 PM
L43	180800	mathematica kernel	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2016/07/08 06:39 PM

			DERWENT; IBM_TDB)				
L44	11	mathematica near5 kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 06:39 PM
L45	13	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 06:40 PM
L46	10	("8402080").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2016/07/08 06:43 PM
L47	2	("8849889").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2016/07/08 06:44 PM
L48	101	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 06:44 PM
L49	17	mathematica with cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 06:50 PM
L50	43	mathematica same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 06:51 PM
L51	537678	stephen wolfram mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 07:42 PM
L52	50	(stephen near2 wolfram).in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 07:42 PM
L53	1	L52 and mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 07:43 PM

L54	215	mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 07:43 PM
L55	74	L54 and cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 07:43 PM
L56	13	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/08 07:44 PM
L57	0	("gridMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2016/07/09 10:16 AM
L58	0	("gridwithMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2016/07/09 10:16 AM
L59	19	grid with Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/09 10:16 AM
L60	20	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/09 10:16 AM
L61	14	gridMathematica and wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/09 10:21 AM
L62	20	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/09 10:22 AM
L63	2578	Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/09 10:22 AM
L64	215	Mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/09 10:22 AM
L65	15749	wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/09 10:29 AM
L66	8450	wolfram.in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/09 10:29 AM
L67	15	L66 and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/09 10:30 AM
L68	42	L66 and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/07/09 10:30 AM
L69	2	("20070073705").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2016/07/09 10:44 AM
L70	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2016/07/09 10:46 AM
L71	2	("20050021751").PN.	(US-PGPUB; USPAT;	OR	ON	ON	2016/11/07

			EPO; JPO; DERWENT; IBM_TDB)				01:23 PM
L72	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2017/03/01 07:24 PM
L73	0	("(computerwithnodeswithclister)same(peer-to-peer)and@ad<20060101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2017/03/01 07:47 PM
L74	0	(computer with nodes with clister) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/03/01 07:47 PM
L75	3	(computer with nodes with cluster) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/03/01 07:48 PM
L76	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2017/03/02 05:12 PM
L77	12	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2017/03/02 05:12 PM
L78	44	(computer with cluster) and kernel and (mathematical with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/18 10:39 PM
L79	0	(computer with clusters) same kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/18 10:47 PM
L80	30	(computer with clusters) and kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/18 10:47 PM
L81	9	(computer with clusters) same kernel same mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/18 10:48 PM
L82	95	(computer with clusters) same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/18 10:50 PM
L83	2	(computer with clusters) same mathematical same expressions	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/18 10:50 PM
L84	0	cluster near5 mathematical near5 evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/19 11:19 AM
L85	2	cluster with mathematical with evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/19 11:20 AM
L86	2	("20050038852").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2018/02/19 11:22 AM
L87	20	("20050021751"|"20070	(US-PGPUB; USPAT;	OR	OFF	OFF	2018/02/19

		073705"|"20070094532"|"6968359"|"8601101").PN.	EPO; JPO; DERWENT; IBM_TDB)				11:35 AM
L88	70	(US-0005068-$ | US-0015460-$ | US-0026601-$ | US-0059473-$ | US-0097300-$ | US-0098447-$ | US-0124363-$ | US-0154789-$ | US-0188088-$ | US-0254984-$ | US-1234567-$ | US-1368948-$ | US-20030005068-$ | US-20040098447-$ | US-20040254984-$ | US-20050015460-$ | US-20050026601-$ | US-20050097300-$ | US-20050154789-$ | US-20050188088-$ | US-20060059473-$ | US-20070124363-$ | US-25376674-$ | US-5195580-$ | US-6006259-$ | US-6067609-$ | US-6604134-$ | US-7031944-$ | US-7177874-$ | US-7315877-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7568131-$ | US-7598390-$ | US-7644130-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-8117288-$ | US-9405564-$).DID.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/19 11:36 AM
L89	4802	(computer with cluster with nodes)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/19 11:49 AM
L90	30	(computer with cluster with nodes) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/19 11:50 AM
L91	12	(computer with cluster with nodes) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/19 11:50 AM
L92	230	(computer with cluster)	(US-PGPUB; USPAT;	OR	OFF	OFF	2018/02/19

		same (mathematica$)	EPO; JPO; DERWENT; IBM_TDB)				11:51 AM
L93	28	(computer with cluster) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/19 11:52 AM
L94	230	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/19 11:54 AM
L95	17	(computer with cluster) same (mathematica$) same result$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/19 11:55 AM
L96	8	(computer with cluster) same (mathematica$ with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/19 11:56 AM
L97	15	(high with performance) same cluster same (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/19 12:07 PM
L98	114	(high with performance) same cluster and (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/02/19 12:08 PM
L99	2	("7418470").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2018/02/19 12:12 PM
L100	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2018/02/19 12:13 PM
L101	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2018/02/19 12:42 PM
L102	12	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2018/02/19 12:42 PM
L103	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2018/02/19 12:42 PM
L104	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2018/02/19 01:24 PM
L105	2	("2003195938").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/11/22 12:31 PM
L106	6	("2004015968").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/11/22 12:32 PM
L107	5	("2004098359").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/11/22 12:32 PM
L108	6	("2004098447").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/11/22 12:32 PM

L123	2	("7139882").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/02/05 01:35 PM
L124	3	("20050021751").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/12/30 12:43 PM
L125	2	("20050235055").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/12/30 01:01 PM
L126	196	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0250347-$ | US-0252710-$ | US-0254984-$ | US-0281997-$ | US-1234567-$ | US-10333768-$ | US-1368948-$ | US-17207443-$ | US-20020049859-$ | US-20030005068-$ | US-20030005266-$ | US-20030051062-$ | US-20030135621-$ | US-20030195931-$ | US-20030195938-$ | US-20040098447-$ | US-20040110209-$ | US-20040157203-$ | US-20040195572-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/12/30 01:03 PM

		20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 31357476-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 6006259-$ | US- 6067609-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US- 7644130-$ | US- 7698390-$ | US- 7716323-$ | US-					

		7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L127	2	("8676877").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2021/01/01 03:35 PM
L128	7	community near5 managed near5 RAN	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2021/01/01 11:00 PM
L129	33851	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2021/11/20 08:40 AM
L130	214	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0015968-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098359-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0153677-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0235055-$ | US-0250347-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2021/11/20 08:44 AM

		0252710-$ | US- 0254984-$ | US- 0281997-$ | US- 1234567-$ | US- 10333768-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040015968-$ | US- 20040098359-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20050235055-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 20200153677-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 53865456-$ | US- 6006259-$ | US- 6067609-$ | US- 6074427-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6691216-$ | US- 6751698-$ | US-					

		6782537-$ | US-6968335-$ | US-6968359-$ | US-7031944-$ | US-7093004-$ | US-7136924-$ | US-7139882-$ | US-7174381-$ | US-7177874-$ | US-7249357-$ | US-7315877-$ | US-7334232-$ | US-7437460-$ | US-7472193-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533168-$ | US-7533389-$ | US-7554949-$ | US-7568131-$ | US-7634530-$ | US-7644130-$ | US-7698390-$ | US-7716323-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L131	8	((Zvi) near2 (Tannenbaum)).INV.	(USPAT)	OR	OFF	OFF	2022/03/25 12:54 PM
L132	9	((Dean) near2 (Dauger)).INV.	(USPAT)	OR	OFF	OFF	2022/03/25 12:54 PM
L133	236	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L134	35	L3 and interpret	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L135	39589	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L136	10778	H04L41/0213.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L137	3095	H04L29/08072.cpc.	(US-PGPUB; USPAT;	OR	OFF	OFF	2022/03/25

			EPO; JPO; DERWENT; IBM_TDB)				12:54 PM
L138	52733	H04L29/06.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L139	21038	H04L41/22.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L140	30044	H04L41/12.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L141	0	L3 and L6	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L142	0	L3 and L7	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L143	15	L3 and L8	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L144	0	L3 and L9	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L145	2	L3 and L10	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L146	109	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L147	236	(computer with cluster) same nodes same	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2022/03/25 12:54 PM

		kernel	DERWENT; IBM_TDB)				
L148	16	(computer with cluster) same nodes same kernel and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L149	236	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L150	11	("8402080").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L151	2	("8849889").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L152	92	US-1234567-$.DID. OR US-5423046-$.DID. OR US-5881315-$.DID. OR US-5930768-$.DID. OR US-6108699-$.DID. OR US-6202080-$.DID. OR US-6546403-$.DID. OR US-6578068-$.DID. OR US-6751698-$.DID. OR US-6782537-$.DID. OR US-6968335-$.DID. OR US-7093004-$.DID. OR US-7136924-$.DID. OR US-7174381-$.DID. OR US-7249357-$.DID. OR US-7334232-$.DID. OR US-7437460-$.DID. OR US-7472193-$.DID. OR US-7554949-$.DID. OR US-7937455-$.DID. OR US-8082289-$.DID. OR US-8140612-$.DID. OR US-8402083-$.DID. OR US-8676877-$.DID. OR US-20020049859-$.DID. OR US-20030005266-$.DID. OR US-20030051062-$.DID. OR US-20030135621-$.DID. OR US-20030195931-$.DID. OR US-20030195938-$.DID. OR US-20040110209-$.DID. OR US-20040157203-$.DID. OR US-20040252710-$.DID. OR US-20050021751-$.DID. OR US-20050038852-$.DID. OR US-20050060237-$.DID. OR US-20050076105-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM

		$.DID. OR US-20050108394-$.DID. OR US-20050180095-$.DID. OR US-20060053216-$.DID. OR US-20060106931-$.DID. OR US-20070044099-$.DID. OR US-20070073705-$.DID. OR US-20080250347-$.DID. OR US-20080281997-$.DID. OR JP-1234567-$.DID. OR JP-0887473-$.DID. OR JP-2002117010-$.DID. OR US-6131999-$.DID.					
L153	6	(computer with cluster) same (nodes) same (single-node with kernel)	(USPAT)	OR	OFF	OFF	2022/03/25 12:54 PM
L154	18	(computer with cluster) same (nodes) same (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L155	18	(computer with cluster) same (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L156	18	(computer with cluster) and (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L157	581	(computer with cluster) and (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L158	284	(computer with cluster) same (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L159	6	(computer with cluster) same (nodes) and (single with kernel) and 709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L160	22	(computer with cluster) same (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L161	273	(computer with cluster) and (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L162	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L163	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO;	OR	ON	ON	2022/03/25 12:54 PM

			DERWENT; IBM_TDB)				
L164	3909	(computer with cluster) and kernel and nodes and request	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L165	686	L34 and mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L166	350836	L34 and mathematical smae kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L167	52	L34 and mathematical same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L168	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L169	50	(single with node with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L170	50	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L171	50	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L172	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L173	354123	mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L174	19	mathematica near5 kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L175	23	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L176	11	("8402080").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L177	2	("8849889").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L178	109	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"2005018	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM

		0095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.				
L179	26	mathematica with cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L180	68	mathematica same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L181	804620	stephen wolfram mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L182	103	(stephen near2 wolfram).in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L183	13	L52 and mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L184	404	mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L185	165	L54 and cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L186	23	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L187	0	("gridMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L188	0	("gridwithMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L189	26	grid with Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L190	26	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L191	20	gridMathematica and	(US-PGPUB; USPAT;	OR	OFF	OFF	2022/03/25

		wolfram	EPO; JPO; DERWENT; IBM_TDB)				12:54 PM
L192	26	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L193	4031	Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L194	404	Mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L195	20445	wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L196	9640	wolfram.in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L197	34	L66 and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L198	91	L66 and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L199	2	("20070073705").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L200	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L201	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L202	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L203	0	("(computerwithnodeswithclister)same(peer-to-peer)and@ad<20060101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L204	0	(computer with nodes with clister) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L205	3	(computer with nodes with cluster) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L206	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L207	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO;	OR	ON	ON	2022/03/25 12:54 PM

			DERWENT; IBM_TDB)				
L208	109	(computer with cluster) and kernel and (mathematical with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L209	2	(computer with clusters) same kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L210	104	(computer with clusters) and kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L211	14	(computer with clusters) same kernel same mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L212	130	(computer with clusters) same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L213	5	(computer with clusters) same mathematical same expressions	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L214	1	cluster near5 mathematical near5 evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L215	6	cluster with mathematical with evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L216	2	("20050038852").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L217	22	("20050021751"|"20070073705"|"20070094532"|"6968359"|"8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L218	70	(US-0005068-$ | US-0015460-$ | US-0026601-$ | US-0059473-$ | US-0097300-$ | US-0098447-$ | US-0124363-$ | US-0154789-$ | US-0188088-$ | US-0254984-$ | US-1234567-$ | US-1368948-$ | US-20030005068-$ | US-20040098447-$ | US-20040254984-$ | US-20050015460-$ | US-20050026601-$ | US-20050097300-$ | US-20050154789-$ | US-20050188088-$ | US-20060059473-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM

		20070124363-$ | US-25376674-$ | US-5195580-$ | US-6006259-$ | US-6067609-$ | US-6604134-$ | US-7031944-$ | US-7177874-$ | US-7315877-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7568131-$ | US-7598390-$ | US-7644130-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-8117288-$ | US-9405564-$).DID.					
L219	7961	(computer with cluster with nodes)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L220	42	(computer with cluster with nodes) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L221	18	(computer with cluster with nodes) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L222	767	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L223	48	(computer with cluster) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L224	767	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L225	30	(computer with cluster) same (mathematica$) same result$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L226	17	(computer with cluster) same (mathematica$ with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L227	20	(high with performance) same cluster same (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L228	193	(high with performance) same cluster and (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM

L229	2	("7418470").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L230	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L231	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L232	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L233	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L234	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:54 PM
L235	2	("2003195938").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L236	6	("2004015968").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L237	5	("2004098359").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L238	6	("2004098447").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L239	2	("7139882").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L240	3	("20050021751").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L241	2	("20050235055").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L242	196	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM

		0094532-$ | US- 0097300-$ | US- 0098447-$ | US- 0106931-$ | US- 0108394-$ | US- 0110209-$ | US- 0124363-$ | US- 0135621-$ | US- 0154789-$ | US- 0157203-$ | US- 0180095-$ | US- 0188088-$ | US- 0195572-$ | US- 0195931-$ | US- 0195938-$ | US- 0250347-$ | US- 0252710-$ | US- 0254984-$ | US- 0281997-$ | US- 1234567-$ | US- 10333768-$ | US- 1368948-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 31357476-$ | US- 5423046-$ | US-					

		5881315-$ | US-5930768-$ | US-6006259-$ | US-6067609-$ | US-6108699-$ | US-6195680-$ | US-6202080-$ | US-6546403-$ | US-6578068-$ | US-6604134-$ | US-6751698-$ | US-6782537-$ | US-6968335-$ | US-6968359-$ | US-7031944-$ | US-7093004-$ | US-7136924-$ | US-7139882-$ | US-7174381-$ | US-7177874-$ | US-7249357-$ | US-7315877-$ | US-7334232-$ | US-7437460-$ | US-7472193-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7554949-$ | US-7568131-$ | US-7644130-$ | US-7698390-$ | US-7716323-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L243	2	("8676877").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L244	15	community near5 managed near5 RAN	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM
L245	39589	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM

L246	214	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0015968-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098359-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0153677-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0235055-$ | US-0250347-$ | US-0252710-$ | US-0254984-$ | US-0281997-$ | US-1234567-$ | US-10333768-$ | US-17207443-$ | US-20020049859-$ | US-20030005068-$ | US-20030005266-$ | US-20030051062-$ | US-20030135621-$ | US-20030195931-$ | US-20030195938-$ | US-20040015968-$ | US-20040098359-$ | US-20040098447-$ | US-20040110209-$ | US-20040157203-$ | US-20040195572-$ | US-20040252710-$ | US-20040254984-$ | US-20050015460-$ | US-20050021751-$ | US-20050038852-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/25 12:54 PM

		20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20050235055-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 20200153677-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 53865456-$ | US- 6006259-$ | US- 6067609-$ | US- 6074427-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6691216-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533168-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US- 7634530-$ | US- 7644130-$ | US- 7698390-$ | US-					

		7716323-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L247	22	"7542981"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:55 PM
L248	10	"7627744"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:55 PM
L249	2	"20050251644"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/25 12:55 PM
L250	8	((Zvi) near2 (Tannenbaum)).INV.	(USPAT)	OR	OFF	OFF	2022/08/25 12:33 PM
L251	9	((Dean) near2 (Dauger)).INV.	(USPAT)	OR	OFF	OFF	2022/08/25 12:33 PM
L252	238	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L253	35	L3 and interpret	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L254	39594	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L255	10974	H04L41/0213.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L256	1126	H04L29/08072.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L257	23995	H04L29/06.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L258	21775	H04L41/22.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

L259	31135	H04L41/12.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L260	0	L3 and L6	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L261	0	L3 and L7	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L262	0	L3 and L8	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L263	0	L3 and L9	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L264	2	L3 and L10	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L265	110	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L266	238	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L267	16	(computer with cluster) same nodes same kernel and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L268	238	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L269	11	("8402080").PN.	(US-PGPUB; USPAT;	OR	ON	ON	2022/08/25

			USOCR; EPO; JPO; DERWENT; IBM_TDB)				12:33 PM
L270	2	("8849889").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L271	92	US-1234567-$.DID. OR US-5423046-$.DID. OR US-5881315-$.DID. OR US-5930768-$.DID. OR US-6108699-$.DID. OR US-6202080-$.DID. OR US-6546403-$.DID. OR US-6578068-$.DID. OR US-6751698-$.DID. OR US-6782537-$.DID. OR US-6968335-$.DID. OR US-7093004-$.DID. OR US-7136924-$.DID. OR US-7174381-$.DID. OR US-7249357-$.DID. OR US-7334232-$.DID. OR US-7437460-$.DID. OR US-7472193-$.DID. OR US-7554949-$.DID. OR US-7937455-$.DID. OR US-8082289-$.DID. OR US-8140612-$.DID. OR US-8402083-$.DID. OR US-8676877-$.DID. OR US-20020049859-$.DID. OR US-20030005266-$.DID. OR US-20030051062-$.DID. OR US-20030135621-$.DID. OR US-20030195931-$.DID. OR US-20030195938-$.DID. OR US-20040110209-$.DID. OR US-20040157203-$.DID. OR US-20040252710-$.DID. OR US-20050021751-$.DID. OR US-20050038852-$.DID. OR US-20050060237-$.DID. OR US-20050076105-$.DID. OR US-20050108394-$.DID. OR US-20050180095-$.DID. OR US-20060053216-$.DID. OR US-20060106931-$.DID. OR US-20070044099-$.DID. OR US-20070073705-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

		$.DID. OR US-20080250347-$.DID. OR US-20080281997-$.DID. OR JP-1234567-$.DID. OR JP-0887473-$.DID. OR JP-2002117010-$.DID. OR US-6131999-$.DID.					
L272	6	(computer with cluster) same (nodes) same (single-node with kernel)	(USPAT)	OR	OFF	OFF	2022/08/25 12:33 PM
L273	18	(computer with cluster) same (nodes) same (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L274	18	(computer with cluster) same (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L275	18	(computer with cluster) and (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L276	697	(computer with cluster) and (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L277	288	(computer with cluster) same (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L278	6	(computer with cluster) same (nodes) and (single with kernel) and 709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L279	22	(computer with cluster) same (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L280	374	(computer with cluster) and (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L281	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L282	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L283	4425	(computer with cluster) and kernel and nodes and request	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L284	754	L34 and mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L285	366345	L34 and mathematical	(US-PGPUB; USPAT;	OR	OFF	OFF	2022/08/25

		smae kernel	EPO; JPO; DERWENT; IBM_TDB)				12:33 PM
L286	54	L34 and mathematical same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L287	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L288	51	(single with node with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L289	53	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L290	53	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L291	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L292	369735	mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L293	19	mathematica near5 kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L294	24	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L295	11	("8402080").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L296	2	("8849889").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L297	110	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"696833	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

		5"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.					
L298	26	mathematica with cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L299	69	mathematica same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L300	826263	stephen wolfram mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L301	105	(stephen near2 wolfram).in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L302	14	L52 and mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L303	418	mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L304	174	L54 and cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L305	24	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L306	0	("gridMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L307	0	("gridwithMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L308	26	grid with Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L309	26	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L310	20	gridMathematica and wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L311	26	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L312	4149	Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

L313	418	Mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L314	20790	wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L315	9710	wolfram.in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L316	35	L66 and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L317	93	L66 and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L318	2	("20070073705").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L319	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L320	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L321	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L322	0	("(computerwithnodeswithclister)same(peer-to-peer)and@ad<20060101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L323	0	(computer with nodes with clister) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L324	3	(computer with nodes with cluster) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L325	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L326	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L327	110	(computer with cluster) and kernel and (mathematical with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L328	2	(computer with clusters) same kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

L329	139	(computer with clusters) and kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L330	14	(computer with clusters) same kernel same mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L331	133	(computer with clusters) same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L332	6	(computer with clusters) same mathematical same expressions	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L333	1	cluster near5 mathematical near5 evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L334	7	cluster with mathematical with evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L335	2	("20050038852").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L336	22	("20050021751"|"20070073705"|"20070094532"|"6968359"|"8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L337	70	(US-0005068-$ | US-0015460-$ | US-0026601-$ | US-0059473-$ | US-0097300-$ | US-0098447-$ | US-0124363-$ | US-0154789-$ | US-0188088-$ | US-0254984-$ | US-1234567-$ | US-1368948-$ | US-20030005068-$ | US-20040098447-$ | US-20040254984-$ | US-20050015460-$ | US-20050026601-$ | US-20050097300-$ | US-20050154789-$ | US-20050188088-$ | US-20060059473-$ | US-20070124363-$ | US-25376674-$ | US-5195580-$ | US-6006259-$ | US-6067609-$ | US-6604134-$ | US-7031944-$ | US-7177874-$ | US-7315877-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

		7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7568131-$ | US-7598390-$ | US-7644130-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-8117288-$ | US-9405564-$).DID.					
L338	8340	(computer with cluster with nodes)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L339	42	(computer with cluster with nodes) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L340	18	(computer with cluster with nodes) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L341	779	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L342	49	(computer with cluster) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L343	779	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L344	31	(computer with cluster) same (mathematica$) same result$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L345	18	(computer with cluster) same (mathematica$ with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L346	21	(high with performance) same cluster same (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L347	199	(high with performance) same cluster and (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L348	2	("7418470").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L349	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L350	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO;	OR	ON	ON	2022/08/25 12:33 PM

			DERWENT; IBM_TDB)				
L351	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L352	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L353	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L354	2	("2003195938").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L355	6	("2004015968").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L356	5	("2004098359").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L357	6	("2004098447").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L358	2	("7139882").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L359	3	("20050021751").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L360	2	("20050235055").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L361	196	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0154789-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

		0157203-$ | US- 0180095-$ | US- 0188088-$ | US- 0195572-$ | US- 0195931-$ | US- 0195938-$ | US- 0250347-$ | US- 0252710-$ | US- 0254984-$ | US- 0281997-$ | US- 1234567-$ | US- 10333768-$ | US- 1368948-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 31357476-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 6006259-$ | US- 6067609-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US-					

		6604134-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US- 7644130-$ | US- 7698390-$ | US- 7716323-$ | US- 7757236-$ | US- 7788314-$ | US- 7835022-$ | US- 7937455-$ | US- 8082289-$ | US- 8117288-$ | US- 8140612-$ | US- 8402080-$ | US- 8402083-$ | US- 8601101-$ | US- 8676877-$ | US- 8849889-$ | US- 9405564-$).DID.					
L362	2	("8676877").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L363	17	community near5 managed near5 RAN	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L364	39594	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L365	214	(US-0005068-$ | US- 0005266-$ | US- 0015460-$ | US- 0015968-$ | US- 0021751-$ | US- 0026601-$ | US- 0038852-$ | US- 0044099-$ | US- 0049859-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

		0051062-$ | US- 0053216-$ | US- 0059473-$ | US- 0060237-$ | US- 0073705-$ | US- 0076105-$ | US- 0094532-$ | US- 0097300-$ | US- 0098359-$ | US- 0098447-$ | US- 0106931-$ | US- 0108394-$ | US- 0110209-$ | US- 0124363-$ | US- 0135621-$ | US- 0153677-$ | US- 0154789-$ | US- 0157203-$ | US- 0180095-$ | US- 0188088-$ | US- 0195572-$ | US- 0195931-$ | US- 0195938-$ | US- 0235055-$ | US- 0250347-$ | US- 0252710-$ | US- 0254984-$ | US- 0281997-$ | US- 1234567-$ | US- 10333768-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040015968-$ | US- 20040098359-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20050235055-$ | US- 20060026601-$ | US-					

		20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 20200153677-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 53865456-$ | US- 6006259-$ | US- 6067609-$ | US- 6074427-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6691216-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533168-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US- 7634530-$ | US- 7644130-$ | US- 7698390-$ | US- 7716323-$ | US- 7757236-$ | US- 7788314-$ | US- 7835022-$ | US- 7937455-$ | US- 8082289-$ | US- 8117288-$ | US- 8140612-$ | US- 8402080-$ | US-					

		8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L366	8	((Zvi) near2 (Tannenbaum)).INV.	(USPAT)	OR	OFF	OFF	2022/08/25 12:33 PM
L367	9	((Dean) near2 (Dauger)).INV.	(USPAT)	OR	OFF	OFF	2022/08/25 12:33 PM
L368	238	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L369	35	L3 and interpret	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L370	39594	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L371	10974	H04L41/0213.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L372	1126	H04L29/08072.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L373	23995	H04L29/06.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L374	21775	H04L41/22.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L375	31135	H04L41/12.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L376	0	L3 and L6	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L377	0	L3 and L7	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L378	0	L3 and L8	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L379	0	L3 and L9	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L380	2	L3 and L10	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L381	110	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"2003019593	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

		8"|"20040110209"|"200 40157203"|"200402527 10"|"20050021751"|"20 050038852"|"20050060 237"|"20050076105"|"2 0050108394"|"2005018 0095"|"20060053216"|" 20060106931"|"200700 44099"|"20070073705"| "20080250347"|"20080 281997"|"5423046"|"58 81315"|"5930768"|"610 8699"|"6202080"|"6546 403"|"6578068"|"67516 98"|"6782537"|"696833 5"|"7093004"|"7136924" |"7174381"|"7249357"|" 7334232"|"7437460"|"7 472193"|"7554949"|"79 37455"|"8082289"|"814 0612"|"8402083"|"8676 877").PN.				
L382	238	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L383	16	(computer with cluster) same nodes same kernel and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L384	238	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L385	11	("8402080").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L386	2	("8849889").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L387	92	US-1234567-$.DID. OR US-5423046-$.DID. OR US-5881315-$.DID. OR US-5930768-$.DID. OR US-6108699-$.DID. OR US-6202080-$.DID. OR US-6546403-$.DID. OR US-6578068-$.DID. OR US-6751698-$.DID. OR US-6782537-$.DID. OR US-6968335-$.DID. OR US-7093004-$.DID. OR US-7136924-$.DID. OR US-7174381-$.DID. OR US-7249357-$.DID. OR US-7334232-$.DID. OR US-7437460-$.DID. OR US-7472193-$.DID. OR US-7554949-$.DID. OR	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

		US-7937455-$.DID. OR US-8082289-$.DID. OR US-8140612-$.DID. OR US-8402083-$.DID. OR US-8676877-$.DID. OR US-20020049859-$.DID. OR US-20030005266-$.DID. OR US-20030051062-$.DID. OR US-20030135621-$.DID. OR US-20030195931-$.DID. OR US-20030195938-$.DID. OR US-20040110209-$.DID. OR US-20040157203-$.DID. OR US-20040252710-$.DID. OR US-20050021751-$.DID. OR US-20050038852-$.DID. OR US-20050060237-$.DID. OR US-20050076105-$.DID. OR US-20050108394-$.DID. OR US-20050180095-$.DID. OR US-20060053216-$.DID. OR US-20060106931-$.DID. OR US-20070044099-$.DID. OR US-20070073705-$.DID. OR US-20080250347-$.DID. OR US-20080281997-$.DID. OR JP-1234567-$.DID. OR JP-0887473-$.DID. OR JP-2002117010-$.DID. OR US-6131999-$.DID.					
L388	6	(computer with cluster) same (nodes) same (single-node with kernel)	(USPAT)	OR	OFF	OFF	2022/08/25 12:33 PM
L389	18	(computer with cluster) same (nodes) same (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L390	18	(computer with cluster) same (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L391	18	(computer with cluster) and (nodes) and (single-node with	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

		kernel)					
L392	697	(computer with cluster) and (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L393	288	(computer with cluster) same (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L394	6	(computer with cluster) same (nodes) and (single with kernel) and 709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L395	22	(computer with cluster) same (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L396	374	(computer with cluster) and (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L397	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L398	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L399	4425	(computer with cluster) and kernel and nodes and request	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L400	754	L34 and mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L401	366345	L34 and mathematical smae kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L402	54	L34 and mathematical same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L403	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L404	51	(single with node with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L405	53	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L406	53	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L407	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L408	369735	mathematica kernel	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2022/08/25 12:33 PM

			DERWENT; IBM_TDB)				
L409	19	mathematica near5 kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L410	24	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L411	11	("8402080").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L412	2	("8849889").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L413	110	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L414	26	mathematica with cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L415	69	mathematica same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L416	826263	stephen wolfram mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L417	105	(stephen near2 wolfram).in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L418	14	L52 and mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

L419	418	mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L420	174	L54 and cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L421	24	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L422	0	("gridMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L423	0	("gridwithMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L424	26	grid with Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L425	26	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L426	20	gridMathematica and wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L427	26	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L428	4149	Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L429	418	Mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L430	20790	wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L431	9710	wolfram.in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L432	35	L66 and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L433	93	L66 and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L434	2	("20070073705").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L435	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L436	2	("20050021751").PN.	(US-PGPUB; USPAT;	OR	ON	ON	2022/08/25

			EPO; JPO; DERWENT; IBM_TDB)				12:33 PM
L437	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L438	0	("(computerwithnodeswithclister)same(peer-to-peer)and@ad<20060101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L439	0	(computer with nodes with clister) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L440	3	(computer with nodes with cluster) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L441	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L442	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L443	110	(computer with cluster) and kernel and (mathematical with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L444	2	(computer with clusters) same kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L445	139	(computer with clusters) and kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L446	14	(computer with clusters) same kernel same mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L447	133	(computer with clusters) same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L448	6	(computer with clusters) same mathematical same expressions	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L449	1	cluster near5 mathematical near5 evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L450	7	cluster with mathematical with evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L451	2	("20050038852").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L452	22	("20050021751"|"20070	(US-PGPUB; USPAT;	OR	OFF	OFF	2022/08/25

		073705"|"20070094532"|"6968359"|"8601101").PN.	EPO; JPO; DERWENT; IBM_TDB)				12:33 PM
L453	70	(US-0005068-$ | US-0015460-$ | US-0026601-$ | US-0059473-$ | US-0097300-$ | US-0098447-$ | US-0124363-$ | US-0154789-$ | US-0188088-$ | US-0254984-$ | US-1234567-$ | US-1368948-$ | US-20030005068-$ | US-20040098447-$ | US-20040254984-$ | US-20050015460-$ | US-20050026601-$ | US-20050097300-$ | US-20050154789-$ | US-20050188088-$ | US-20060059473-$ | US-20070124363-$ | US-25376674-$ | US-5195580-$ | US-6006259-$ | US-6067609-$ | US-6604134-$ | US-7031944-$ | US-7177874-$ | US-7315877-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7568131-$ | US-7598390-$ | US-7644130-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-8117288-$ | US-9405564-$).DID.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L454	8340	(computer with cluster with nodes)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L455	42	(computer with cluster with nodes) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L456	18	(computer with cluster with nodes) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L457	779	(computer with cluster)	(US-PGPUB; USPAT;	OR	OFF	OFF	2022/08/25

		same (mathematica$)	EPO; JPO; DERWENT; IBM_TDB)				12:33 PM
L458	49	(computer with cluster) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L459	779	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L460	31	(computer with cluster) same (mathematica$) same result$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L461	18	(computer with cluster) same (mathematica$ with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L462	21	(high with performance) same cluster same (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L463	199	(high with performance) same cluster and (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L464	2	("7418470").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L465	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L466	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L467	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L468	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L469	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L470	2	("2003195938").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L471	6	("2004015968").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L472	5	("2004098359").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L473	6	("2004098447").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

L474	2	("7139882").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L475	3	("20050021751").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L476	2	("20050235055").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L477	196	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0250347-$ | US-0252710-$ | US-0254984-$ | US-0281997-$ | US-1234567-$ | US-10333768-$ | US-1368948-$ | US-17207443-$ | US-20020049859-$ | US-20030005068-$ | US-20030005266-$ | US-20030051062-$ | US-20030135621-$ | US-20030195931-$ | US-20030195938-$ | US-20040098447-$ | US-20040110209-$ | US-20040157203-$ | US-20040195572-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

		20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 31357476-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 6006259-$ | US- 6067609-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US- 7644130-$ | US- 7698390-$ | US- 7716323-$ | US-					

		7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L478	2	("8676877").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L479	17	community near5 managed near5 RAN	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L480	39594	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM
L481	214	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0015968-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098359-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0153677-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0235055-$ | US-0250347-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/08/25 12:33 PM

		0252710-$ | US- 0254984-$ | US- 0281997-$ | US- 1234567-$ | US- 10333768-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040015968-$ | US- 20040098359-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20050235055-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 20200153677-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 53865456-$ | US- 6006259-$ | US- 6067609-$ | US- 6074427-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6691216-$ | US- 6751698-$ | US-					

		6782537-$ | US-6968335-$ | US-6968359-$ | US-7031944-$ | US-7093004-$ | US-7136924-$ | US-7139882-$ | US-7174381-$ | US-7177874-$ | US-7249357-$ | US-7315877-$ | US-7334232-$ | US-7437460-$ | US-7472193-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533168-$ | US-7533389-$ | US-7554949-$ | US-7568131-$ | US-7634530-$ | US-7644130-$ | US-7698390-$ | US-7716323-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L482	22	"7542981"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L483	12	"7627744"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L484	2	"20050251644"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/25 12:33 PM
L485	384	(US-00240030-$ | US-0163414-$ | US-0163528-$ | US-	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO;	OR	ON	ON	2022/08/25 12:37 PM

		0165511-$ | US- 0165833-$ | US- 0165922-$ | US- 0165930-$ | US- 0165931-$ | US- 0165933-$ | US- 0165941-$ | US- 0165957-$ | US- 0165985-$ | US- 0166004-$ | US- 0166295-$ | US- 0166306-$ | US- 0166333-$ | US- 0166369-$ | US- 0166502-$ | US- 0166510-$ | US- 0166511-$ | US- 0166576-$ | US- 0166655-$ | US- 0166680-$ | US- 0166693-$ | US- 0166705-$ | US- 0166724-$ | US- 0166734-$ | US- 0166770-$ | US- 0166799-$ | US- 0166828-$ | US- 0166849-$ | US- 0166955-$ | US- 0166985-$ | US- 0167001-$ | US- 0167056-$ | US- 0167081-$ | US- 0167082-$ | US- 0167610-$ | US- 0167617-$ | US- 0167629-$ | US- 0167649-$ | US- 0167768-$ | US- 0168513-$ | US- 0168697-$ | US- 0168705-$ | US- 0168711-$ | US- 0168766-$ | US- 0168777-$ | US- 0168877-$ | US- 0168895-$ | US- 0169109-$ | US- 0169147-$ | US- 0169480-$ | US- 0169540-$ | US- 0169648-$ | US- 0169935-$ | US- 0169949-$ | US- 0169971-$ | US- 0170271-$ | US- 0170309-$ | US- 0170316-$ | US-	JPO; DERWENT; IBM_TDB)				

		0170323-$ | US- 0170331-$ | US- 0170339-$ | US- 0170347-$ | US- 0170356-$ | US- 0170367-$ | US- 0170378-$ | US- 0170387-$ | US- 0170434-$ | US- 0173254-$ | US- 0173308-$ | US- 0220502-$ | US- 0222731-$ | US- 0222830-$ | US- 0222834-$ | US- 0222837-$ | US- 0222842-$ | US- 0222970-$ | US- 0222990-$ | US- 0223018-$ | US- 0223288-$ | US- 0223292-$ | US- 0223370-$ | US- 0223378-$ | US- 0223382-$ | US- 0223385-$ | US- 0223391-$ | US- 0223396-$ | US- 0223400-$ | US- 0223402-$ | US- 0224753-$ | US- 0224757-$ | US- 0224762-$ | US- 0225177-$ | US- 0225209-$ | US- 0225212-$ | US- 0228109-$ | US- 0228113-$ | US- 0228118-$ | US- 0228571-$ | US- 0228604-$ | US- 0228607-$ | US- 0231103-$ | US- 0231190-$ | US- 0231192-$ | US- 0231196-$ | US- 0231201-$ | US- 0231608-$ | US- 0231612-$ | US- 0231624-$ | US- 0231637-$ | US- 0231704-$ | US- 0231715-$ | US- 0231722-$ | US- 0231726-$ | US- 0231729-$ | US- 0231735-$ | US- 0231740-$ | US-					

		0231745-$ | US- 0232222-$ | US- 0232315-$ | US- 0232317-$ | US- 0232321-$ | US- 0232327-$ | US- 0232790-$ | US- 0232860-$ | US- 0232871-$ | US- 0232875-$ | US- 0232883-$ | US- 0232886-$ | US- 0232892-$ | US- 0232897-$ | US- 0232902-$ | US- 0232906-$ | US- 0233750-$ | US- 0233752-$ | US- 0234467-$ | US- 0234468-$ | US- 0234888-$ | US- 0234890-$ | US- 0234898-$ | US- 0234905-$ | US- 0234909-$ | US- 0234916-$ | US- 0234918-$ | US- 0234919-$ | US- 0234922-$ | US- 0234925-$ | US- 0234933-$ | US- 0234976-$ | US- 0234980-$ | US- 0234985-$ | US- 0234990-$ | US- 0235005-$ | US- 0235022-$ | US- 0235035-$ | US- 0235070-$ | US- 0235131-$ | US- 0235213-$ | US- 0235215-$ | US- 0235217-$ | US- 0235228-$ | US- 0235230-$ | US- 0235231-$ | US- 0235234-$ | US- 0240000-$ | US- 0240002-$ | US- 0240005-$ | US- 0240008-$ | US- 0240011-$ | US- 0240019-$ | US- 0240022-$ | US- 0240024-$ | US- 0240033-$ | US- 0240042-$ | US- 0240044-$ | US-					

		1234567-$ | US-10333768-$ | US-55892847-$ | US-7015915-$ | US-7162590-$ | US-7275123-$ | US-7289125-$ | US-7469309-$ | US-7562174-$ | US-7663633-$ | US-7694158-$ | US-7814462-$ | US-7861060-$ | US-7996592-$ | US-8074224-$ | US-8082287-$ | US-8082289-$ | US-8140612-$ | US-8321849-$).DID.					
L486	10	((Zvi) near2 (Tannenbaum)).INV.	(USPAT)	OR	OFF	OFF	2023/07/15 10:49 AM
L487	11	((Dean) near2 (Dauger)).INV.	(USPAT)	OR	OFF	OFF	2023/07/15 10:49 AM
L488	248	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L489	39	L3 and interpret	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L490	39998	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L491	11261	H04L41/0213.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L492	1125	H04L29/08072.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L493	24086	H04L29/06.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L494	23229	H04L41/22.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L495	32700	H04L41/12.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L496	0	L3 and L6	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L497	0	L3 and L7	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

L498	0	L3 and L8	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L499	0	L3 and L9	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L500	2	L3 and L10	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L501	113	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L502	248	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L503	18	(computer with cluster) same nodes same kernel and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L504	248	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L505	11	("8402080").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L506	2	("8849889").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L507	92	US-1234567-$.DID. OR US-5423046-$.DID. OR US-5881315-$.DID. OR US-5930768-$.DID. OR US-6108699-$.DID. OR	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		US-6202080-$.DID. OR US-6546403-$.DID. OR US-6578068-$.DID. OR US-6751698-$.DID. OR US-6782537-$.DID. OR US-6968335-$.DID. OR US-7093004-$.DID. OR US-7136924-$.DID. OR US-7174381-$.DID. OR US-7249357-$.DID. OR US-7334232-$.DID. OR US-7437460-$.DID. OR US-7472193-$.DID. OR US-7554949-$.DID. OR US-7937455-$.DID. OR US-8082289-$.DID. OR US-8140612-$.DID. OR US-8402083-$.DID. OR US-8676877-$.DID. OR US-20020049859-$.DID. OR US-20030005266-$.DID. OR US-20030051062-$.DID. OR US-20030135621-$.DID. OR US-20030195931-$.DID. OR US-20030195938-$.DID. OR US-20040110209-$.DID. OR US-20040157203-$.DID. OR US-20040252710-$.DID. OR US-20050021751-$.DID. OR US-20050038852-$.DID. OR US-20050060237-$.DID. OR US-20050076105-$.DID. OR US-20050108394-$.DID. OR US-20050180095-$.DID. OR US-20060053216-$.DID. OR US-20060106931-$.DID. OR US-20070044099-$.DID. OR US-20070073705-$.DID. OR US-20080250347-$.DID. OR US-20080281997-$.DID. OR JP-1234567-$.DID. OR JP-0887473-$.DID. OR JP-2002117010-$.DID. OR US-6131999-$.DID.					
L508	8	(computer with cluster) same (nodes) same	(USPAT)	OR	OFF	OFF	2023/07/15 10:49 AM

		(single-node with kernel)					
L509	20	(computer with cluster) same (nodes) same (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L510	20	(computer with cluster) same (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L511	20	(computer with cluster) and (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L512	774	(computer with cluster) and (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L513	302	(computer with cluster) same (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L514	6	(computer with cluster) same (nodes) and (single with kernel) and 709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L515	25	(computer with cluster) same (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L516	409	(computer with cluster) and (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L517	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L518	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L519	5226	(computer with cluster) and kernel and nodes and request	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L520	950	L34 and mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L521	399426	L34 and mathematical smae kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L522	65	L34 and mathematical same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L523	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L524	57	(single with node with	(US-PGPUB; USPAT;	OR	OFF	OFF	2023/07/15

		kernel) same cluster	EPO; JPO; DERWENT; IBM_TDB)				10:49 AM
L525	57	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L526	57	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L527	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L528	402958	mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L529	21	mathematica near5 kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L530	26	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L531	11	("8402080").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L532	2	("8849889").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L533	113	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L534	28	mathematica with cluster	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2023/07/15 10:49 AM

			DERWENT; IBM_TDB)				
L535	73	mathematica same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L536	871583	stephen wolfram mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L537	108	(stephen near2 wolfram).in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L538	14	L52 and mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L539	451	mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L540	194	L54 and cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L541	26	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L542	0	("gridMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L543	0	("gridwithMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L544	29	grid with Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L545	28	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L546	22	gridMathematica and wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L547	28	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L548	4326	Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L549	451	Mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L550	21512	wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L551	9831	wolfram.in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

L552	35	L66 and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L553	98	L66 and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L554	2	("20070073705").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L555	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L556	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L557	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L558	0	("(computerwithnodeswithclister)same(peer-to-peer)and@ad<20060101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L559	0	(computer with nodes with clister) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L560	3	(computer with nodes with cluster) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L561	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L562	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L563	133	(computer with cluster) and kernel and (mathematical with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L564	2	(computer with clusters) same kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L565	206	(computer with clusters) and kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L566	16	(computer with clusters) same kernel same mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L567	137	(computer with clusters) same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

L568	6	(computer with clusters) same mathematical same expressions	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L569	1	cluster near5 mathematical near5 evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L570	9	cluster with mathematical with evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L571	2	("20050038852").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L572	22	("20050021751"|"20070073705"|"20070094532"|"6968359"|"8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L573	70	(US-0005068-$ | US-0015460-$ | US-0026601-$ | US-0059473-$ | US-0097300-$ | US-0098447-$ | US-0124363-$ | US-0154789-$ | US-0188088-$ | US-0254984-$ | US-1234567-$ | US-1368948-$ | US-20030005068-$ | US-20040098447-$ | US-20040254984-$ | US-20050015460-$ | US-20050026601-$ | US-20050097300-$ | US-20050154789-$ | US-20050188088-$ | US-20060059473-$ | US-20070124363-$ | US-25376674-$ | US-5195580-$ | US-6006259-$ | US-6067609-$ | US-6604134-$ | US-7031944-$ | US-7177874-$ | US-7315877-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7568131-$ | US-7598390-$ | US-7644130-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		8117288-$ | US-9405564-$).DID.					
L574	9172	(computer with cluster with nodes)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L575	44	(computer with cluster with nodes) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L576	20	(computer with cluster with nodes) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L577	801	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L578	51	(computer with cluster) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L579	801	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L580	33	(computer with cluster) same (mathematica$) same result$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L581	19	(computer with cluster) same (mathematica$ with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L582	23	(high with performance) same cluster same (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L583	220	(high with performance) same cluster and (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L584	2	("7418470").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L585	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L586	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L587	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L588	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L589	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO;	OR	ON	ON	2023/07/15 10:49 AM

			DERWENT; IBM_TDB)				
L590	2	("2003195938").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L591	6	("2004015968").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L592	5	("2004098359").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L593	6	("2004098447").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L594	4	("7139882").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L595	3	("20050021751").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L596	2	("20050235055").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L597	196	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0250347-$ | US-0252710-$ | US-0254984-$ | US-0281997-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		1234567-$ | US- 10333768-$ | US- 1368948-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 31357476-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 6006259-$ | US- 6067609-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US-					

		7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US- 7644130-$ | US- 7698390-$ | US- 7716323-$ | US- 7757236-$ | US- 7788314-$ | US- 7835022-$ | US- 7937455-$ | US- 8082289-$ | US- 8117288-$ | US- 8140612-$ | US- 8402080-$ | US- 8402083-$ | US- 8601101-$ | US- 8676877-$ | US- 8849889-$ | US- 9405564-$).DID.					
L598	2	("8676877").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L599	19	community near5 managed near5 RAN	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L600	39998	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L601	214	(US-0005068-$ | US- 0005266-$ | US- 0015460-$ | US- 0015968-$ | US- 0021751-$ | US- 0026601-$ | US- 0038852-$ | US- 0044099-$ | US- 0049859-$ | US- 0051062-$ | US- 0053216-$ | US- 0059473-$ | US- 0060237-$ | US- 0073705-$ | US- 0076105-$ | US- 0094532-$ | US- 0097300-$ | US- 0098359-$ | US- 0098447-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		0106931-$ | US- 0108394-$ | US- 0110209-$ | US- 0124363-$ | US- 0135621-$ | US- 0153677-$ | US- 0154789-$ | US- 0157203-$ | US- 0180095-$ | US- 0188088-$ | US- 0195572-$ | US- 0195931-$ | US- 0195938-$ | US- 0235055-$ | US- 0250347-$ | US- 0252710-$ | US- 0254984-$ | US- 0281997-$ | US- 1234567-$ | US- 10333768-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040015968-$ | US- 20040098359-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20050235055-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 20200153677-$ | US-					

		5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 53865456-$ | US- 6006259-$ | US- 6067609-$ | US- 6074427-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6691216-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533168-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US- 7634530-$ | US- 7644130-$ | US- 7698390-$ | US- 7716323-$ | US- 7757236-$ | US- 7788314-$ | US- 7835022-$ | US- 7937455-$ | US- 8082289-$ | US- 8117288-$ | US- 8140612-$ | US- 8402080-$ | US- 8402083-$ | US- 8601101-$ | US- 8676877-$ | US- 8849889-$ | US- 9405564-$).DID.					
L602	10	((Zvi) near2 (Tannenbaum)).INV.	(USPAT)	OR	OFF	OFF	2023/07/15 10:49 AM
L603	11	((Dean) near2 (Dauger)).INV.	(USPAT)	OR	OFF	OFF	2023/07/15 10:49 AM

L604	248	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L605	39	L3 and interpret	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L606	39998	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L607	11261	H04L41/0213.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L608	1125	H04L29/08072.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L609	24086	H04L29/06.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L610	23229	H04L41/22.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L611	32700	H04L41/12.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L612	0	L3 and L6	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L613	0	L3 and L7	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L614	0	L3 and L8	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L615	0	L3 and L9	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L616	2	L3 and L10	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L617	113	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.					
L618	248	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L619	18	(computer with cluster) same nodes same kernel and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L620	248	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L621	11	("8402080").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L622	2	("8849889").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L623	92	US-1234567-$.DID. OR US-5423046-$.DID. OR US-5881315-$.DID. OR US-5930768-$.DID. OR US-6108699-$.DID. OR US-6202080-$.DID. OR US-6546403-$.DID. OR US-6578068-$.DID. OR US-6751698-$.DID. OR US-6782537-$.DID. OR US-6968335-$.DID. OR US-7093004-$.DID. OR US-7136924-$.DID. OR US-7174381-$.DID. OR US-7249357-$.DID. OR US-7334232-$.DID. OR US-7437460-$.DID. OR US-7472193-$.DID. OR US-7554949-$.DID. OR US-7937455-$.DID. OR US-8082289-$.DID. OR US-8140612-$.DID. OR US-8402083-$.DID. OR US-8676877-$.DID. OR US-20020049859-$.DID. OR US-20030005266-$.DID. OR US-20030051062-$.DID. OR US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		20030135621-$.DID. OR US-20030195931-$.DID. OR US-20030195938-$.DID. OR US-20040110209-$.DID. OR US-20040157203-$.DID. OR US-20040252710-$.DID. OR US-20050021751-$.DID. OR US-20050038852-$.DID. OR US-20050060237-$.DID. OR US-20050076105-$.DID. OR US-20050108394-$.DID. OR US-20050180095-$.DID. OR US-20060053216-$.DID. OR US-20060106931-$.DID. OR US-20070044099-$.DID. OR US-20070073705-$.DID. OR US-20080250347-$.DID. OR US-20080281997-$.DID. OR JP-1234567-$.DID. OR JP-0887473-$.DID. OR JP-2002117010-$.DID. OR US-6131999-$.DID.					
L624	8	(computer with cluster) same (nodes) same (single-node with kernel)	(USPAT)	OR	OFF	OFF	2023/07/15 10:49 AM
L625	20	(computer with cluster) same (nodes) same (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L626	20	(computer with cluster) same (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L627	20	(computer with cluster) and (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L628	774	(computer with cluster) and (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L629	302	(computer with cluster) same (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L630	6	(computer with cluster) same (nodes) and	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2023/07/15 10:49 AM

		(single with kernel) and 709/223.ccls.	DERWENT; IBM_TDB)				
L631	25	(computer with cluster) same (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L632	409	(computer with cluster) and (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L633	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L634	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L635	5226	(computer with cluster) and kernel and nodes and request	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L636	950	L34 and mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L637	399426	L34 and mathematical smae kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L638	65	L34 and mathematical same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L639	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L640	57	(single with node with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L641	57	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L642	57	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L643	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L644	402958	mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L645	21	mathematica near5 kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L646	26	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L647	11	("8402080").PN.	(US-PGPUB; USPAT; EPO; JPO;	OR	ON	ON	2023/07/15 10:49 AM

			DERWENT; IBM_TDB)				
L648	2	("8849889").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L649	113	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L650	28	mathematica with cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L651	73	mathematica same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L652	871583	stephen wolfram mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L653	108	(stephen near2 wolfram).in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L654	14	L52 and mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L655	451	mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L656	194	L54 and cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L657	26	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

L658	0	("gridMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L659	0	("gridwithMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L660	29	grid with Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L661	28	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L662	22	gridMathematica and wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L663	28	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L664	4326	Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L665	451	Mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L666	21512	wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L667	9831	wolfram.in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L668	35	L66 and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L669	98	L66 and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L670	2	("20070073705").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L671	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L672	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L673	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L674	0	("(computerwithnodeswithclister)same(peer-to-peer)and@ad<20060101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM

L675	0	(computer with nodes with clister) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L676	3	(computer with nodes with cluster) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L677	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L678	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L679	133	(computer with cluster) and kernel and (mathematical with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L680	2	(computer with clusters) same kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L681	206	(computer with clusters) and kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L682	16	(computer with clusters) same kernel same mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L683	137	(computer with clusters) same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L684	6	(computer with clusters) same mathematical same expressions	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L685	1	cluster near5 mathematical near5 evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L686	9	cluster with mathematical with evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L687	2	("20050038852").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L688	22	("20050021751"|"20070073705"|"20070094532"|"6968359"|"8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L689	70	(US-0005068-$ | US-0015460-$ | US-0026601-$ | US-0059473-$ | US-0097300-$ | US-0098447-$ | US-0124363-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		0154789-$ | US-0188088-$ | US-0254984-$ | US-1234567-$ | US-1368948-$ | US-20030005068-$ | US-20040098447-$ | US-20040254984-$ | US-20050015460-$ | US-20050026601-$ | US-20050097300-$ | US-20050154789-$ | US-20050188088-$ | US-20060059473-$ | US-20070124363-$ | US-25376674-$ | US-5195580-$ | US-6006259-$ | US-6067609-$ | US-6604134-$ | US-7031944-$ | US-7177874-$ | US-7315877-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7568131-$ | US-7598390-$ | US-7644130-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-8117288-$ | US-9405564-$).DID.					
L690	9172	(computer with cluster with nodes)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L691	44	(computer with cluster with nodes) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L692	20	(computer with cluster with nodes) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L693	801	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L694	51	(computer with cluster) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L695	801	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L696	33	(computer with cluster)	(US-PGPUB; USPAT;	OR	OFF	OFF	2023/07/15

		same (mathematica$) same result$3	EPO; JPO; DERWENT; IBM_TDB)				10:49 AM
L697	19	(computer with cluster) same (mathematica$ with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L698	23	(high with performance) same cluster same (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L699	220	(high with performance) same cluster and (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L700	2	("7418470").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L701	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L702	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L703	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L704	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L705	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L706	2	("2003195938").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L707	6	("2004015968").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L708	5	("2004098359").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L709	6	("2004098447").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L710	4	("7139882").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L711	3	("20050021751").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L712	2	("20050235055").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

L713	196	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0250347-$ | US-0252710-$ | US-0254984-$ | US-0281997-$ | US-1234567-$ | US-10333768-$ | US-1368948-$ | US-17207443-$ | US-20020049859-$ | US-20030005068-$ | US-20030005266-$ | US-20030051062-$ | US-20030135621-$ | US-20030195931-$ | US-20030195938-$ | US-20040098447-$ | US-20040110209-$ | US-20040157203-$ | US-20040195572-$ | US-20040252710-$ | US-20040254984-$ | US-20050015460-$ | US-20050021751-$ | US-20050038852-$ | US-20050060237-$ | US-20050076105-$ | US-20050097300-$ | US-20050108394-$ | US-20050154789-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		20050180095-$ | US- 20050188088-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 31357476-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 6006259-$ | US- 6067609-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US- 7644130-$ | US- 7698390-$ | US- 7716323-$ | US- 7757236-$ | US- 7788314-$ | US- 7835022-$ | US- 7937455-$ | US- 8082289-$ | US- 8117288-$ | US- 8140612-$ | US- 8402080-$ | US- 8402083-$ | US- 8601101-$ | US-					

		8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L714	2	("8676877").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L715	19	community near5 managed near5 RAN	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L716	39998	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L717	214	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0015968-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098359-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0153677-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0235055-$ | US-0250347-$ | US-0252710-$ | US-0254984-$ | US-0281997-$ | US-1234567-$ | US-10333768-$ | US-17207443-$ | US-20020049859-$ | US-20030005068-$ | US-20030005266-$ | US-20030051062-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040015968-$ | US- 20040098359-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20050235055-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 20200153677-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 53865456-$ | US- 6006259-$ | US- 6067609-$ | US- 6074427-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6691216-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US-					

		7315877-$ | US-7334232-$ | US-7437460-$ | US-7472193-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533168-$ | US-7533389-$ | US-7554949-$ | US-7568131-$ | US-7634530-$ | US-7644130-$ | US-7698390-$ | US-7716323-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L718	24	"7542981"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L719	14	"7627744"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L720	7	"20050251644"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L721	10	((Zvi) near2 (Tannenbaum)).INV.	(USPAT)	OR	OFF	OFF	2023/07/15 10:49 AM
L722	11	((Dean) near2 (Dauger)).INV.	(USPAT)	OR	OFF	OFF	2023/07/15 10:49 AM
L723	248	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L724	39	L3 and interpret	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L725	39998	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2023/07/15 10:49 AM

			DERWENT; IBM_TDB)				
L726	11261	H04L41/0213.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L727	1125	H04L29/08072.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L728	24086	H04L29/06.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L729	23229	H04L41/22.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L730	32700	H04L41/12.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L731	0	L3 and L6	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L732	0	L3 and L7	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L733	0	L3 and L8	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L734	0	L3 and L9	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L735	2	L3 and L10	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L736	113	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"79	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		37455"|"8082289"|"8140612"|"8402083"|"8676877").PN.					
L737	248	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L738	18	(computer with cluster) same nodes same kernel and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L739	248	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L740	11	("8402080").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L741	2	("8849889").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L742	92	US-1234567-$.DID. OR US-5423046-$.DID. OR US-5881315-$.DID. OR US-5930768-$.DID. OR US-6108699-$.DID. OR US-6202080-$.DID. OR US-6546403-$.DID. OR US-6578068-$.DID. OR US-6751698-$.DID. OR US-6782537-$.DID. OR US-6968335-$.DID. OR US-7093004-$.DID. OR US-7136924-$.DID. OR US-7174381-$.DID. OR US-7249357-$.DID. OR US-7334232-$.DID. OR US-7437460-$.DID. OR US-7472193-$.DID. OR US-7554949-$.DID. OR US-7937455-$.DID. OR US-8082289-$.DID. OR US-8140612-$.DID. OR US-8402083-$.DID. OR US-8676877-$.DID. OR US-20020049859-$.DID. OR US-20030005266-$.DID. OR US-20030051062-$.DID. OR US-20030135621-$.DID. OR US-20030195931-$.DID. OR US-20030195938-$.DID. OR US-20040110209-$.DID. OR US-20040157203-$.DID. OR US-20040252710-$.DID. OR US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		20050021751-$.DID. OR US-20050038852-$.DID. OR US-20050060237-$.DID. OR US-20050076105-$.DID. OR US-20050108394-$.DID. OR US-20050180095-$.DID. OR US-20060053216-$.DID. OR US-20060106931-$.DID. OR US-20070044099-$.DID. OR US-20070073705-$.DID. OR US-20080250347-$.DID. OR US-20080281997-$.DID. OR JP-1234567-$.DID. OR JP-0887473-$.DID. OR JP-2002117010-$.DID. OR US-6131999-$.DID.					
L743	8	(computer with cluster) same (nodes) same (single-node with kernel)	(USPAT)	OR	OFF	OFF	2023/07/15 10:49 AM
L744	20	(computer with cluster) same (nodes) same (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L745	20	(computer with cluster) same (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L746	20	(computer with cluster) and (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L747	774	(computer with cluster) and (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L748	302	(computer with cluster) same (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L749	6	(computer with cluster) same (nodes) and (single with kernel) and 709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L750	25	(computer with cluster) same (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L751	409	(computer with cluster) and (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

L752	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L753	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L754	5226	(computer with cluster) and kernel and nodes and request	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L755	950	L34 and mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L756	399426	L34 and mathematical smae kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L757	65	L34 and mathematical same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L758	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L759	57	(single with node with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L760	57	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L761	57	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L762	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L763	402958	mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L764	21	mathematica near5 kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L765	26	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L766	11	("8402080").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L767	2	("8849889").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L768	113	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"2003019593	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		8"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.				
L769	28	mathematica with cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L770	73	mathematica same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L771	871583	stephen wolfram mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L772	108	(stephen near2 wolfram).in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L773	14	L52 and mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L774	451	mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L775	194	L54 and cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L776	26	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L777	0	("gridMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L778	0	("gridwithMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L779	29	grid with Mathematica	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2023/07/15 10:49 AM

			DERWENT; IBM_TDB)				
L780	28	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L781	22	gridMathematica and wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L782	28	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L783	4326	Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L784	451	Mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L785	21512	wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L786	9831	wolfram.in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L787	35	L66 and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L788	98	L66 and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L789	2	("20070073705").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L790	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L791	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L792	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L793	0	("(computerwithnodeswithclister)same(peer-to-peer)and@ad<20060101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L794	0	(computer with nodes with clister) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L795	3	(computer with nodes with cluster) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

L796	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L797	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L798	133	(computer with cluster) and kernel and (mathematical with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L799	2	(computer with clusters) same kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L800	206	(computer with clusters) and kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L801	16	(computer with clusters) same kernel same mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L802	137	(computer with clusters) same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L803	6	(computer with clusters) same mathematical same expressions	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L804	1	cluster near5 mathematical near5 evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L805	9	cluster with mathematical with evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L806	2	("20050038852").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L807	22	("20050021751"|"20070073705"|"20070094532"|"6968359"|"8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L808	70	(US-0005068-$ | US-0015460-$ | US-0026601-$ | US-0059473-$ | US-0097300-$ | US-0098447-$ | US-0124363-$ | US-0154789-$ | US-0188088-$ | US-0254984-$ | US-1234567-$ | US-1368948-$ | US-20030005068-$ | US-20040098447-$ | US-20040254984-$ | US-20050015460-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		20050026601-$ | US-20050097300-$ | US-20050154789-$ | US-20050188088-$ | US-20060059473-$ | US-20070124363-$ | US-25376674-$ | US-5195580-$ | US-6006259-$ | US-6067609-$ | US-6604134-$ | US-7031944-$ | US-7177874-$ | US-7315877-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7568131-$ | US-7598390-$ | US-7644130-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-8117288-$ | US-9405564-$).DID.					
L809	9172	(computer with cluster with nodes)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L810	44	(computer with cluster with nodes) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L811	20	(computer with cluster with nodes) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L812	801	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L813	51	(computer with cluster) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L814	801	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L815	33	(computer with cluster) same (mathematica$) same result$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L816	19	(computer with cluster) same (mathematica$ with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L817	23	(high with performance) same cluster same (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

L818	220	(high with performance) same cluster and (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L819	2	("7418470").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L820	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L821	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L822	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L823	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L824	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L825	2	("2003195938").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L826	6	("2004015968").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L827	5	("2004098359").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L828	6	("2004098447").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L829	4	("7139882").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L830	3	("20050021751").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L831	2	("20050235055").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L832	196	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		0059473-$ | US- 0060237-$ | US- 0073705-$ | US- 0076105-$ | US- 0094532-$ | US- 0097300-$ | US- 0098447-$ | US- 0106931-$ | US- 0108394-$ | US- 0110209-$ | US- 0124363-$ | US- 0135621-$ | US- 0154789-$ | US- 0157203-$ | US- 0180095-$ | US- 0188088-$ | US- 0195572-$ | US- 0195931-$ | US- 0195938-$ | US- 0250347-$ | US- 0252710-$ | US- 0254984-$ | US- 0281997-$ | US- 1234567-$ | US- 10333768-$ | US- 1368948-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US-					

		20080250347-$ | US-20080281997-$ | US-31357476-$ | US-5423046-$ | US-5881315-$ | US-5930768-$ | US-6006259-$ | US-6067609-$ | US-6108699-$ | US-6195680-$ | US-6202080-$ | US-6546403-$ | US-6578068-$ | US-6604134-$ | US-6751698-$ | US-6782537-$ | US-6968335-$ | US-6968359-$ | US-7031944-$ | US-7093004-$ | US-7136924-$ | US-7139882-$ | US-7174381-$ | US-7177874-$ | US-7249357-$ | US-7315877-$ | US-7334232-$ | US-7437460-$ | US-7472193-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7554949-$ | US-7568131-$ | US-7644130-$ | US-7698390-$ | US-7716323-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L833	2	("8676877").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L834	19	community near5 managed near5 RAN	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

L835	39998	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L836	214	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0015968-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098359-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0153677-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0235055-$ | US-0250347-$ | US-0252710-$ | US-0254984-$ | US-0281997-$ | US-1234567-$ | US-10333768-$ | US-17207443-$ | US-20020049859-$ | US-20030005068-$ | US-20030005266-$ | US-20030051062-$ | US-20030135621-$ | US-20030195931-$ | US-20030195938-$ | US-20040015968-$ | US-20040098359-$ | US-20040098447-$ | US-20040110209-$ | US-20040157203-$ | US-20040195572-$ | US-20040252710-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20050235055-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 20200153677-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 53865456-$ | US- 6006259-$ | US- 6067609-$ | US- 6074427-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6691216-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533168-$ | US- 7533389-$ | US- 7554949-$ | US-					

		7568131-$ | US-7634530-$ | US-7644130-$ | US-7698390-$ | US-7716323-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L837	10	((Zvi) near2 (Tannenbaum)).INV.	(USPAT)	OR	OFF	OFF	2023/07/15 10:49 AM
L838	11	((Dean) near2 (Dauger)).INV.	(USPAT)	OR	OFF	OFF	2023/07/15 10:49 AM
L839	248	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L840	39	L3 and interpret	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L841	39998	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L842	11261	H04L41/0213.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L843	1125	H04L29/08072.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L844	24086	H04L29/06.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L845	23229	H04L41/22.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L846	32700	H04L41/12.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L847	0	L3 and L6	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L848	0	L3 and L7	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L849	0	L3 and L8	(US-PGPUB; USPAT;	OR	OFF	OFF	2023/07/15

			EPO; JPO; DERWENT; IBM_TDB)				10:49 AM
L850	0	L3 and L9	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L851	2	L3 and L10	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L852	113	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L853	248	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L854	18	(computer with cluster) same nodes same kernel and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L855	248	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L856	11	("8402080").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L857	2	("8849889").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L858	92	US-1234567-$.DID. OR US-5423046-$.DID. OR US-5881315-$.DID. OR US-5930768-$.DID. OR US-6108699-$.DID. OR US-6202080-$.DID. OR	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		US-6546403-$.DID. OR US-6578068-$.DID. OR US-6751698-$.DID. OR US-6782537-$.DID. OR US-6968335-$.DID. OR US-7093004-$.DID. OR US-7136924-$.DID. OR US-7174381-$.DID. OR US-7249357-$.DID. OR US-7334232-$.DID. OR US-7437460-$.DID. OR US-7472193-$.DID. OR US-7554949-$.DID. OR US-7937455-$.DID. OR US-8082289-$.DID. OR US-8140612-$.DID. OR US-8402083-$.DID. OR US-8676877-$.DID. OR US-20020049859-$.DID. OR US-20030005266-$.DID. OR US-20030051062-$.DID. OR US-20030135621-$.DID. OR US-20030195931-$.DID. OR US-20030195938-$.DID. OR US-20040110209-$.DID. OR US-20040157203-$.DID. OR US-20040252710-$.DID. OR US-20050021751-$.DID. OR US-20050038852-$.DID. OR US-20050060237-$.DID. OR US-20050076105-$.DID. OR US-20050108394-$.DID. OR US-20050180095-$.DID. OR US-20060053216-$.DID. OR US-20060106931-$.DID. OR US-20070044099-$.DID. OR US-20070073705-$.DID. OR US-20080250347-$.DID. OR US-20080281997-$.DID. OR JP-1234567-$.DID. OR JP-0887473-$.DID. OR JP-2002117010-$.DID. OR US-6131999-$.DID.					
L859	8	(computer with cluster) same (nodes) same (single-node with	(USPAT)	OR	OFF	OFF	2023/07/15 10:49 AM

		kernel)					
L860	20	(computer with cluster) same (nodes) same (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L861	20	(computer with cluster) same (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L862	20	(computer with cluster) and (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L863	774	(computer with cluster) and (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L864	302	(computer with cluster) same (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L865	6	(computer with cluster) same (nodes) and (single with kernel) and 709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L866	25	(computer with cluster) same (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L867	409	(computer with cluster) and (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L868	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L869	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L870	5226	(computer with cluster) and kernel and nodes and request	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L871	950	L34 and mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L872	399426	L34 and mathematical smae kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L873	65	L34 and mathematical same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L874	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L875	57	(single with node with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2023/07/15 10:49 AM

			DERWENT; IBM_TDB)				
L876	57	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L877	57	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L878	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L879	402958	mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L880	21	mathematica near5 kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L881	26	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L882	11	("8402080").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L883	2	("8849889").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L884	113	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L885	28	mathematica with cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

L886	73	mathematica same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L887	871583	stephen wolfram mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L888	108	(stephen near2 wolfram).in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L889	14	L52 and mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L890	451	mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L891	194	L54 and cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L892	26	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L893	0	("gridMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L894	0	("gridwithMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L895	29	grid with Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L896	28	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L897	22	gridMathematica and wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L898	28	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L899	4326	Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L900	451	Mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L901	21512	wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L902	9831	wolfram.in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L903	35	L66 and mathematica	(US-PGPUB; USPAT;	OR	OFF	OFF	2023/07/15

			EPO; JPO; DERWENT; IBM_TDB)				10:49 AM
L904	98	L66 and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L905	2	("20070073705").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L906	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L907	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L908	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L909	0	("(computerwithnodeswithclister)same(peer-to-peer)and@ad<20060101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L910	0	(computer with nodes with clister) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L911	3	(computer with nodes with cluster) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L912	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L913	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L914	133	(computer with cluster) and kernel and (mathematical with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L915	2	(computer with clusters) same kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L916	206	(computer with clusters) and kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L917	16	(computer with clusters) same kernel same mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L918	137	(computer with clusters) same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L919	6	(computer with clusters)	(US-PGPUB; USPAT;	OR	OFF	OFF	2023/07/15

		same mathematical same expressions	EPO; JPO; DERWENT; IBM_TDB)				10:49 AM
L920	1	cluster near5 mathematical near5 evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L921	9	cluster with mathematical with evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L922	2	("20050038852").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L923	22	("20050021751"|"20070073705"|"20070094532"|"6968359"|"8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L924	70	(US-0005068-$ | US-0015460-$ | US-0026601-$ | US-0059473-$ | US-0097300-$ | US-0098447-$ | US-0124363-$ | US-0154789-$ | US-0188088-$ | US-0254984-$ | US-1234567-$ | US-1368948-$ | US-20030005068-$ | US-20040098447-$ | US-20040254984-$ | US-20050015460-$ | US-20050026601-$ | US-20050097300-$ | US-20050154789-$ | US-20050188088-$ | US-20060059473-$ | US-20070124363-$ | US-25376674-$ | US-5195580-$ | US-6006259-$ | US-6067609-$ | US-6604134-$ | US-7031944-$ | US-7177874-$ | US-7315877-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7568131-$ | US-7598390-$ | US-7644130-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-8117288-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		9405564-$).DID.					
L925	9172	(computer with cluster with nodes)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L926	44	(computer with cluster with nodes) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L927	20	(computer with cluster with nodes) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L928	801	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L929	51	(computer with cluster) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L930	801	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L931	33	(computer with cluster) same (mathematica$) same result$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L932	19	(computer with cluster) same (mathematica$ with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L933	23	(high with performance) same cluster same (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L934	220	(high with performance) same cluster and (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L935	2	("7418470").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L936	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L937	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L938	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L939	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L940	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM

L941	2	("2003195938").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L942	6	("2004015968").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L943	5	("2004098359").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L944	6	("2004098447").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L945	4	("7139882").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L946	3	("20050021751").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L947	2	("20050235055").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L948	196	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0250347-$ | US-0252710-$ | US-0254984-$ | US-0281997-$ | US-1234567-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		10333768-$ | US- 1368948-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 31357476-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 6006259-$ | US- 6067609-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US-					

		7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US- 7644130-$ | US- 7698390-$ | US- 7716323-$ | US- 7757236-$ | US- 7788314-$ | US- 7835022-$ | US- 7937455-$ | US- 8082289-$ | US- 8117288-$ | US- 8140612-$ | US- 8402080-$ | US- 8402083-$ | US- 8601101-$ | US- 8676877-$ | US- 8849889-$ | US- 9405564-$).DID.					
L949	2	("8676877").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L950	19	community near5 managed near5 RAN	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L951	39998	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM
L952	214	(US-0005068-$ | US- 0005266-$ | US- 0015460-$ | US- 0015968-$ | US- 0021751-$ | US- 0026601-$ | US- 0038852-$ | US- 0044099-$ | US- 0049859-$ | US- 0051062-$ | US- 0053216-$ | US- 0059473-$ | US- 0060237-$ | US- 0073705-$ | US- 0076105-$ | US- 0094532-$ | US- 0097300-$ | US- 0098359-$ | US- 0098447-$ | US- 0106931-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2023/07/15 10:49 AM

		0108394-$ | US- 0110209-$ | US- 0124363-$ | US- 0135621-$ | US- 0153677-$ | US- 0154789-$ | US- 0157203-$ | US- 0180095-$ | US- 0188088-$ | US- 0195572-$ | US- 0195931-$ | US- 0195938-$ | US- 0235055-$ | US- 0250347-$ | US- 0252710-$ | US- 0254984-$ | US- 0281997-$ | US- 1234567-$ | US- 10333768-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040015968-$ | US- 20040098359-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20050235055-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 20200153677-$ | US- 5423046-$ | US-					

		5881315-$ | US- 5930768-$ | US- 53865456-$ | US- 6006259-$ | US- 6067609-$ | US- 6074427-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6691216-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533168-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US- 7634530-$ | US- 7644130-$ | US- 7698390-$ | US- 7716323-$ | US- 7757236-$ | US- 7788314-$ | US- 7835022-$ | US- 7937455-$ | US- 8082289-$ | US- 8117288-$ | US- 8140612-$ | US- 8402080-$ | US- 8402083-$ | US- 8601101-$ | US- 8676877-$ | US- 8849889-$ | US- 9405564-$).DID.				
L953	24	"7542981"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM

L954	14	"7627744"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L955	7	"20050251644"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM
L956	384	(US-00240030-$ | US-0163414-$ | US-0163528-$ | US-0165511-$ | US-0165833-$ | US-0165922-$ | US-0165930-$ | US-0165931-$ | US-0165933-$ | US-0165941-$ | US-0165957-$ | US-0165985-$ | US-0166004-$ | US-0166295-$ | US-0166306-$ | US-0166333-$ | US-0166369-$ | US-0166502-$ | US-0166510-$ | US-0166511-$ | US-0166576-$ | US-0166655-$ | US-0166680-$ | US-0166693-$ | US-0166705-$ | US-0166724-$ | US-0166734-$ | US-0166770-$ | US-0166799-$ | US-0166828-$ | US-0166849-$ | US-0166955-$ | US-0166985-$ | US-0167001-$ | US-0167056-$ | US-0167081-$ | US-0167082-$ | US-0167610-$ | US-0167617-$ | US-0167629-$ | US-0167649-$ | US-0167768-$ | US-0168513-$ | US-0168697-$ | US-0168705-$ | US-0168711-$ | US-0168766-$ | US-	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/07/15 10:49 AM

		0168777-$ | US- 0168877-$ | US- 0168895-$ | US- 0169109-$ | US- 0169147-$ | US- 0169480-$ | US- 0169540-$ | US- 0169648-$ | US- 0169935-$ | US- 0169949-$ | US- 0169971-$ | US- 0170271-$ | US- 0170309-$ | US- 0170316-$ | US- 0170323-$ | US- 0170331-$ | US- 0170339-$ | US- 0170347-$ | US- 0170356-$ | US- 0170367-$ | US- 0170378-$ | US- 0170387-$ | US- 0170434-$ | US- 0173254-$ | US- 0173308-$ | US- 0220502-$ | US- 0222731-$ | US- 0222830-$ | US- 0222834-$ | US- 0222837-$ | US- 0222842-$ | US- 0222970-$ | US- 0222990-$ | US- 0223018-$ | US- 0223288-$ | US- 0223292-$ | US- 0223370-$ | US- 0223378-$ | US- 0223382-$ | US- 0223385-$ | US- 0223391-$ | US- 0223396-$ | US- 0223400-$ | US- 0223402-$ | US- 0224753-$ | US- 0224757-$ | US- 0224762-$ | US- 0225177-$ | US- 0225209-$ | US- 0225212-$ | US- 0228109-$ | US- 0228113-$ | US- 0228118-$ | US- 0228571-$ | US- 0228604-$ | US- 0228607-$ | US- 0231103-$ | US- 0231190-$ | US-					

		0231192-$ | US- 0231196-$ | US- 0231201-$ | US- 0231608-$ | US- 0231612-$ | US- 0231624-$ | US- 0231637-$ | US- 0231704-$ | US- 0231715-$ | US- 0231722-$ | US- 0231726-$ | US- 0231729-$ | US- 0231735-$ | US- 0231740-$ | US- 0231745-$ | US- 0232222-$ | US- 0232315-$ | US- 0232317-$ | US- 0232321-$ | US- 0232327-$ | US- 0232790-$ | US- 0232860-$ | US- 0232871-$ | US- 0232875-$ | US- 0232883-$ | US- 0232886-$ | US- 0232892-$ | US- 0232897-$ | US- 0232902-$ | US- 0232906-$ | US- 0233750-$ | US- 0233752-$ | US- 0234467-$ | US- 0234468-$ | US- 0234888-$ | US- 0234890-$ | US- 0234898-$ | US- 0234905-$ | US- 0234909-$ | US- 0234916-$ | US- 0234918-$ | US- 0234919-$ | US- 0234922-$ | US- 0234925-$ | US- 0234933-$ | US- 0234976-$ | US- 0234980-$ | US- 0234985-$ | US- 0234990-$ | US- 0235005-$ | US- 0235022-$ | US- 0235035-$ | US- 0235070-$ | US- 0235131-$ | US- 0235213-$ | US- 0235215-$ | US- 0235217-$ | US- 0235228-$ | US-					

		0235230-$ | US-0235231-$ | US-0235234-$ | US-0240000-$ | US-0240002-$ | US-0240005-$ | US-0240008-$ | US-0240011-$ | US-0240019-$ | US-0240022-$ | US-0240024-$ | US-0240033-$ | US-0240042-$ | US-0240044-$ | US-1234567-$ | US-10333768-$ | US-55892847-$ | US-7015915-$ | US-7162590-$ | US-7275123-$ | US-7289125-$ | US-7469309-$ | US-7562174-$ | US-7663633-$ | US-7694158-$ | US-7814462-$ | US-7861060-$ | US-7996592-$ | US-8074224-$ | US-8082287-$ | US-8082289-$ | US-8140612-$ | US-8321849-$).DID.					
L957	11	((Zvi) near2 (Tannenbaum)).INV.	(USPAT)	OR	OFF	OFF	2024/04/20 01:18 PM
L958	12	((Dean) near2 (Dauger)).INV.	(USPAT)	OR	OFF	OFF	2024/04/20 01:18 PM
L959	258	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L960	42	L3 and interpret	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L961	40354	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L962	11498	H04L41/0213.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L963	992	H04L29/08072.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L964	21195	H04L29/06.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

L965	24518	H04L41/22.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L966	34526	H04L41/12.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L967	0	L3 and L6	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L968	0	L3 and L7	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L969	0	L3 and L8	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L970	0	L3 and L9	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L971	2	L3 and L10	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L972	115	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L973	258	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L974	20	(computer with cluster) same nodes same kernel and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L975	258	(computer with cluster)	(US-PGPUB; USPAT;	OR	OFF	OFF	2024/04/20

		same nodes same kernel	EPO; JPO; DERWENT; IBM_TDB)				01:18 PM
L976	11	("8402080").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L977	2	("8849889").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L978	92	US-1234567-$.DID. OR US-5423046-$.DID. OR US-5881315-$.DID. OR US-5930768-$.DID. OR US-6108699-$.DID. OR US-6202080-$.DID. OR US-6546403-$.DID. OR US-6578068-$.DID. OR US-6751698-$.DID. OR US-6782537-$.DID. OR US-6968335-$.DID. OR US-7093004-$.DID. OR US-7136924-$.DID. OR US-7174381-$.DID. OR US-7249357-$.DID. OR US-7334232-$.DID. OR US-7437460-$.DID. OR US-7472193-$.DID. OR US-7554949-$.DID. OR US-7937455-$.DID. OR US-8082289-$.DID. OR US-8140612-$.DID. OR US-8402083-$.DID. OR US-8676877-$.DID. OR US-20020049859-$.DID. OR US-20030005266-$.DID. OR US-20030051062-$.DID. OR US-20030135621-$.DID. OR US-20030195931-$.DID. OR US-20030195938-$.DID. OR US-20040110209-$.DID. OR US-20040157203-$.DID. OR US-20040252710-$.DID. OR US-20050021751-$.DID. OR US-20050038852-$.DID. OR US-20050060237-$.DID. OR US-20050076105-$.DID. OR US-20050108394-$.DID. OR US-20050180095-$.DID. OR US-20060053216-$.DID. OR US-20060106931-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		$.DID. OR US-20070044099-$.DID. OR US-20070073705-$.DID. OR US-20080250347-$.DID. OR US-20080281997-$.DID. OR JP-1234567-$.DID. OR JP-0887473-$.DID. OR JP-2002117010-$.DID. OR US-6131999-$.DID.					
L979	9	(computer with cluster) same (nodes) same (single-node with kernel)	(USPAT)	OR	OFF	OFF	2024/04/20 01:18 PM
L980	22	(computer with cluster) same (nodes) same (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L981	22	(computer with cluster) same (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L982	22	(computer with cluster) and (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L983	889	(computer with cluster) and (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L984	316	(computer with cluster) same (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L985	6	(computer with cluster) same (nodes) and (single with kernel) and 709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L986	28	(computer with cluster) same (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L987	478	(computer with cluster) and (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L988	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L989	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L990	6050	(computer with cluster) and kernel and nodes and request	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L991	1183	L34 and mathematical	(US-PGPUB; USPAT;	OR	OFF	OFF	2024/04/20

			EPO; JPO; DERWENT; IBM_TDB)				01:18 PM
L992	430043	L34 and mathematical smae kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L993	89	L34 and mathematical same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L994	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L995	61	(single with node with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L996	61	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L997	61	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L998	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L999	433699	mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1000	23	mathematica near5 kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1001	28	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1002	11	("8402080").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1003	2	("8849889").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1004	115	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"58	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		81315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.				
L1005	31	mathematica with cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1006	79	mathematica same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1007	913384	stephen wolfram mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1008	108	(stephen near2 wolfram).in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1009	14	L52 and mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1010	484	mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1011	215	L54 and cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1012	28	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1013	0	("gridMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1014	0	("gridwithMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1015	31	grid with Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1016	30	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1017	24	gridMathematica and wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1018	30	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

L1019	4486	Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1020	484	Mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1021	22102	wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1022	9933	wolfram.in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1023	35	L66 and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1024	99	L66 and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1025	2	("20070073705").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1026	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1027	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1028	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1029	0	("(computerwithnodeswithclister)same(peer-to-peer)and@ad<20060101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1030	0	(computer with nodes with clister) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1031	3	(computer with nodes with cluster) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1032	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1033	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1034	150	(computer with cluster) and kernel and (mathematical with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

L1035	2	(computer with clusters) same kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1036	307	(computer with clusters) and kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1037	18	(computer with clusters) same kernel same mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1038	141	(computer with clusters) same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1039	6	(computer with clusters) same mathematical same expressions	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1040	1	cluster near5 mathematical near5 evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1041	9	cluster with mathematical with evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1042	2	("20050038852").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1043	22	("20050021751"|"20070073705"|"20070094532"|"6968359"|"8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1044	70	(US-0005068-$ | US-0015460-$ | US-0026601-$ | US-0059473-$ | US-0097300-$ | US-0098447-$ | US-0124363-$ | US-0154789-$ | US-0188088-$ | US-0254984-$ | US-1234567-$ | US-1368948-$ | US-20030005068-$ | US-20040098447-$ | US-20040254984-$ | US-20050015460-$ | US-20050026601-$ | US-20050097300-$ | US-20050154789-$ | US-20050188088-$ | US-20060059473-$ | US-20070124363-$ | US-25376674-$ | US-5195580-$ | US-6006259-$ | US-6067609-$ | US-6604134-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		7031944-$ | US-7177874-$ | US-7315877-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7568131-$ | US-7598390-$ | US-7644130-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-8117288-$ | US-9405564-$).DID.					
L1045	9853	(computer with cluster with nodes)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1046	46	(computer with cluster with nodes) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1047	22	(computer with cluster with nodes) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1048	829	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1049	55	(computer with cluster) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1050	829	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1051	38	(computer with cluster) same (mathematica$) same result$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1052	19	(computer with cluster) same (mathematica$ with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1053	26	(high with performance) same cluster same (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1054	253	(high with performance) same cluster and (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1055	3	("7418470").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1056	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM

L1057	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1058	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1059	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1060	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1061	2	("2003195938").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1062	6	("2004015968").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1063	5	("2004098359").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1064	6	("2004098447").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1065	4	("7139882").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1066	3	("20050021751").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1067	2	("20050235055").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1068	196	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		0135621-$ | US- 0154789-$ | US- 0157203-$ | US- 0180095-$ | US- 0188088-$ | US- 0195572-$ | US- 0195931-$ | US- 0195938-$ | US- 0250347-$ | US- 0252710-$ | US- 0254984-$ | US- 0281997-$ | US- 1234567-$ | US- 10333768-$ | US- 1368948-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 31357476-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 6006259-$ | US- 6067609-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US-					

		6546403-$ | US-6578068-$ | US-6604134-$ | US-6751698-$ | US-6782537-$ | US-6968335-$ | US-6968359-$ | US-7031944-$ | US-7093004-$ | US-7136924-$ | US-7139882-$ | US-7174381-$ | US-7177874-$ | US-7249357-$ | US-7315877-$ | US-7334232-$ | US-7437460-$ | US-7472193-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7554949-$ | US-7568131-$ | US-7644130-$ | US-7698390-$ | US-7716323-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L1069	2	("8676877").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1070	25	community near5 managed near5 RAN	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1071	40354	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1072	214	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0015968-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		0044099-$ | US- 0049859-$ | US- 0051062-$ | US- 0053216-$ | US- 0059473-$ | US- 0060237-$ | US- 0073705-$ | US- 0076105-$ | US- 0094532-$ | US- 0097300-$ | US- 0098359-$ | US- 0098447-$ | US- 0106931-$ | US- 0108394-$ | US- 0110209-$ | US- 0124363-$ | US- 0135621-$ | US- 0153677-$ | US- 0154789-$ | US- 0157203-$ | US- 0180095-$ | US- 0188088-$ | US- 0195572-$ | US- 0195931-$ | US- 0195938-$ | US- 0235055-$ | US- 0250347-$ | US- 0252710-$ | US- 0254984-$ | US- 0281997-$ | US- 1234567-$ | US- 10333768-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040015968-$ | US- 20040098359-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US-					

		20050235055-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 20200153677-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 53865456-$ | US- 6006259-$ | US- 6067609-$ | US- 6074427-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6691216-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533168-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US- 7634530-$ | US- 7644130-$ | US- 7698390-$ | US- 7716323-$ | US- 7757236-$ | US- 7788314-$ | US- 7835022-$ | US- 7937455-$ | US- 8082289-$ | US- 8117288-$ | US-					

		8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L1073	11	((Zvi) near2 (Tannenbaum)).INV.	(USPAT)	OR	OFF	OFF	2024/04/20 01:18 PM
L1074	12	((Dean) near2 (Dauger)).INV.	(USPAT)	OR	OFF	OFF	2024/04/20 01:18 PM
L1075	258	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1076	42	L3 and interpret	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1077	40354	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1078	11498	H04L41/0213.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1079	992	H04L29/08072.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1080	21195	H04L29/06.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1081	24518	H04L41/22.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1082	34526	H04L41/12.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1083	0	L3 and L6	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1084	0	L3 and L7	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1085	0	L3 and L8	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1086	0	L3 and L9	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1087	2	L3 and L10	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1088	115	("20020049859"|"20030005266"|"20030051062	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2024/04/20 01:18 PM

		"|"20030135621"|"2003 0195931"|"2003019593 8"|"20040110209"|"200 40157203"|"200402527 10"|"20050021751"|"20 050038852"|"20050060 237"|"20050076105"|"2 0050108394"|"2005018 0095"|"20060053216"|" 20060106931"|"200700 44099"|"20070073705"| "20080250347"|"20080 281997"|"5423046"|"58 81315"|"5930768"|"610 8699"|"6202080"|"6546 403"|"6578068"|"67516 98"|"6782537"|"696833 5"|"7093004"|"7136924" |"7174381"|"7249357"|" 7334232"|"7437460"|"7 472193"|"7554949"|"79 37455"|"8082289"|"814 0612"|"8402083"|"8676 877").PN.	DERWENT; IBM_TDB)				
L1089	258	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1090	20	(computer with cluster) same nodes same kernel and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1091	258	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1092	11	("8402080").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1093	2	("8849889").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1094	92	US-1234567-$.DID. OR US-5423046-$.DID. OR US-5881315-$.DID. OR US-5930768-$.DID. OR US-6108699-$.DID. OR US-6202080-$.DID. OR US-6546403-$.DID. OR US-6578068-$.DID. OR US-6751698-$.DID. OR US-6782537-$.DID. OR US-6968335-$.DID. OR US-7093004-$.DID. OR US-7136924-$.DID. OR US-7174381-$.DID. OR US-7249357-$.DID. OR US-7334232-$.DID. OR US-7437460-$.DID. OR	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		US-7472193-$.DID. OR US-7554949-$.DID. OR US-7937455-$.DID. OR US-8082289-$.DID. OR US-8140612-$.DID. OR US-8402083-$.DID. OR US-8676877-$.DID. OR US-20020049859-$.DID. OR US-20030005266-$.DID. OR US-20030051062-$.DID. OR US-20030135621-$.DID. OR US-20030195931-$.DID. OR US-20030195938-$.DID. OR US-20040110209-$.DID. OR US-20040157203-$.DID. OR US-20040252710-$.DID. OR US-20050021751-$.DID. OR US-20050038852-$.DID. OR US-20050060237-$.DID. OR US-20050076105-$.DID. OR US-20050108394-$.DID. OR US-20050180095-$.DID. OR US-20060053216-$.DID. OR US-20060106931-$.DID. OR US-20070044099-$.DID. OR US-20070073705-$.DID. OR US-20080250347-$.DID. OR US-20080281997-$.DID. OR JP-1234567-$.DID. OR JP-0887473-$.DID. OR JP-2002117010-$.DID. OR US-6131999-$.DID.					
L1095	9	(computer with cluster) same (nodes) same (single-node with kernel)	(USPAT)	OR	OFF	OFF	2024/04/20 01:18 PM
L1096	22	(computer with cluster) same (nodes) same (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1097	22	(computer with cluster) same (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1098	22	(computer with cluster)	(US-PGPUB; USPAT;	OR	OFF	OFF	2024/04/20

		and (nodes) and (single-node with kernel)	EPO; JPO; DERWENT; IBM_TDB)				01:18 PM
L1099	889	(computer with cluster) and (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1100	316	(computer with cluster) same (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1101	6	(computer with cluster) same (nodes) and (single with kernel) and 709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1102	28	(computer with cluster) same (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1103	478	(computer with cluster) and (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1104	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1105	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1106	6050	(computer with cluster) and kernel and nodes and request	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1107	1183	L34 and mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1108	430043	L34 and mathematical smae kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1109	89	L34 and mathematical same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1110	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1111	61	(single with node with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1112	61	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1113	61	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1114	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM

L1115	433699	mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1116	23	mathematica near5 kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1117	28	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1118	11	("8402080").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1119	2	("8849889").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1120	115	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1121	31	mathematica with cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1122	79	mathematica same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1123	913384	stephen wolfram mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1124	108	(stephen near2 wolfram).in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1125	14	L52 and mathematica	(US-PGPUB; USPAT;	OR	OFF	OFF	2024/04/20

		and kernel	EPO; JPO; DERWENT; IBM_TDB)				01:18 PM
L1126	484	mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1127	215	L54 and cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1128	28	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1129	0	("gridMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1130	0	("gridwithMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1131	31	grid with Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1132	30	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1133	24	gridMathematica and wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1134	30	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1135	4486	Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1136	484	Mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1137	22102	wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1138	9933	wolfram.in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1139	35	L66 and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1140	99	L66 and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1141	2	("20070073705").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1142	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO;	OR	ON	ON	2024/04/20 01:18 PM

			DERWENT; IBM_TDB)				
L1143	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1144	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1145	0	("(computerwithnodeswithclister)same(peer-to-peer)and@ad<20060101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1146	0	(computer with nodes with clister) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1147	3	(computer with nodes with cluster) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1148	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1149	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1150	150	(computer with cluster) and kernel and (mathematical with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1151	2	(computer with clusters) same kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1152	307	(computer with clusters) and kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1153	18	(computer with clusters) same kernel same mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1154	141	(computer with clusters) same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1155	6	(computer with clusters) same mathematical same expressions	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1156	1	cluster near5 mathematical near5 evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1157	9	cluster with mathematical with evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1158	2	("20050038852").PN.	(US-PGPUB; USPAT; EPO; JPO;	OR	ON	ON	2024/04/20 01:18 PM

			DERWENT; IBM_TDB)				
L1159	22	("20050021751"|"20070073705"|"20070094532"|"6968359"|"8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1160	70	(US-0005068-$ | US-0015460-$ | US-0026601-$ | US-0059473-$ | US-0097300-$ | US-0098447-$ | US-0124363-$ | US-0154789-$ | US-0188088-$ | US-0254984-$ | US-1234567-$ | US-1368948-$ | US-20030005068-$ | US-20040098447-$ | US-20040254984-$ | US-20050015460-$ | US-20050026601-$ | US-20050097300-$ | US-20050154789-$ | US-20050188088-$ | US-20060059473-$ | US-20070124363-$ | US-25376674-$ | US-5195580-$ | US-6006259-$ | US-6067609-$ | US-6604134-$ | US-7031944-$ | US-7177874-$ | US-7315877-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7568131-$ | US-7598390-$ | US-7644130-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-8117288-$ | US-9405564-$).DID.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1161	9853	(computer with cluster with nodes)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1162	46	(computer with cluster with nodes) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1163	22	(computer with cluster with nodes) same (mathematica$) and	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		kernel					
L1164	829	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1165	55	(computer with cluster) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1166	829	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1167	38	(computer with cluster) same (mathematica$) same result$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1168	19	(computer with cluster) same (mathematica$ with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1169	26	(high with performance) same cluster same (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1170	253	(high with performance) same cluster and (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1171	3	("7418470").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1172	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1173	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1174	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1175	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1176	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1177	2	("2003195938").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1178	6	("2004015968").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1179	5	("2004098359").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1180	6	("2004098447").PN.	(US-PGPUB; USPAT;	OR	OFF	OFF	2024/04/20

			USOCR; FPRS; JPO; DERWENT; IBM_TDB)				01:18 PM
L1181	4	("7139882").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1182	3	("20050021751").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1183	2	("20050235055").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1184	196	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0250347-$ | US-0252710-$ | US-0254984-$ | US-0281997-$ | US-1234567-$ | US-10333768-$ | US-1368948-$ | US-17207443-$ | US-20020049859-$ | US-20030005068-$ | US-20030005266-$ | US-20030051062-$ | US-20030135621-$ | US-20030195931-$ | US-20030195938-$ | US-20040098447-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 31357476-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 6006259-$ | US- 6067609-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US-					

		7644130-$ | US-7698390-$ | US-7716323-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L1185	2	("8676877").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1186	25	community near5 managed near5 RAN	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1187	40354	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1188	214	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0015968-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098359-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0153677-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		0195938-$ | US- 0235055-$ | US- 0250347-$ | US- 0252710-$ | US- 0254984-$ | US- 0281997-$ | US- 1234567-$ | US- 10333768-$ | US- 17207443-$ | US- 20020049859-$ | US- 20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040015968-$ | US- 20040098359-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20050235055-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 20200153677-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 53865456-$ | US- 6006259-$ | US- 6067609-$ | US- 6074427-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US-					

		6604134-$ | US-6691216-$ | US-6751698-$ | US-6782537-$ | US-6968335-$ | US-6968359-$ | US-7031944-$ | US-7093004-$ | US-7136924-$ | US-7139882-$ | US-7174381-$ | US-7177874-$ | US-7249357-$ | US-7315877-$ | US-7334232-$ | US-7437460-$ | US-7472193-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533168-$ | US-7533389-$ | US-7554949-$ | US-7568131-$ | US-7634530-$ | US-7644130-$ | US-7698390-$ | US-7716323-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L1189	25	"7542981"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1190	15	"7627744"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1191	10	"20050251644"	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM

L1192	11	((Zvi) near2 (Tannenbaum)).INV.	(USPAT)	OR	OFF	OFF	2024/04/20 01:18 PM
L1193	12	((Dean) near2 (Dauger)).INV.	(USPAT)	OR	OFF	OFF	2024/04/20 01:18 PM
L1194	258	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1195	42	L3 and interpret	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1196	40354	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1197	11498	H04L41/0213.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1198	992	H04L29/08072.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1199	21195	H04L29/06.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1200	24518	H04L41/22.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1201	34526	H04L41/12.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1202	0	L3 and L6	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1203	0	L3 and L7	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1204	0	L3 and L8	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1205	0	L3 and L9	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1206	2	L3 and L10	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1207	115	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"2005018	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		0095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.					
L1208	258	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1209	20	(computer with cluster) same nodes same kernel and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1210	258	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1211	11	("8402080").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1212	2	("8849889").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1213	92	US-1234567-$.DID. OR US-5423046-$.DID. OR US-5881315-$.DID. OR US-5930768-$.DID. OR US-6108699-$.DID. OR US-6202080-$.DID. OR US-6546403-$.DID. OR US-6578068-$.DID. OR US-6751698-$.DID. OR US-6782537-$.DID. OR US-6968335-$.DID. OR US-7093004-$.DID. OR US-7136924-$.DID. OR US-7174381-$.DID. OR US-7249357-$.DID. OR US-7334232-$.DID. OR US-7437460-$.DID. OR US-7472193-$.DID. OR US-7554949-$.DID. OR US-7937455-$.DID. OR US-8082289-$.DID. OR US-8140612-$.DID. OR US-8402083-$.DID. OR US-8676877-$.DID. OR US-20020049859-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		$.DID. OR US-20030005266-$.DID. OR US-20030051062-$.DID. OR US-20030135621-$.DID. OR US-20030195931-$.DID. OR US-20030195938-$.DID. OR US-20040110209-$.DID. OR US-20040157203-$.DID. OR US-20040252710-$.DID. OR US-20050021751-$.DID. OR US-20050038852-$.DID. OR US-20050060237-$.DID. OR US-20050076105-$.DID. OR US-20050108394-$.DID. OR US-20050180095-$.DID. OR US-20060053216-$.DID. OR US-20060106931-$.DID. OR US-20070044099-$.DID. OR US-20070073705-$.DID. OR US-20080250347-$.DID. OR US-20080281997-$.DID. OR JP-1234567-$.DID. OR JP-0887473-$.DID. OR JP-2002117010-$.DID. OR US-6131999-$.DID.					
L1214	9	(computer with cluster) same (nodes) same (single-node with kernel)	(USPAT)	OR	OFF	OFF	2024/04/20 01:18 PM
L1215	22	(computer with cluster) same (nodes) same (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1216	22	(computer with cluster) same (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1217	22	(computer with cluster) and (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1218	889	(computer with cluster) and (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1219	316	(computer with cluster) same (nodes) and	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2024/04/20 01:18 PM

		(single with kernel)	DERWENT; IBM_TDB)				
L1220	6	(computer with cluster) same (nodes) and (single with kernel) and 709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1221	28	(computer with cluster) same (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1222	478	(computer with cluster) and (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1223	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1224	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1225	6050	(computer with cluster) and kernel and nodes and request	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1226	1183	L34 and mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1227	430043	L34 and mathematical smae kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1228	89	L34 and mathematical same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1229	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1230	61	(single with node with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1231	61	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1232	61	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1233	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1234	433699	mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1235	23	mathematica near5 kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1236	28	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2024/04/20 01:18 PM

			DERWENT; IBM_TDB)				
L1237	11	("8402080").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1238	2	("8849889").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1239	115	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1240	31	mathematica with cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1241	79	mathematica same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1242	913384	stephen wolfram mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1243	108	(stephen near2 wolfram).in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1244	14	L52 and mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1245	484	mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1246	215	L54 and cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

L1247	28	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1248	0	("gridMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1249	0	("gridwithMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1250	31	grid with Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1251	30	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1252	24	gridMathematica and wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1253	30	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1254	4486	Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1255	484	Mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1256	22102	wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1257	9933	wolfram.in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1258	35	L66 and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1259	99	L66 and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1260	2	("20070073705").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1261	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1262	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1263	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1264	0	("(computerwithnodeswi	(US-PGPUB; USPAT;	OR	ON	ON	2024/04/20

		thclister)same(peer-to-peer)and@ad<20060101").PN.	EPO; JPO; DERWENT; IBM_TDB)				01:18 PM
L1265	0	(computer with nodes with clister) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1266	3	(computer with nodes with cluster) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1267	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1268	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1269	150	(computer with cluster) and kernel and (mathematical with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1270	2	(computer with clusters) same kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1271	307	(computer with clusters) and kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1272	18	(computer with clusters) same kernel same mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1273	141	(computer with clusters) same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1274	6	(computer with clusters) same mathematical same expressions	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1275	1	cluster near5 mathematical near5 evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1276	9	cluster with mathematical with evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1277	2	("20050038852").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1278	22	("20050021751"|"20070073705"|"20070094532"|"6968359"|"8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1279	70	(US-0005068-$ | US-0015460-$ | US-0026601-$ | US-0059473-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		0097300-$ | US-0098447-$ | US-0124363-$ | US-0154789-$ | US-0188088-$ | US-0254984-$ | US-1234567-$ | US-1368948-$ | US-20030005068-$ | US-20040098447-$ | US-20040254984-$ | US-20050015460-$ | US-20050026601-$ | US-20050097300-$ | US-20050154789-$ | US-20050188088-$ | US-20060059473-$ | US-20070124363-$ | US-25376674-$ | US-5195580-$ | US-6006259-$ | US-6067609-$ | US-6604134-$ | US-7031944-$ | US-7177874-$ | US-7315877-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7568131-$ | US-7598390-$ | US-7644130-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-8117288-$ | US-9405564-$).DID.					
L1280	9853	(computer with cluster with nodes)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1281	46	(computer with cluster with nodes) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1282	22	(computer with cluster with nodes) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1283	829	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1284	55	(computer with cluster) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1285	829	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2024/04/20 01:18 PM

			DERWENT; IBM_TDB)				
L1286	38	(computer with cluster) same (mathematica$) same result$3	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1287	19	(computer with cluster) same (mathematica$ with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1288	26	(high with performance) same cluster same (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1289	253	(high with performance) same cluster and (mathematics mathematica)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1290	3	("7418470").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1291	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1292	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1293	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1294	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1295	2	("20030195938").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1296	2	("2003195938").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1297	6	("2004015968").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1298	5	("2004098359").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1299	6	("2004098447").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1300	4	("7139882").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1301	3	("20050021751").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1302	2	("20050235055").PN.	(US-PGPUB; USPAT;	OR	OFF	OFF	2024/04/20

			USOCR; FPRS; JPO; DERWENT; IBM_TDB)				01:18 PM
L1303	196	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0250347-$ | US-0252710-$ | US-0254984-$ | US-0281997-$ | US-1234567-$ | US-10333768-$ | US-1368948-$ | US-17207443-$ | US-20020049859-$ | US-20030005068-$ | US-20030005266-$ | US-20030051062-$ | US-20030135621-$ | US-20030195931-$ | US-20030195938-$ | US-20040098447-$ | US-20040110209-$ | US-20040157203-$ | US-20040195572-$ | US-20040252710-$ | US-20040254984-$ | US-20050015460-$ | US-20050021751-$ | US-20050038852-$ | US-20050060237-$ | US-20050076105-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 31357476-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 6006259-$ | US- 6067609-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US- 7174381-$ | US- 7177874-$ | US- 7249357-$ | US- 7315877-$ | US- 7334232-$ | US- 7437460-$ | US- 7472193-$ | US- 7502915-$ | US- 7519652-$ | US- 7533141-$ | US- 7533389-$ | US- 7554949-$ | US- 7568131-$ | US- 7644130-$ | US- 7698390-$ | US- 7716323-$ | US- 7757236-$ | US- 7788314-$ | US- 7835022-$ | US- 7937455-$ | US- 8082289-$ | US- 8117288-$ | US- 8140612-$ | US-					

		8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L1304	2	("8676877").PN.	(US-PGPUB; USPAT; USOCR; FPRS; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1305	25	community near5 managed near5 RAN	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1306	40354	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1307	214	(US-0005068-$ | US-0005266-$ | US-0015460-$ | US-0015968-$ | US-0021751-$ | US-0026601-$ | US-0038852-$ | US-0044099-$ | US-0049859-$ | US-0051062-$ | US-0053216-$ | US-0059473-$ | US-0060237-$ | US-0073705-$ | US-0076105-$ | US-0094532-$ | US-0097300-$ | US-0098359-$ | US-0098447-$ | US-0106931-$ | US-0108394-$ | US-0110209-$ | US-0124363-$ | US-0135621-$ | US-0153677-$ | US-0154789-$ | US-0157203-$ | US-0180095-$ | US-0188088-$ | US-0195572-$ | US-0195931-$ | US-0195938-$ | US-0235055-$ | US-0250347-$ | US-0252710-$ | US-0254984-$ | US-0281997-$ | US-1234567-$ | US-10333768-$ | US-17207443-$ | US-20020049859-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		20030005068-$ | US- 20030005266-$ | US- 20030051062-$ | US- 20030135621-$ | US- 20030195931-$ | US- 20030195938-$ | US- 20040015968-$ | US- 20040098359-$ | US- 20040098447-$ | US- 20040110209-$ | US- 20040157203-$ | US- 20040195572-$ | US- 20040252710-$ | US- 20040254984-$ | US- 20050015460-$ | US- 20050021751-$ | US- 20050038852-$ | US- 20050060237-$ | US- 20050076105-$ | US- 20050097300-$ | US- 20050108394-$ | US- 20050154789-$ | US- 20050180095-$ | US- 20050188088-$ | US- 20050235055-$ | US- 20060026601-$ | US- 20060053216-$ | US- 20060059473-$ | US- 20060106931-$ | US- 20070044099-$ | US- 20070073705-$ | US- 20070094532-$ | US- 20070124363-$ | US- 20080250347-$ | US- 20080281997-$ | US- 20200153677-$ | US- 5423046-$ | US- 5881315-$ | US- 5930768-$ | US- 53865456-$ | US- 6006259-$ | US- 6067609-$ | US- 6074427-$ | US- 6108699-$ | US- 6195680-$ | US- 6202080-$ | US- 6546403-$ | US- 6578068-$ | US- 6604134-$ | US- 6691216-$ | US- 6751698-$ | US- 6782537-$ | US- 6968335-$ | US- 6968359-$ | US- 7031944-$ | US- 7093004-$ | US- 7136924-$ | US- 7139882-$ | US-					

		7174381-$ | US-7177874-$ | US-7249357-$ | US-7315877-$ | US-7334232-$ | US-7437460-$ | US-7472193-$ | US-7502915-$ | US-7519652-$ | US-7533141-$ | US-7533168-$ | US-7533389-$ | US-7554949-$ | US-7568131-$ | US-7634530-$ | US-7644130-$ | US-7698390-$ | US-7716323-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-7937455-$ | US-8082289-$ | US-8117288-$ | US-8140612-$ | US-8402080-$ | US-8402083-$ | US-8601101-$ | US-8676877-$ | US-8849889-$ | US-9405564-$).DID.					
L1308	11	((Zvi) near2 (Tannenbaum)).INV.	(USPAT)	OR	OFF	OFF	2024/04/20 01:18 PM
L1309	12	((Dean) near2 (Dauger)).INV.	(USPAT)	OR	OFF	OFF	2024/04/20 01:18 PM
L1310	258	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1311	42	L3 and interpret	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1312	40354	709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1313	11498	H04L41/0213.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1314	992	H04L29/08072.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1315	21195	H04L29/06.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1316	24518	H04L41/22.cpc.	(US-PGPUB; USPAT; EPO; JPO;	OR	OFF	OFF	2024/04/20 01:18 PM

			DERWENT; IBM_TDB)				
L1317	34526	H04L41/12.cpc.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1318	0	L3 and L6	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1319	0	L3 and L7	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1320	0	L3 and L8	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1321	0	L3 and L9	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1322	2	L3 and L10	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1323	115	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"6751698"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1324	258	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1325	20	(computer with cluster) same nodes same kernel and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1326	258	(computer with cluster) same nodes same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

L1327	11	("8402080").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1328	2	("8849889").PN.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1329	92	US-1234567-$.DID. OR US-5423046-$.DID. OR US-5881315-$.DID. OR US-5930768-$.DID. OR US-6108699-$.DID. OR US-6202080-$.DID. OR US-6546403-$.DID. OR US-6578068-$.DID. OR US-6751698-$.DID. OR US-6782537-$.DID. OR US-6968335-$.DID. OR US-7093004-$.DID. OR US-7136924-$.DID. OR US-7174381-$.DID. OR US-7249357-$.DID. OR US-7334232-$.DID. OR US-7437460-$.DID. OR US-7472193-$.DID. OR US-7554949-$.DID. OR US-7937455-$.DID. OR US-8082289-$.DID. OR US-8140612-$.DID. OR US-8402083-$.DID. OR US-8676877-$.DID. OR US-20020049859-$.DID. OR US-20030005266-$.DID. OR US-20030051062-$.DID. OR US-20030135621-$.DID. OR US-20030195931-$.DID. OR US-20030195938-$.DID. OR US-20040110209-$.DID. OR US-20040157203-$.DID. OR US-20040252710-$.DID. OR US-20050021751-$.DID. OR US-20050038852-$.DID. OR US-20050060237-$.DID. OR US-20050076105-$.DID. OR US-20050108394-$.DID. OR US-20050180095-$.DID. OR US-20060053216-$.DID. OR US-20060106931-$.DID. OR US-20070044099-$.DID.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		OR US-20070073705-$.DID. OR US-20080250347-$.DID. OR US-20080281997-$.DID. OR JP-1234567-$.DID. OR JP-0887473-$.DID. OR JP-2002117010-$.DID. OR US-6131999-$.DID.					
L1330	9	(computer with cluster) same (nodes) same (single-node with kernel)	(USPAT)	OR	OFF	OFF	2024/04/20 01:18 PM
L1331	22	(computer with cluster) same (nodes) same (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1332	22	(computer with cluster) same (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1333	22	(computer with cluster) and (nodes) and (single-node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1334	889	(computer with cluster) and (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1335	316	(computer with cluster) same (nodes) and (single with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1336	6	(computer with cluster) same (nodes) and (single with kernel) and 709/223.ccls.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1337	28	(computer with cluster) same (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1338	478	(computer with cluster) and (single with node with kernel)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1339	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1340	2	("8676877").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1341	6050	(computer with cluster) and kernel and nodes and request	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1342	1183	L34 and mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

L1343	430043	L34 and mathematical smae kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1344	89	L34 and mathematical same kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1345	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1346	61	(single with node with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1347	61	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1348	61	(mathematical with kernel) same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1349	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1350	433699	mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1351	23	mathematica near5 kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1352	28	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1353	11	("8402080").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1354	2	("8849889").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1355	115	("20020049859"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040110209"|"20040157203"|"20040252710"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050108394"|"20050180095"|"20060053216"|"20060106931"|"20070044099"|"20070073705"|"20080250347"|"20080281997"|"5423046"|"5881315"|"5930768"|"6108699"|"6202080"|"6546403"|"6578068"|"67516	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		98"|"6782537"|"6968335"|"7093004"|"7136924"|"7174381"|"7249357"|"7334232"|"7437460"|"7472193"|"7554949"|"7937455"|"8082289"|"8140612"|"8402083"|"8676877").PN.					
L1356	31	mathematica with cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1357	79	mathematica same cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1358	913384	stephen wolfram mathematica kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1359	108	(stephen near2 wolfram).in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1360	14	L52 and mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1361	484	mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1362	215	L54 and cluster	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1363	28	mathematica with kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1364	0	("gridMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1365	0	("gridwithMathematica").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1366	31	grid with Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1367	30	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1368	24	gridMathematica and wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1369	30	gridMathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1370	4486	Mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

L1371	484	Mathematica and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1372	22102	wolfram	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1373	9933	wolfram.in.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1374	35	L66 and mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1375	99	L66 and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1376	2	("20070073705").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1377	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1378	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1379	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1380	0	("(computerwithnodeswithclister)same(peer-to-peer)and@ad<20060101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1381	0	(computer with nodes with clister) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1382	3	(computer with nodes with cluster) same (peer-to-peer) and @ad<"20060101"	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1383	2	("20050021751").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1384	13	("8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1385	150	(computer with cluster) and kernel and (mathematical with expression)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1386	2	(computer with clusters) same kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

L1387	307	(computer with clusters) and kernel same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1388	18	(computer with clusters) same kernel same mathematica	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1389	141	(computer with clusters) same mathematical	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1390	6	(computer with clusters) same mathematical same expressions	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1391	1	cluster near5 mathematical near5 evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1392	9	cluster with mathematical with evaluate	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1393	2	("20050038852").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:18 PM
L1394	22	("20050021751"|"20070073705"|"20070094532"|"6968359"|"8601101").PN.	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1395	70	(US-0005068-$ | US-0015460-$ | US-0026601-$ | US-0059473-$ | US-0097300-$ | US-0098447-$ | US-0124363-$ | US-0154789-$ | US-0188088-$ | US-0254984-$ | US-1234567-$ | US-1368948-$ | US-20030005068-$ | US-20040098447-$ | US-20040254984-$ | US-20050015460-$ | US-20050026601-$ | US-20050097300-$ | US-20050154789-$ | US-20050188088-$ | US-20060059473-$ | US-20070124363-$ | US-25376674-$ | US-5195580-$ | US-6006259-$ | US-6067609-$ | US-6604134-$ | US-7031944-$ | US-7177874-$ | US-7315877-$ | US-	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM

		7502915-$ | US-7519652-$ | US-7533141-$ | US-7533389-$ | US-7568131-$ | US-7598390-$ | US-7644130-$ | US-7757236-$ | US-7788314-$ | US-7835022-$ | US-8117288-$ | US-9405564-$).DID.					
L1396	9853	(computer with cluster with nodes)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1397	46	(computer with cluster with nodes) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1398	22	(computer with cluster with nodes) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1399	829	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1400	55	(computer with cluster) same (mathematica$) and kernel	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1401	829	(computer with cluster) same (mathematica$)	(US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2024/04/20 01:18 PM
L1899	413	("10333768"|"11128519"|"11563621"|"11570034"|"20020013832"|"20020049859"|"20030005068"|"20030005266"|"20030051062"|"20030135621"|"20030195931"|"20030195938"|"20040015968"|"20040098359"|"20040098447"|"20040110209"|"20040157203"|"20040195572"|"20040252710"|"20040254984"|"20050015460"|"20050021751"|"20050038852"|"20050060237"|"20050076105"|"20050097300"|"20050108394"|"20050154789"|"20050180095"|"20050188088"|"20050235055"|"20050251644"|"20060026601"|"20060053216"|"20060059473"|"20060106931"|	(US-PGPUB; USPAT; USOCR; FIT (CN, FR, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/04/20 01:19 PM

		"20060107266"|"20070044099"|"20070073705"|"20070094532"|"20070124363"|"20080250347"|"20080281997"|"20230308339"|"5423046"|"5881315"|"5930768"|"6006259"|"6067609"|"6074427"|"6108699"|"6195680"|"6202080"|"6546403"|"6578068"|"6604134"|"6691216"|"6751698"|"6782537"|"6968335"|"6968359"|"7015915"|"7031944"|"7093004"|"7136924"|"7139882"|"7162590"|"7174381"|"7177874"|"7249357"|"7275123"|"7289125"|"7315877"|"7334232"|"7437460"|"7469309"|"7472193"|"7502915"|"7519652"|"7533141"|"7533168"|"7533389"|"7542981"|"7554949"|"7562174"|"7568131"|"7627744"|"7634530"|"7644130"|"7663633"|"7694158"|"7698390"|"7716323"|"7757236"|"7788314"|"7814462"|"7835022"|"7861060"|"7937455"|"7996592"|"8074224"|"8082289"|"8117288"|"8140612"|"8321849"|"8402080"|"8402083"|"8539207"|"8601101"|"8676877"|"8849889"|"8941668"|"9405564"). PN.					

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N109	5233	H04L41/0213.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:28 PM
N110	1567	H04L29/08072.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:28 PM
N111	26795	H04L29/06.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:28 PM
N112	8674	H04L41/22.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:28 PM
N113	11500	H04L41/12.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:28 PM
N114	0	((cluster with	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22

		initialization) and (mathematical with expression) and (nodes with mathematical) and (single with node with kernel)).clm.					12:30 PM
N115	0	((cluster with initialization) and (mathematical with expression) and (nodes with mathematical)).clm.	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:30 PM
N116	1	((cluster with initialization) and (nodes with mathematical)).clm.	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:30 PM
N117	177	((cluster with initialization)).clm.	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:31 PM
N118	0	N109 and N117	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:31 PM
N119	0	N110 and N117	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:31 PM
N120	5	N111 and N117	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:31 PM
N121	0	N112 and N117	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:31 PM
N122	3	N113 and N117	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/11/22 12:31 PM
N131	21980	709/223.ccls.	(US-PGPUB; USPAT)	OR	OFF	OFF	2021/11/20 08:40 AM
N132	6043	H04L41/0213.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2021/11/20 08:40 AM
N133	1964	H04L29/08072.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2021/11/20 08:40 AM
N134	28738	H04L29/06.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2021/11/20 08:41 AM
N135	12393	H04L41/22.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2021/11/20 08:41 AM
N136	17412	H04L41/12.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2021/11/20 08:41 AM
N137	2	(nodes with cluster with mathematical with expression).clm.	(US-PGPUB; USPAT)	OR	OFF	OFF	2021/11/20 08:42 AM
N138	22798	709/223.ccls.	(US-PGPUB; USPAT)	OR	ON	ON	2024/04/20 01:41 PM
N139	1405	H04L41/04.cpc.	(US-PGPUB; USPAT)	OR	ON	ON	2024/04/20 01:41 PM
N140	8707	G06F9/5072.cpc.	(US-PGPUB; USPAT)	OR	ON	ON	2024/04/20 01:41 PM
N141	9915	G06F9/54.cpc.	(US-PGPUB; USPAT)	OR	ON	ON	2024/04/20 01:41 PM

N142	1373	G06F15/76.cpc.	(US-PGPUB; USPAT)	OR	ON	ON	2024/04/20 01:41 PM

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 1 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	1	2023/0308339 (Attorney Docket No. ZTANN.002P1C8) U.S. Application No. 18/158,283 and its entire prosecution history**	09-28-2023	Tannenbaum et al.	
	2	5,423,046	06-06-1995	Nunnelley et al.	
	3	5,881,315	03-09-1999	Cohen	
	4	5,930,768	07-27-1999	Hooban	
	5	6,006,259	11-20-1998	Adelman et al.	
	6	6,067,609	05-23-2000	Meeker et al.	
	7	6,074,427	06-13-2000	Fought et al.	
	8	6,108,699	08-22-2000	Moiin	
	9	6,195,680	02-27-2001	Goldszmidt et al.	
	10	6,202,080	03-13-2001	Lu et al.	
	11	6,546,403	04-08-2003	Carlson, Jr. et al.	
	12	6,578,068	06-10-2003	Bowman-Amuah	
	13	6,604,134	08-05-2003	Haury	
	14	6,691,216	02-10-2004	Kelly et al.	
	15	6,751,698	06-15-2004	Deneroff et al.	
	16	6,782,537	08-24-2004	Blackmore et al.	
	17	6,968,335	11-22-2005	Bayliss et al.	
	18	6,968,359	11-22-2005	Miller	
	19	7,015,915	03-21-2006	Diard	
	20	7,031,944	04-18-2006	Tanioka	
	21	7,093,004	08-15-2006	Bernardin et al.	
	22	7,136,924	11-14-2006	Dauger	
	23	7,139,882	11-21-2006	Suzuoki et al.	
	24	7,162,590	01-09-2007	Pruvost et al.	
	25	7,174,381	02-06-2007	Gulko et al.	
	26	7,177,874	02-13-2007	Jardin	

Examiner Signature	/HERMON ASRES/	Date Considered	04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 2 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	27	7,249,357	07-24-2007	Landman et al.	
	28	7,275,123	09-25-2007	Duncan et al.	
	29	7,289,125	10-30-2007	Diard et al.	
	30	7,315,877	01-01-2008	Bhanot et al.	
	31	7,334,232	02-19-2008	Jacobs et al.	
	32	7,437,460	10-14-2008	Chidambaran et al.	
	33	7,469,309	12-23-2008	Duncan et al.	
	34	7,472,193	12-30-2008	Dauger	
	35	7,502,915	03-10-2009	Jacob et al.	
	36	7,519,652	04-14-2009	Page et al.	
	37	7,533,141	05-12-2009	Nadgir et al.	
	38	7,533,168	05-12-2009	Pabla et al.	
	39	7,533,389	05-12-2009	Verbeke et al.	
	40	7,542,981	06-02-2009	Choy et al.	
	41	7,554,949	06-30-2009	Chen	
	42	7,562,174	07-14-2009	Danilak	
	43	7,568,131	07-28-2009	Vertes	
	44	7,627,744	12-01-2009	Maher et al.	
	45	7,634,530	12-15-2009	Dean et al.	
	46	7,644,130	01-05-2010	Magro et al.	
	47	7,663,633	02-16-2010	Diamond et al.	
	48	7,694,158	04-06-2010	Melpignano et al.	
	49	7,698,390	04-13-2010	Harkness et al.	
	50	7,716,323	05-11-2010	Gole et al.	
	51	7,757,236	07-13-2010	Singh	
	52	7,788,314	08-31-2010	Holt	
	53	7,814,462	10-12-2010	Husbands et al.	
	54	7,835,022	11-16-2010	Matsumoto	
	55	7,861,060	12-28-2010	Nickolls et al.	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 3 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	56	7,937,455	05-03-2011	Saha et al.	
	57	7,996,592	08-09-2011	Kim et al.	
	58	8,074,224	12-06-2011	Nordquist et al.	
	59	8,082,289 (Attorney Docket No. ZTANN.002A) U.S. Application No. 11/744,461 and its entire prosecution history**	12-20-2011	Tannenbaum et al.	
	60	8,117,288	02-14-2012	Bhanot et al.	
	61	8,140,612 (Attorney Docket No. ZTANN.002CP1) U.S. Application No. 12/040,519 and its entire prosecution history**	03-20-2012	Tannenbaum et al.	
	62	8,321,849	11-27-2012	Nickolls et al.	
	63	8,402,080 (Attorney Docket No. ZTANN.001C1) U.S. Application No. 11/749,554 and its entire prosecution history**	03-19-2013	Tannenbaum et al.	
	64	8,402,083 (Attorney Docket No. ZTANN.002CP1C1) U.S. Application No. 12/465,519 and its entire prosecution history**	03-19-2013	Tannenbaum et al.	
	65	8,539,207	09-17-2013	LeGrand	
	66	8,601,101	12-03-2013	Singh	
	67	8,676,877 (Attorney Docket No. ZTANN.002P1C2) U.S. Application No. 13/423,063 and its entire prosecution history**	03-18-2014	Tannenbaum et al.	

Examiner Signature	/HERMON ASRES/	Date Considered	04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 4 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	68	8,849,889 (Attorney Docket No. ZTANN.001C2) U.S. Application No. 13/846,567 and its entire prosecution history**	09-30-2014	Tannenbaum et al.	
	69	8,941,668	01-27-2015	Diamond	
	70	9,405,564	08-02-2016	Muellers et al.	
	71	10,333,768 (Attorney Docket No. ZTANN.002P1C3) U.S. Application No. 14/181,112 and its entire prosecution history**	06-25-2019	Tannenbaum et al.	
	72	11,128,519 (Attorney Docket No. ZTANN.002P1C5) U.S. Application No. 16/449,084 and its entire prosecution history**	09-21-2021	Tannenbaum et al.	
	73	11,563,621 (Attorney Docket No. ZTANN.002P1C6) U.S. Application No. 17/374,864 and its entire prosecution history**	01-24-2023	Tannenbaum et al.	
	74	11,570,034 (Attorney Docket No. ZTANN.002P1C7) U.S. Application No. 17/374,789 and its entire prosecution history**	01-31-2023	Tannenbaum et al.	
	75	2002/0013832	01-31-2002	Hubbard	
	76	2002/0049859	04-25-2002	Bruckert et al.	
	77	2003/0005068	01-02-2003	Nickel et al.	
	78	2003/0005266	01-02-2003	Akkary et al.	
	79	2003/0051062	03-13-2003	Circenis	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 5 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	80	2003/0135621	07-17-2003	Romagnoli	
	81	2003/0195931	10-16-2003	Dauger	
	82	2003/0195938	10-16-2003	Howard et al.	
	83	2004/0015968	01-22-2004	Neiman et al.	
	84	2004/0098359	05-20-2004	Bayliss et al.	
	85	2004/0098447	05-20-2004	Verbeke et al.	
	86	2004/0110209	06-10-2004	Yokota et al.	
	87	2004/0157203	08-12-2004	Dunk	
	88	2004/0195572	10-07-2004	Kato et al.	
	89	2004/0252710	12-16-2004	Jeter, Jr. et al.	
	90	2004/0254984	12-16-2004	Dinker	
	91	2005/0015460	01-20-2005	Goyle et al.	
	92	2005/0021751	01-27-2005	Block et al.	
	93	2005/0038852	02-17-2005	Howard	
	94	2005/0060237	03-17-2005	Barsness et al.	
	95	2005/0076105	04-07-2005	Keohane et al.	
	96	2005/0097300	05-05-2005	Gildea et al.	
	97	2005/0108394	05-19-2005	Braun et al.	
	98	2005/0154789	07-14-2005	Fellenstein et al.	
	99	2005/0180095	08-18-2005	Ellis	
	100	2005/0188088	08-25-2005	Fellenstein et al.	
	101	2005/0235055	10-20-2005	Davidson	
	102	2005/0251644	11-10-2005	Maher et al.	
	103	2006/0026601	02-02-2006	Solt	
	104	2006/0053216	03-09-2006	Deokar et al.	
	105	2006/0059473	03-16-2006	Moler	
	106	2006/0106931	05-18-2006	Richou	
	107	2006/0107266	05-18-2006	Martin et al.	
	108	2007/0044099	02-22-2007	Rajput	

Examiner Signature	/HERMON ASRES/	Date Considered	04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 6 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	109	2007/0073705	03-29-2007	Gray	
	110	2007/0094532	04-26-2007	Sengupta	
	111	2007/0124363	05-31-2007	Lurie et al.	
	112	2008/0250347	10-09-2008	Gray et al.	
	113	2008/0281997	11-13-2008	Archer et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Foreign Patent Document *Country Code-Number-Kind Code* Example: JP 1234567 A1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T[1]
	114	EP 1 368 948	12-10-2003	Prismedia Networks, Inc.		PCT Eq.
	115	EP 1 501 013	01-26-2005	Toshiba KK		
	116	JP 08-087473	02-04-1996	Toshiba Corp		X
	117	JP 11-126196	05-11-1999	Hitachi Ltd.		X-MT
	118	JP 11-328134	11-30-1999	Hitachi Ltd.		X-Abs
	119	JP 2001-229145	08-24-2001	Oki Systek Tokai Co Ltd.		X
	120	JP 2002-117010	04-19-2002	International Business Machine Corp.		X
	121	JP 2004-061359	02-26-2004	Ricoh Co., LTd.		X-Abs
	122	JP 2004-247405	09-02-2004	Semiconductor Energy Lab		X-MT
	123	JP 2005-063033	10-03-2005	Toshiba Corp.		X-Abs
	124	JP 2005-071333	03-17-2005	Network Appliance Inc.		X-MT
	125	WO 2004/086270	10-07-2004	ECI Telecom Ltd.		
	126	WO 2006/050404	05-11-2006	Interactive Supercomputing, Inc.		

NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	127	"128-Xserve G5 CLUSTER ACHIEVES 1.21 TeraFlop", January 14, 2005, https://www.hpcwire.com/2005/01 /14/128-xserve-g5-cluster-achieves-1-21-teraflop/, pp. 2. [NVIDIA-ACS-0239003 - NVIDIA-ACS-0239004]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 7 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	128	Advanced Cluster Systems, LLC, "Math Supercomputer-In-A-Box", 2007, pp. 1. [NVIDIA-ACS-0237306]	
	129	Affidavit of Elizabeth Rosenberg, dated September 1, 2020 in 7 pages. [NVIDIA-ACS-0163529, NVIDIA-ACS-0227196 & NVIDIA-ACS-0231075]	
	130	AGARWAL et al., "A High Performance Parallel Algorithm for 1-D FFT", Proceedings, Supercomputing '94, Washington, D.C., November 14-18, 1994, pp. 34-40 (17 TOTAL pages). [NVIDIA-ACS-0163536 & NVIDIA-ACS-0227225]	
	131	ANNARATONE et al., "The Warp Computer: Architecture, Implementation, and Performance", Dept. of Computer Science, The Robotics Institute, Carnegie Mellon University, Pittsburgh, PA, July 1987, pp. 31.	
	132	AppleSeed Development Page, April 12, 2004 https://web.archive.org/web/20050317034217/http:/exodus.physics.ucla.edu/appleseed/dev/developer.html as archived March 17, 2005, pp. 6. [NVIDIA-ACS-0165922]	
	133	BALAY et al., "PETSc Users Manual", ANL-95/11 - Revision 2.3.2, Argonne National Laboratory, September 1, 2006, pp. 184. [NVIDIA-ACS-0168513]	
	134	BARNELL et al., "Migrating Modeling and Simulation Applications on to High Performance Computers", SPIE Enabling Technologies for Simulation Science X Conference, April 18, 2006, pp. 8. [NVIDIA-ACS-0234890]	
	135	BEKKER, Scott, "HPC Edition of Windows Server 2003 on Tap for 2005", ENT News, June 23, 2004, pp. 3. [NVIDIA-ACS-0238318 - NVIDIA-ACS-0238320]	
	136	BEKKER, Scott, "Microsoft Enterprise Product Roadmap for 2005", Redmond Channel Partner, January 10, 2005, pp. 14. https://rcpmag.com/articles/2005/01/10/microsoft-enterprise-product-roadmap-for-2005.aspx [NVIDIA-ACS-0239391 - NVIDIA-ACS-0239404]	
	137	BEKKER, Scott, "Muglia Updates Windows Server Roadmap", MCP Mag, December 10, 2004, pp. 5. https://mcpmag.com/articles/2004/12/10/muglia-updates-windows-server-roadmap.aspx [NVIDIA-ACS-0239405 - NVIDIA-ACS-0239409]	
	138	BERNARDIN, Laurent, "Maple on the Intel Paragon", October 15, 1996, pp. 7. https://www.research-collection.ethz.ch/handle/20.500.11850/68829 [NVIDIA-ACS-0172328 - NVIDIA-ACS-0172334]	
	139	BÓSA et al., "Task Logging, Rescheduling and Peer Checking in Distributed Maple", RISC-Linz, Johannes Kepler University, Linz, Austria. Technical Report No. 02-10, March 18, 2002, pp. 24. [NVIDIA-ACS-0165235 & NVIDIA-ACS-0226467]	
	140	BRIDGES et al., "Users' Guide to mpich, a Portable Implementation of MPI", September 18, 1995, pp. 35. [NVIDIA-ACS-0235035]	
	141	BUCHBERGER et al., "CONCERT, A Software Architecture for Coordinating Education Sessions in Distributed Environments", RISC-Linz Technical Report 97-04, February 17, 1997, pp. 60. [NVIDIA-ACS-0169480]	
	142	BUCK et al., "Brook for GPUs", Presentation, February 10, 2003, pp. 19. [NVIDIA-ACS-0166705]	
	143	BUCK et al., "Brook for GPUs: Stream Computing on Graphics Hardware", 2004, pp. 777-786. [NVIDIA-ACS-0166724]	
	144	BUCK et al., "Brook for GPUs: Stream Computing on Graphics Hardware", Presentation, SIGGRAPH2004, 2004, pp. 36. [NVIDIA-ACS-0166734]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 8 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	145	BUCK, Ian, "Brook: A Streaming Programming Language", October 8, 2001, pp. 12. [NVIDIA-ACS-0166693]	
	146	BUCK, Ian, "GPU Computing with NVIDIA CUDA", SIGGRAPH 2007, pp. 29. [NVIDIA-ACS-0166770 & NVIDIA-ACS-0166799]	
	147	BUCK, Ian, "From Brook to CUDA", GPU Technology Conference, 2009, pp. 30. [NVIDIA-ACS-0166955]	
	148	BUCK, Ian, "Stream Computing on Graphics Hardware", Dissertation, Stanford University, September 2006, pp. 106. [NVIDIA-ACS-0166849]	
	149	BUCK, Ian, "TESLA, GPU Computing, Past, Present, Future", Presentation, 2012, pp. 21. [NVIDIA-ACS-0166828]	
	150	BURNS et al., "LAM: An Open Cluster Environment for MPI", Ohio Supercomputer Center, Colombus, OH, 2001, pp. 8. [NVIDIA-ACS-0168697]	
	151	CARNS et al., "An Evaluation of Message Passing Implementations on Beowulf Workstations", Aerospace Conference, March 6-13, 1999, IEEE 1999, Vol. 5, pp. 41-54.	
	152	CCS Sample RIS Scripts, 2003, pp. 55. [NVIDIA-ACS-0237326 - NVIDIA-ACS-0237380]	
	153	"Chapter 4, Merrimac: The Streaming Supercomputer", 2003, pp. 155-209. [NVIDIA-ACS-0167001]	
	154	CHEN, Julian Yu-Chung, "Fast Fourier Transform with BrookGPU", April 25, 2006, pp. 16. [NVIDIA-ACS-0166985]	
	155	CHENG et al., "Fast Sorting on a Distributed-Memory Architecture", December 2004, pp. 7. [NVIDIA-ACS-0234898]	
	156	CHINCHILLA et al., "Parallel N-Body Simulation using GPUs", Technical Report TR04-032, December, 2004, pp. 8. [NVIDIA-ACS-0165482 - NVIDIA-ACS-0165489]	
	157	CHOY et al., "Parallel MATLAB:Doing it Right", Proceedings of the IEEE, Vol. 93, No. 2, February 2005, pp. 331-341 [NVIDIA-ACS-0168766]	
	158	CHOY et al., "MATLAB*P 2.0: A Unified Parallel MATLAB", MIT DSpace, Computer Science Collection, January 2003, pp. 6. [NVIDIA-ACS-0168705]	
	159	CHOY et al., "Star-P: High {Productivity Parallel Computing", June 9, 2004, pp. 2. [NVIDIA-ACS-0234905]	
	160	CHOY et al., "Star-P: High {Productivity Parallel Computing", Presentation Agenda, June 9, 2004, pp. 33. [NVIDIA-ACS-0168777]	
	161	CHOY, Long Yin, "MATLAB*P 2.0: Interactive Supercomputing Made Practical", Thesis, MIT, September 2002, pp. 67. [NVIDIA-ACS-0168810, NVIDIA-ACS-0233448 & NVIDIA-ACS-0233683]	
	162	CHOY, Long Yin, "Chapter 1", Draft, MIT, September 2002, pp. 16. [NVIDIA-ACS-0233432 - NVIDIA-ACS-0233447]	
	163	CHOY, Ron, "Parallel MATLAB: Doing it Right", Presentation, MIT, 2005, pp. 55. [NVIDIA-ACS-0168711]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 9 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	164	CHOY, Ron, "Source Code", Project Status, Matlab*P 1.0 & Matlab*P 2.0, as archived December 13, 2002, in 1 page. https://web.archive.org/web/20021213224219fw_/http:/theory.lcs.mit.edu/~cly/download.html	
	165	CHU et al., "FFT Algorithms and their Adaptation to Parallel Processing", Linear Algebra and its Applications, Vol. 284, 1998, pp. 95-124. [NVIDIA-ACS-0163554, NVIDIA-ACS-0221165 & NVIDIA-ACS-0227333]	
	166	"Compute Cluster Job Aids", Windows Server 2003 Deployment Kit, 2003, pp. 80. [NVIDIA-ACS-0238212 - NVIDIA-ACS-0238291]	
	167	"Compute Cluster Server: Getting Started", 2006, pp. 1. [NVIDIA-ACS-0238300]	
	168	"Compute Cluster Server Glossary", December 5, 2005, pp. 6. [NVIDIA-ACS-0238292 - NVIDIA-ACS-0238297]	
	169	"Compute Cluster Server Setup Command-Line Interface Reference", June 6, 2006, pp. 2. [NVIDIA-ACS-0238298 - NVIDIA-ACS-0238299]	
	170	"Compute Cluster Server: Technical Reference", 2007, pp. 2. [NVIDIA-ACS-0238301 - NVIDIA-ACS-0238302]	
	171	COTRONIS et al., "Recent Advances in Parallel Virtual Machine and Message Passing Interface", 8th European PVM/MPI Users' Group Meeting, Santorini/Thera, Greece, September 2001, Proceedings, pp. 456, [NVIDIA-ACS-0170449 - NVIDIA-ACS-0170904]	
	172	COWNIE et al., "A Standard Interface for Debugger Access to Message Queue Information in MPI", Conference Paper, September 1999, pp. 9. [NVIDIA-ACS-0232908 - NVIDIA-ACS-0232916]	
	173	CRAMER, et al., "The Development and Integration of a Distributed 3D FFT for a Cluster of Workstations", Proceedings of the 4th Annual Liux Showcase & Conference, Atlanta, GA, October 10-14, 2000, pp. 1-9. [NVIDIA-ACS-0163589 - NVIDIA-ACS-0163597]	
	174	DALLY et al., "A Streaming Supercomputer", September 18, 2001, pp. 17. [NVIDIA-ACS-0167056]	
	175	DALLY et al., "Merrimac: Supercomputing with Streams", SC'03, November 15-21, 2003, Phoenix, AZ, pp. 8. [NVIDIA-ACS-0167073]	
	176	DAUGER, Dean, "DR's Pooch Cluster Software for MAC OS X v10.4 'Tiger'", https://www.prweb.com/releases/2005/04/prweb234831.htm, April 29, 2005, pp. 3. [NVIDIA-ACS-0239021 - NVIDIA-ACS-0239023]	
	177	DAUGER, Dean, "Pooch Application", Pooch Quick Start, Parallel Operation and Control Heuristic Application, Version 1.2.1, 2002, pp. 61. [DR_NVIDIA_000006 - DR_NVIDIA_000066]	
	178	DAUGER, Dean, "Pooch Application", Pooch Quick Start, Parallel Operation and Control Heuristic Application, Version 1.4, 2004, pp. 82. [DR_NVIDIA_000160 - DR_NVIDIA_000241]	
	179	DAUGER, Dean, "Pooch Application", Parallel Operation and Control Heuristic Application, Version 1.3.5, 2003, pp. 67. [DR_NVIDIA_000400 - DR_NVIDIA_000466]	
	180	DAUGER, Dean, "Simulation and Study of Fresnel Diffraction for Arbitrary two-dimensional Apertures", Computers in Physics, Vol. 10, No. 6, Nov/Dec 1996, pp. 15. [NVIDIA-ACS-0165941]	
	181	DAUGER, Dean, "The Launch Den Mother and Launch Puppy", Advanced Information, 2000, pp. 10. [DR_NVIDIA_000713 - DR_NVIDIA_000722] & [NVIDIA-ACS-0239381 - NVIDIA-ACS-0239390]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 10 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	182	DAUGER, Dean, "The Launch Den Mother and Launch Puppy", Read Me, 1999, pp. 10. [DR_NVIDIA_000703 - DR_NVIDIA_000712]	
	183	DAUGER et al., "Numerically-Intensive 'Plug-and-Play' Parallel Computing", Proceedings. 2001 IEEE Cluster, pp. 8. [ACS_NVIDIA_005621 - ACS_NVIDIA_005628]	
	184	DAUGER et al., "Numerically-Intensive 'Plug-and-Play' Parallel Computing", Proceedings. 2001 IEEE Cluster, pp. 8. [ACS_NVIDIA_005654 - ACS_NVIDIA_005661]	
	185	DAUGER, Dean E., "'Plug-and-Play' Cluster Computing Brings HPC to the Mainstrem", 2007, pp. 1. [NVIDIA-ACS-0239454]	
	186	DAUGER, Dean E., "Semiclassical Modeling of Quantum-Mechanical Multiparticle Systems using Parallel Particle-In-Cell Methods", Dissertation, 2001, pp. 291. [NVIDIA-ACS-0166004]	
	187	DAUGER et al., "Clúster de Cómputo 'Enchufar y Listo'", "Plug-and-Play' Cluster Computing", 2006, pp. 9, http://daugerresearch.com/vault/clcarPnPCluster.pdf [NVIDIA-ACS-0166502]	
	188	DAUGER et al., "'Plug-and-Play' Cluster Computing using Mac OS X", Proceedings. 2003 IEEE International Conference on Cluster Computing, December 1-4, 2003, published January 2004, pp. 6. [ACS_NVIDIA_005715 & NVIDIA-ACS-0166343]	
	189	DAUGER et al., "'Plug-and-Play' Cluster Computing: High-Performance Computing for the Mainstrem", Computing in Science & Engineering, January /February 2005, pp. 22-28. [ACS_NVIDIA_005607 & NVIDIA-ACS-0166485]	
	190	DAUGER et al., "Plug-and-Play Cluster Computing: High-Performance Computing for the Mainstream", IEEE Computing in Science and Engineering, March/April 2005, pp. 27-33. [NVIDIA-ACS-0163598 & NVIDIA-ACS-0166495]	
	191	DAUGER et al., "'Plug-and-Play' Cluster Computing: HPC Designed for the Mainstream Scientist", ICCS 2005, pp. 7. [ACS-NVIDIA-005614, NVIDIA-ACS-0170905 & NVIDIA-ACS-0166475]	
	192	DAUGER et al., "Semiclassical Modeling of Multiparticle Quantum Systems Using High-Performance Clustering and Visualization on the Macintosh", 2006, p. 1. [NVIDIA-ACS-0166510]	
	193	Dauger Research, Computing in Science & Engineering, Excerpt, March/April 2005, pp. 2. [ACS_NVIDIA_005634 - ACS_NVIDIA_005635]	
	194	Dauger Research, "Keeping America Strong Award", 2005, pp. 3. [NVIDIA-ACS-0239455 - NVIDIA-ACS-0239457]	
	195	Dauger Research, "Parallel Zoology", Dauger Research Vault, 2006, pp. 7. [NVIDIA-ACS-0237202 - NVIDIA-ACS-0237208]	
	196	Dauger Research, "Parallelization", Dauger Research Vault, 2006, pp. 3. [NVIDIA-ACS-0237209 - NVIDIA-ACS-0237211]	
	197	Dauger Research, "Parallelization - Parallel Adder", Dauger Research Vault, 2006, pp. 7. [NVIDIA-ACS-0237154 - NVIDIA-ACS-0237160]	
	198	Dauger Research, "Parallelization - Parallel Circle Pi", Dauger Research Vault, 2006, pp. 13. [NVIDIA-ACS-0237161 - NVIDIA-ACS-0237173]	
	199	Dauger Research, "Parallelization - Parallel Knock", Dauger Research Vault, 2006, pp. 4. [NVIDIA-ACS-0237174 - NVIDIA-ACS-0237177]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 11 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	200	Dauger Research, "Parallelization - Parallel Life", Dauger Research Vault, 2006, pp. 14. [NVIDIA-ACS-0237178 - NVIDIA-ACS-0237191]	
	201	Dauger Research, "Parallelization - Parallel Pascal's Triangle", Dauger Research Vault, 2006, pp. 10. [NVIDIA-ACS-0237192 - NVIDIA-ACS-0237201]	
	202	Dauger Research, "Pooch Application: Parallel Operation and Control Heuristic Application", Dauger Research Vault, April 28, 2001, pp. 1. [NVIDIA-ACS-0239122]	
	203	Dauger Research, "Pooch Quick Start", Pooch Application, Parallel Operation and Control Heuristic Application, Version 1.3, 2002, pp. 65. [NVIDIA-ACS-0239123 - NVIDIA-ACS-0239187]	
	204	Dauger Research, "Pooch Quick Start", Pooch Application, Parallel Operation and Control Heuristic Application, Version 1.4, 2004, pp. 82. [NVIDIA-ACS-0239188 - NVIDIA-ACS-0239269]	
	205	Dauger Research, "Pooch Quick Start", Pooch Application, Parallel Operation and Control Heuristic Application, Version 1.5, 2004, pp. 98. [NVIDIA-ACS-0239270 & NVIDIA-ACS-0166377]	
	206	Dauger Research, "Plug-and-Play" Clustering, Build your cluster in minutes!, Apple HPC Seminar Series, 2002, pp. 66. [ACS_NVIDIA_001238 - ACS_NVIDIA_001303]	
	207	Dauger Research, "Pooch Selected for Omneta Supercomputer", Paris, France, Apple Expo, September 21, 2005, pp. 1. [NVIDIA-ACS-0239020]	
	208	Dauger Research, "Pooch, Build Your Personal Computing Cluster in minutes!", 2004, pp. 4. [DR_NVIDIA_000002 - DR_NVIDIA_000005]	
	209	Dauger Research, "Pooch", Supercomputer-Style Cluster Computing Support for Mathematica, 2006, pp. 4. [NVIDIA-ACS-0237307 - NVIDIA-ACS-0237310]	
	210	Dauger Research, "Supercomputing Engine for Mathematica", Advanced Cluster Systems, LLC and Dauger Research, 2006. pp. 20. [NVIDIA-ACS-0166511]	
	211	Dauger Research, "Supercomputing Engine for Mathematica", Machine Evaluation Workshop, UK, December 2008, Advanced Cluster Systems, LLC and Dauger Research, pp. 39. [NVIDIA-ACS-0166576]	
	212	Dauger Research, "The PoochMPI Toolkit", High-Performance Computing with Mathematica, Wolfram Technology Conference 2006, Champaign, IL, pp. 45. [NVIDIA-ACS-0237217 & NVIDIA-ACS-0166531]	
	213	Dauger Research, "Visualizing Message Passing with MacMPI", Dauger Research Vault, 2006, pp. 5. [NVIDIA-ACS-0237212 - NVIDIA-ACS-0237216]	
	214	Dauger Research, "What's New", SET and SET/Scilab debut at Supercomputing 2012, 2012. pp. 25. [NVIDIA-ACS-0239458 - NVIDIA-ACS-0239482]	
	215	Declaration of Henry Tufo, Ph.D., under 37 C.F.R. § 1.68 in Support of Petition for Inter Partes Review of U.S. Patent No. 8,082,289, dated September 18, 2020 in 160 pages.	
	216	Declaration of Sylvia Hall-Ellis Ph.D., for Inter Partes Review of U.S. Patent No. 8,082,289, dated September 18, 2020 in 138 pages. [NVIDIA-ACS-0163606 - NVIDIA-ACS-0163743]	
	217	Declaration of Wolfgang Schreiner, Ph.D., for Inter Partes Review of U.S. Patent No. 8,082,289, dated September 7, 2020 in 84 pages. [NVIDIA-ACS-0163744 - NVIDIA-ACS-0163827]	
	218	Declaration of Wolfgang Schreiner, Ph.D., for Inter Partes Review of U.S. Patent No. 10,333,768, dated October 1, 2020 in 85 pages. [NVIDIA-ACS-0170912 - NVIDIA-ACS-0170996]	

Examiner Signature	/HERMON ASRES/	Date Considered	04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 12 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	219	DECYK, Viktor K., "Advanced PIC Techniques: Parallelization and Object-Oriented Programming", Proceedings of ISSS-7, March 26-31, 2005, pp. 3. [NVIDIA-ACS-0170997 & NVIDIA-ACS-0166482]	
	220	DECYK et al., "AppleSeed: A Parallel Macintosh Cluster for Numerically Intensive Computing", Abstract, 1999, pp. 1. [ACS_NVIDIA_0165956]	
	221	DECYK et al., "AppleSeed: A Parallel Macintosh Cluster for Numerically Intensive Computing", January 2001, pp. 8. [ACS_NVIDIA_005692 - ACS_NVIDIA_005699]	
	222	DECYK et al., "5. AppleSeed: A Parallel Macintosh Cluster for Scientific Computing", Journal of Plasma Fusion Research, Vol. 79, No. 8, May 2003, pp. 772-779. [NVIDIA-ACS-0166369]	
	223	DECYK et al., "AppleSeed: A Parallel Macintosh Cluster for Numerically Intensive Computing", January 2001, pp. 6. [ACS_NVIDIA_005700 - ACS_NVIDIA_005705]	
	224	DECYK et al., "AppleSeed: A Parallel Macintosh Cluster for Scientific Computing", 2003, pp. 16. [ACS_NVIDIA_005638 - ACS_NVIDIA_005653]	
	225	DECYK et al., "AppleSeed: Personal Parallel Computing, Plug and Play Parallel Processing", 2002, as archived June 12, 2005, pp. 2, https://web.archive.org/web/20050612083102/http://exodus.physics.ucla.edu:80/appleseed/appleseed.html [NVIDIA-ACS-0165931]	
	226	DECYK et al., "How to Build an AppleSeed: A Parallel Macintosh Cluster for Numerically Intensive Computing", January 2001, pp. 11. [ACS_NVIDIA_005680 - ACS_NVIDIA_005690]	
	227	DECYK et al., "How to Build an AppleSeed: A Parallel Macintosh Cluster for Numerically Intensive Computing", 2000, pp. 18. [ACS_NVIDIA_0165967]	
	228	DECYK et al., "Plasma Physics Calculations on a Parallel Macintosh Cluster", 1999, pp. 1-10. [NVIDIA-ACS-0165957]	
	229	DECYK et al., "Skeleton PIC Codes for Parallel Computers", Computer Physics Communications, 1995, Vol. 87, pp. 87-94. [NVIDIA-ACS-0165933]	
	230	DECYK et al., "Supercomputing for the Masses: A Parallel Macintosh Cluster", 2002, pp. 10-22. [NVIDIA-ACS-0171000 & NVIDIA-ACS-0166308]	
	231	DECYK et al., "Two Dimensional Particle-in-Cell Code for Simulation of Plasma", Bulletin of the American Physical Society, November 2002, Vol. 47, No. 9, p. 52 (2 pages total). NVIDIA-ACS-0166306	
	232	"Deploying and Managing Microsoft Windows Compute Cluster Server 2003", Microsoft, June 6, 2006, pp. 10. [NVIDIA-ACS-0238305 - NVIDIA-ACS-0238314]	
	233	"Distributed Maple", https://web.archive.org/web/20040216100904/http:/www.risc.uni-linz.ac.at/software/distmaple/ as archived February 16, 2004 in 1 page. [NVIDIA-ACS-0163856 & NVIDIA-ACS-0227203]	
	234	"Distributed Maple Papers", https://web.archive.org/web/20040304035455/http://www.risc.uni-linz.ac.at/software/distmaple/index_1.html as archived March 4, 2004 in 3 pages. [NVIDIA-ACS-0163857 & NVIDIA-ACS-0227204]	
	235	EDELMAN et al., "Interactive Supercomputing's Star-P Platform: Parallel MATLAB and MPI Homework Classroom Study on High Level Language Productivity", 2006, pp. 2. [NVIDIA-ACS-0239024 & NVIDIA-ACS-0234907]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 13 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	236	EDELMAN , Alan, "SIAM Conference on Parallel Processing for Scientific Computing", San Francisco, CA, February 25-27, 2004, pp. 3. [NVIDIA-ACS-0234909]	
	237	EDELMAN et al., "The Future Fast Fourier Transform?", SIAM Journal on Scientific Computing, 1999, Vol. 20, No. 3, pp. 1094-1114. [NVIDIA-ACS-0235070]	
	238	EREZ, Mattan, "MERRIMAC – High-Performance and Highly-Efficient Scientific Computing with Streams", A Dissertation Submitted to the Department of Electrical Engineering and the Committee on Graduate Studies of Stanford University in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy, May 2007, pp. 229	
	239	EREZ et al., "MERRIMAC – Supercomputing with Streams", 2004, in 1 page. [NVIDIA-ACS-0167081]	
	240	EVERS, Joris, "Windows Server for Supercomputers Delayed", Network World, April 6, 2005, pp. 2. https://www.computerworld.com/article/2556337/windows-server-for-supercomputers-delayed.html [NVIDIA-ACS-0239410 - NVIDIA-ACS-0239411]	
	241	FAGG et al., "PVMPI: An Integration of the PVM and MPI Systems", April 12, 1996, pp. 14. [NVIDIA-ACS-0169540]	
	242	FAN et al., "GPU Cluster for High Performance Computing", SC '04: Proceedings of the 2004 ACM/IEEE Conference on Supercomputing : 6-12 November 2004, Pittsburgh, PA, USA, pp. 12. [NVIDIA-ACS-0172335 - NVIDIA-ACS-0172346]	
	243	FERRON, Jay, "Microsoft Compute Cluster Server Partner Training", Windows Compute Cluster Server 2003, 2005, pp. 161. [NVIDIA-ACS-0237381 - NVIDIA-ACS-0237541]	
	244	FRIED, Ina, "Gates Touts Microsoft's Supercomputing Move", ZD Net, November 15, 2005, pp. 3. [NVIDIA-ACS-0239412 - NVIDIA-ACS-0239414]	
	245	FRIGO et al., "FFTW User's Manual", Version 2.1.5, March 16, 2003, pp. 74. [NVIDIA-ACS-0169554, NVIDIA-ACS-0163860 & NVIDIA-ACS-0227914]	
	246	FRIGO et al., "The Fastest Fourier Transform in the West", Technical Report, MIT, September 11, 1997, pp. 20. [NVIDIA-ACS-0165490 - NVIDIA-ACS-0165509]	
	247	GEIST et al., "PVM: Parallel Virtual Machine, A Users' Guide and Tutorial for Network Parallel Computing", The MIT Press, 1994, pp. 287. [NVIDIA-ACS-0169648]	
	248	"Getting Started with Compute Cluster 2003", Chapter 2, Designing Unattended Installations, June 2006, pp. 72. https://download.microsoft.com/download/e/2/b/e2bfb017-8525-4991-bbd5-7d7081f3d228/04_CHAPTER_2_Designing_Unattended_Installations.doc [NVIDIA-ACS-0238321 - NVIDIA-ACS-0238392]	
	249	"Getting Started with Star-P Taking Your First Test-Drive", Interactive Supercomputing, Inc., 2006, pp. 32. [NVIDIA-ACS-0233516 - NVIDIA-ACS-0233547]	
	250	GILBERT et al., "High-Performance Graph Algorithms from Parallel Sparse Matrices", June 2006, pp. 4.	
	251	"gridMathematica 2: Grid Mathematica Extras", Wolfram Research, November 9, 2006, in 1 page. https://web.archive.org/web/20061109144357/http://www.wolfram.com/products/gridmathematica/extras.html [NVIDIA-ACS-0239622]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 14 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	252	"gridMathematica 1.1: Grid Computing Gets a Speed Boost from Mathematica 5", The Mathematica Journal, Vol. 9, No. 2, August 25, 2003, in 1 page. <https://web.archive.org/web/20040618053429/https://www.mathematica-journal.com/issue/v9i2/newproducts/gridmathematica.html>	
	253	GRIGORAS et al., "Advanced Environments, Tools, and Applications for Cluster Computing", NATO Advanced Research Workshop, IWCC 2001, Mangalia, Romania, September 2001, pp. 333. [NVIDIA-ACS-0169147]	
	254	GROPP et al., "A High-Performance, Portable Implementation of the MPI Message Passing Interface Standard", Parallel Computing, Vol. 22, 1996, pp. 789-828. [NVIDIA-ACS-023509]	
	255	GROPP et al., "Installation Guide to mpich, a Portable Implementation of MPI", Argonne National Laboratory, July 1996, pp. 42. [NVIDIA-ACS-0235131]	
	256	GROPP et al., "MPICH2 Installer's Guide", Version 0.4, Mathematics and Computer Science Division, Argonne National Laboratory, September 9, 2004, pp. 21.	
	257	GROPP et al., "MPICH2 User's Guide", Version 0.4, Mathematics and Computer Science Division, Argonne National Laboratory, September 9, 2004, pp. 19.	
	258	GRUBER et al., "Choosing an Automated Installation Method", Chapter 1, Microsoft Windows Server 2003 Deployment Kit, Automating and Customizing Installations, 2003, pp. 18. [NVIDIA-ACS-0238572 - NVIDIA-ACS-0238589]	
	259	GRUBER et al., "Introduction", Microsoft Windows Server 2003 Deployment Kit, Automating and Customizing Installations, 2003, pp. 8. [NVIDIA-ACS-0238590 - NVIDIA-ACS-0238597]	
	260	HAMSCHER et al., "Evaluation of Job-Scheduling Strategies for Grid Computing", GRID 2000, 2000, pp. 191-202.	
	261	HAYNOS, Matt, "Perspectives on Grid: Grid Ccomputing -- Next-Generation Distributed Computing", IBM Developer Works, January 27, 2004 in 7 pages, http://www-106.ibm.com/developerworks/library/gr-heritage	
	262	HEAL et al., "Maple V: Learning Guide", Springer, Waterloo Maple Inc., 1996, 1998, pp. 299. [NVIDIA-ACS-0163934 & NVIDIA-ACS-0226491]	
	263	HEMSOTH, Nicole, "Startup Aims to Bring Parallel Applications to the Masses", HPC Wire, November 16, 2011, pp. 4. [NVIDIA-ACS-0165918 - NVIDIA-ACS-0165921]	
	264	HILLIS, W. Daniel, "Richard Feynman and The Connection Machine", for Physics Today, originally published 1989, http://longnow.org/essays/richard-feynman-connection-machine/, printed October 1, 2019, pp. 8.	
	265	HPC Wire, "Advanced Cluster Systems Unveils Software that Parallelizes Sequential Apps", November 1, 2011, pp. 1. [NVIDIA-ACS-0239483]	
	266	HUSBANDS, Parry, "Interactive Supercomputing", Thesis, MIT, February 1999, pp. 97. http://dspace.mit.edu/bitstream/handle/1721.1/79973/42430246-MIT.pdf;sequence=2 [NVIDIA-ACS-0233548 - NVIDIA-ACS-0233644]	
	267	HUSBANDS, Parry, "Interactive Supercomputing with MITMatlab", August 2001, pp. 10. https://math.mit.edu/~edelman/publications/interactive_supercomputing.pdf [NVIDIA-ACS-0239026 - NVIDIA-ACS-0239035]	
	268	"INSTALL", File, Distributed Maple Application Software, June 16, 2000, pp. 5. [NVIDIA-ACS-0164237 & NVIDIA-ACS-0226933]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 15 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	269	"INSTALL", File, Distributed Maple, March 28, 2003, pp. 4. [NVIDIA-ACS-0164233 & NVIDIA-ACS-0226924]	
	270	Interactive Supercomputing, "Background", https://web.archive.org/web/20060427034450/http://www.interactivesupercomputing.com/index.php?option=com_content&task=view&id=30&Itemid=73, as archived April 27, 2006, pp. 2. [NVIDIA-ACS-0234916]	
	271	Interactive Supercomputing, "Delivering Parallel Computing Power to the Desktop", Presentation, November 2004, pp. 15. [NVIDIA-ACS-0234990]	
	272	Interactive Supercomputing, "Delivering Parallel Computing Power to the Desktop", Presentation, 2003, pp. 17. [NVIDIA-ACS-0235005]	
	273	Interactive Supercomputing, "Home", https://web.archive.org/web/20060427034450/http://www.interactivesupercomputing.com, as archived April 27, 2006, in 1 page. [NVIDIA-ACS-0234918]	
	274	Interactive Supercomputing, "Parallel Matlab Survey", https://web.archive.org/web/20061018110626/http://www.interactivesupercomputing.com/reference/ParallelMatlabsurvey.htm, as archived October 18, 2006, in 8 pages. [NVIDIA-ACS-0234925]	
	275	Interactive Supercomputing, "Products", https://web.archive.org/web/20061018104836/http://www.interactivesupercomputing.com/product.php, as archived October 18, 2006, in 3 pages. [NVIDIA-ACS-0234919]	
	276	Interactive Supercomputing, "Resources", https://web.archive.org/web/20061018105452/http://www.interactivesupercomputing.com/resources.php, as archived October 18, 2006, in 3 pages. [NVIDIA-ACS-0234922]	
	277	JAIN et al., "Data Clustering: A Review", ACM Computing Surveys, September 1999, Vol. 31, No. 3, pp. 264-323.	
	278	JOHNSON, Steven G., "FFTs, Portability, & Performance", MIT, May 4, 2004, pp. 41. [NVIDIA-ACS-0234933]	
	279	JOHNSTON, Stuart J., "Gates: Microsoft Ships Beta 2 of HPC Cluster Version of Windows", MCP Mag, November 16, 2005, pp. 2. [NVIDIA-ACS-0239415 - NVIDIA-ACS-00239416]	
	280	KAHNEY, Leander, "That's a Whole Lot of Power, Mac", Wired, January 29, 2002, pp. 9. [NVIDIA-ACS-0239372 & NVIDIA-ACS-0166321]	
	281	KAPASI et al., "The Imagine Stream Processor", Appears in the Proceedings of the 2002 International Conference on Computer Design, September 16-18, 2002, pp. 282-288. [NVIDIA-ACS-0167610]	
	282	KARONIS et al., "MPICH-G2: A Grid-Enabled Implementation of the Message Passing Interface", November 2002, pp. 22. [NVIDIA-ACS-0169949]	
	283	KEPNER et al., "MatlabMPI", January 3, 2003, pp. 12. https://arxiv.org/pdf/astro-ph/0305090.pdf [NVIDIA-ACS-0239036 - NVIDIA-ACS-0239047]	
	284	KEPNER et al., "Parallel Matlab: The Next Generation", MIT Lincoln Laboratory, Lexington, MA, August 20, 2004, pp. 2.	
	285	KHOT et al., "A Parallel Data Mining Toolbox Using MatlabMPI", August 2004, pp. 44. [NVIDIA-ACS-0239048 - NVIDIA-ACS-0239091]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 16 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	286	KIM et al., "Introduction to Parallel Programming and pMatlab v2.0", MIT Lincoln Laboratory, Lexington, MA, 2011, pp. 29. [NVIDIA-ACS-0239092 - NVIDIA-ACS-0239120]	
	287	KOFLER, Michael, "Maple: An Introduction and Reference", Addison-Wesley, 1997, pp. 522. [NVIDIA-ACS-0164242 & NVIDIA-ACS-0227369]	
	288	KONISHI, et al., "Performance Evaluation of Parallel Computing Tool for MATLAB on PC Grid Environment," IPSJ SIG Technical Reports, August 5, 2005, Vol. 2005, No. 84, pp. 9.	X-Abs
	289	KRISHNAN et al., "Windows Compute Cluster Server and Deskside Clusters: An Overview", Microsoft WinHEC 2006, pp. 30. [NVIDIA-ACS-0239417 - NVIDIA-ACS-0239446]	
	290	LABONTE et al., "The Stream Virtual Machine", 2004, pp. 267-277. [NVIDIA-ACS-0167617]	
	291	LAI, Eric, "Microsoft Offers Beta 2 of Compute Cluster Server 2003", Computerworld, November 15, 2005, pp. 4. https://www.computerworld.com/article/2559328/microsoft-offers-beta-2-of-compute-cluster-server-2003.html [NVIDIA-ACS-0239447 - NVIDIA-ACS-0239450]	
	292	LANTZ, Eric, "Introduction to Windows 2003 Compute Cluster Edition", Datacenter Fabric Workshop Windows IB, August 22, 2005, pp. 28. [NVIDIA-ACS-0238622 - NVIDIA-ACS-0238649]	
	293	Lecture Slides, https://web.archive.org/web/2005090320572/http://beowulf.lcs.mit.edu/18.337-2004/lectslides.html, pp. 2. [NVIDIA-ACS-0234888]	
	294	LEFOHN et al., "GPGPU", Presentation, VIS 05, 2005, pp. 528. [NVIDIA-ACS-0167082]	
	295	LINDHOLM et al., "NVIDIA Tesla: A Unified Graphics and Computing Architecture", IEEE Computer Society, 2008, pp. 39-55. [NVIDIA-ACS-0167629]	
	296	MAEDER, Roman, "Mathematica: Parallel Computing Toolkit - Unleash the Power of Parallel Computing", Wolfram Research, January 2005, pp. 95. [NVIDIA-ACS-0239486 - NVIDIA-ACS-0239585]	
	297	Maple 7: Getting Started Guide, Waterloo Maple, Inc., 2001, pp. 38. [NVIDIA-ACS-0170271]	
	298	Maple 7: Learning Guide, Waterloo Maple, Inc., 2001, pp. 300. [NVIDIA-ACS-0169971]	
	299	Maplesoft, "Digital Signal Processing with Short Term Fourier Transforms", 2004, pp. 7. [NVIDIA-ACS-0170309]	
	300	MARTENS, China, "Platform Steps Up Partnership with Microsoft", InfoWorld, November 15, 2005, pp. 3. https://www.infoworld.com/article/2673914/platform-steps-up-partnership-with-microsoft.html [NVIDIA-ACS-0239451 - NVIDIA-ACS-0239453]	
	301	MATLAB*P Instructions, https://web.archive.org/web/20050904175008fw_/http://beowulf.lcs.mit.edu/18.337/matlabp.html, as archived September 4, 2005 in 2 pages.	
	302	MATSUMURA, et al. "Construction of Distributed Computing System for Large-Scale Matrices Intended or Reduction of Communication Blocks", August 5, 1998, Vol. 98, No. 18, pp. 9.	X-MT
	303	MENON et al., "MultiMATLAB: Integrating MATLAB with High-Performance Parallel Computing", 1997, pp. 18. [NVIDIA-ACS-0168877]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 17 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	304	Microsoft, "Accelerating Scientific Discovery with Microsoft Windows Compute Cluster Server 2003", 2003, pp. 10. http://download.microsoft.com/download/8/6/1/86149563-03ec-427e-80f1-d683bd715b2b/Bio%20Team%20and%20Life%20Sciences%20Solution%20Brief.pdf [NVIDIA-ACS-0237316 - NVIDIA-ACS-0237325]	
	305	"Microsoft Aims to Enter Supercomputer Market", Reuters, November 15, 2005, pp. 364. [NVIDIA-ACS-0239623 - NVIDIA-ACS-0239986]	
	306	Microsoft, "Bill Gates Shares Microsoft's Vision for Technical Computing", November 15, 2005, pp. 5. https://news.microsoft.com/2005/11/15/bill-gates-shares-microsofts-vision-for-technical-computing/ [NVIDIA-ACS-0237311 - NVIDIA-ACS-0237315]	
	307	Microsoft, "Cluster Components and Interconnects", Microsoft Windows 2000, January 5, 2001, pp. 3. [NVIDIA-ACS-0237553 - NVIDIA-ACS-0237555]	
	308	Microsoft, "Increasing the Value of Simulation While Shrinking the Costs", Microsoft Windows Compute Cluster Server 2003 Partner Solution Brief", March 2007, pp. 6. [NVIDIA-ACS-0237556 - NVIDIA-ACS-0237561]	
	309	Microsoft, "On-Demand Supercomputing Multiplies the Possibilities", Microsoft Windows Compute Cluster Server 2003 Partner Solution Brief", April 2007, pp. 7. [NVIDIA-ACS-0237542 - NVIDIA-ACS-0237548]	
	310	Microsoft, "Microsoft Releases Windows Compute Cluster Server 2003, Bringing High-Performance Computing to the Mainstream", Microsoft.com, June 9, 2006, pp. 6. [NVIDIA-ACS-0238395 - NVIDIA-ACS-0238400]	
	311	Microsoft, "Parallel Programming Software", Microsoft.com, January 26, 2001, pp. 4. [NVIDIA-ACS-0238406 - NVIDIA-ACS-0238409]	
	312	Microsoft, "Technical Computing Tools Combined with Cluster Computing Deliver High-Performance Solutions", Microsoft Windows Compute Cluster Server 2003 Partner Solution Brief", May 2007, pp. 6. [NVIDIA-ACS-0238598 - NVIDIA-ACS-0238603]	
	313	Microsoft, "Windows Compute Cluster Server 2003", Overview, September 2005, pp. 12. [NVIDIA-ACS-0238610 - NVIDIA-ACS-0238621]	
	314	Microsoft, "Windows Server 2003 Deployment Kit, Automating and Customizing Installations", October 19, 2005, pp. 3. [NVIDIA-ACS-0238315 - NVIDIA-ACS-0238317]	
	315	"Microsoft Windows Server 2003 Deployment Kit, Automating and Customizing Installations, A Resource Kit Publication", 2003, pp. 359. [NVIDIA-ACS-0237567 - NVIDIA-ACS-0237925]	
	316	"Microsoft Windows Server 2003 Deployment Kit, Automating and Customizing Installations, A Resource Kit Publication", 2003, pp. 286. [NVIDIA-ACS-0237926 - NVIDIA-ACS-0238211]	
	317	MIRMAN, Ilya, "Going Parallel the New Way", Interactive Supercomputing, June 2006, pp. 4. [NVIDIA-ACS-0234976]	
	318	MOORE, Charles, "Apple Ends DIY Repairs, Does Mac mini Kill the Used Mac Market?, USB Drive Kit Matches Mac mini, and More, May 13, 2005, pp. 15. https://lowendmac.com/newsrev/05/0513.html [NVIDIA-ACS-0239005 - NVIDIA-ACS-0239019]	
	319	MOORE, Charles, "The AppleSeed Project: Clustered Power Macs Outperform Cray Supercompter", LowEndMac.com, April 19, 2000, pp. 3. [NVIDIA-ACS-0165985]	
	320	"MPI: A Message-Passing Interface Standard", Message Passing Interface Forum, June 12, 1995, pp. 239. [NVIDIA-ACS-0164777 & NVIDIA-ACS-0226944]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 18 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	321	"MPI-2: Extensions to the Message-Passing Interface", https://web.archive.org/web/20050403213517/http://www.mpi-forum.org/docs/mpi-20-html/mpi2-report.html as archived April 3, 2005 in 11 pages. [NVIDIA-ACS-0235217]	
	322	MPI Demo in 4 pages. [NVIDIA-ACS-0234980]	
	323	MPICH for Microsoft Windows Download Page, https://web.archive.org/web/20050309131254/http://www-unix.mcs.anl.gov/mpi/mpich/mpich-nt/ as archived March 9, 2005 in 2 pages. [NVIDIA-ACS-0235213]	
	324	MPICH-A Portable Implementation of MPI, https://web.archive.org/web/20050318092617/http://www-unix.mcs.anl.gov/mpi/mpich/ as archived March 18, 2005 in 3 pages. [NVIDIA-ACS-0235231]	
	325	MPICH2 Home Page, https://web.archive.org/web/20050401035643/http://www-unix.mcs.anl.gov/mpi/mpich2/index.htm#docs as archived April 1, 2005 in 2 pages. [NVIDIA-ACS-0235228]	
	326	MPICH2 License, https://web.archive.org/web/20050312051250/http://www-unix.mcs.anl.gov/mpi/mpich2/license.htm as archived March 12, 2005 in 1 page. [NVIDIA-ACS-0235230]	
	327	NAYAK, Anshuman, "Design and Characterization of MATLAB Functions on a Distributed and Heterogeneous System", Center for Parallel and Distributed Computing, Technical Report No. CPDC-TR-9912-021, December 1999, pp. 98. [NVIDIA-ACS-0234790 - NVIDIA-ACS-0234887*]	
	328	NVIDIA, "NVIDIA CUDA Compute Unified Device Architecture", Programming Guide, Version 1.0, June 23, 2007, pp. 119. [NVIDIA-ACS-0167649]	
	329	"Omneta Technology: Pooch", Omneta PLC, October 30, 2005, pp. 1. [NVIDIA-ACS-0239121]	
	330	PAU et al., "Distributed Mathematica - User and Reference Manual", July 5, 2000, pp. 18. [NVIDIA-ACS-0165127, NVIDIA-ACS-0227207 & NVIDIA-ACS-0237136]	
	331	Partial MPI Library based on Sockets in Macintosh OS X, using TCP/IP Protocol, https://web.archive.org/web/20051225215129/http:/exodus.physics.ucla.edu/appleseed/dev/MacMPI_S.c, as archived December 25, 2005, pp. 1. [NVIDIA-ACS-0165930]	
	332	Partial MPI Library based on the program-to-Program Communications ToolBox in the Macintosh OS, November 8, 2000, pp. 65. [NVIDIA-ACS-0172347 - NVIDIA-ACS-0172411]	
	333	PCI Express®, Base Specification, Revision 1.1, March 28, 2005, pp. 508. [NVISIA-ACS-0167768]	
	334	PELIKÁN, Josef, "Interconnect Efficiency of Tyan PSC T-630 with Microsoft Compute Cluster Server 2003", pp. 1-5. [NVIDIA-ACS-0237562 - NVIDIA-ACS-0237566]	
	335	PETCU, Dana, "Working with Multiple Maple Kernels Connected by Distributed Maple or PVMaple", 2001, pp. 11. [NVIDIA-ACS-0170367]	
	336	PETCU et al., "A User-Level Interface for Clustering Mathematical Software Kernels", IWCC 2001: Advanced Environments, Tools, and Applications for Cluster Computing, Vol. 2326, pp 172–178. [NVIDIA-ACS-0170316]	
	337	PETCU et al., "Design and Implementation of a Grid Extension for Maple", Scientific Programming, Vol. 13, 2005, pp. 14. [NVIDIA-ACS-0169935]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 19 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	338	PETCU et al., "Extending Maple to the Grid: Design and Implementation", Third International Symposium on Parallel and Distributed Computing/Third International Workshop on Algorithms, Models and Tools for Parallel Computing on Heterogeneous Networks, 2004, pp. 209-216. [NVIDIA-ACS-0170323]	
	339	PETCU et al., "Pavis: A Parallel Virtual Environment for Solving Large Mathematical Problems", World Scientific, 2003, pp. 8. [NVIDIA-ACS-0170331]	
	340	PETCU et al., "PVMaple: A Distributed Approach to Cooperative Work of Maple Processes", Lecture Notes in Computer Science, August 2000, Vol. 1908, pp. 8. [NVIDIA-ACS-0170339]	
	341	PETCU, Dana, "Solving Initial Value Problems with Parallel Maple Processes", European Conference on Parallel Processing August 28, 2001, pp. 926-934. [NVIDIA-ACS-0170347]	
	342	PETCU et al., "Survey of Symbolic Computations on the Grid", SETIT 2005, 3rd International Conference, March 2005, pp. 11. [NVIDIA-ACS-0170356]	
	343	"Pingpong MPI Benchmark - SEM vs 'grid'", Dauger Research, Inc., January 2009, 1 page, http://daugerresearch.com/pooch/mathmatica/	
	344	"QuickSIlver Software Architecture", Software, Data Sheet, November 2005, pp. 4. [NVIDIA-ACS-0238410 - NVIDIA-ACS-0238413]	
	345	QUINN, Michael J., "Parallel Programming in C with MPI and OpenMP", McGraw Hill, 2003, pp. 516. [NVIDIA-ACS-0235234]	
	346	"README File", Distributed Maple Application Software, July 26, 2001, pp. 3. [NVIDIA-ACS-0165145 & NVIDIA-ACS-0226938]	
	347	"README File", Distributed Maple 1.1.15, March 28, 2003, pp. 5. [NVIDIA-ACS-0165148 & NVIDIA-ACS-0226928]	
	348	Reference Manual, TRANSPUTER, Inmos, IMS, January 1987, pp. 162.	
	349	"Running Star-P on Beowulf", 2005, pp. 5. http://courses.csail.mit.edu/18.337/2005/QuickStartGuide.pdf [NVIDIA-ACS-0234985]	
	350	SAMEH, Ahmed, "The Schlumberger High Performance Cluster at AUC", Proceedings of the 13th International Conference on Artificial Intelligence Applications, Cairo, February 4-6, 2005, pp. 9. [NVIDIA-ACS-0170378]	
	351	SC 05, Seattle, WA, 2005, Press Releases, "Microsoft Chairman and Chief Software Architect Bill Gates to Deliver Keynote at SC|05 Conference", July 25, 2005, pp. 2. [NVIDIA-ACS-0239987 - NVIDIA-ACS-0239988]	
	352	SC 05, Seattle, WA, 2005, Technical Papers, November 12-18, 2005, pp. 5. [NVIDIA-ACS-0239989 - NVIDIA-ACS-0239993]	
	353	SC 05, Seattle, WA, 2005, Tutorials, November 12-18, 2005, pp. 3. [NVIDIA-ACS-0239994 - NVIDIA-ACS-0239996]	
	354	SC 09, Portland, OR, 2009, Conference Program, November 14-20, 2009, pp. 158. [NVIDIA-ACS-0238414 - NVIDIA-ACS-0238571]	
	355	SCHREINER et al., "Distributed Maple: Lessons Learned on Parallel Computer Algebra in Distributed Environments", Presentation, 2003, pp. 47. [NVIDIA-ACS-0237089 - NVIDIA-ACS-0237135]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 20 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	356	SCHREINER et al., "Distributed Maple: Parallel Computer Algebra in Networked Environments", Journal of Symbolic Computation, March 2003, Vol. 35, No. 3, pp. 305-347. [NVIDIA-ACS-0165190 & NVIDIA-ACS-0226385]	
	357	SCHREINER, Wolfgang, "Distributed Maple - User and Reference Manual (V 1.1.12)", Research Institute for Symbolic Computation (RISC-Linz), Johannes Kepler University, A-4040 Linz, Austria, July 6, 2001, pp. 1-37. [NVIDIA-ACS-0165153 & NVIDIA-ACS-0226430]	
	358	SCHREINER, Wolfgang, "Manager-Worker Parallelism versus Dataflow in a Distributed Computer Algebra System", Research Institute for Symbolic Computation (RISC-Linz), Johannes Kepler University, A-4040 Linz, Austria, 2001, pp. 15. [NVIDIA-ACS-0237074 - NVIDIA-ACS-0237088]	
	359	SCHREINER, Wolfgang, "Manager-Worker Parallelism versus Dataflow in Distributed Maple", Research Institute for Symbolic Computation (RISC-Linz), Johannes Kepler University, A-4040 Linz, Austria, December 13, 2000, pp. 23. [NVIDIA-ACS-0237051 - NVIDIA-ACS-0237073]	
	360	SEIDEL, Brent, "Sample Software", May 24, 2000, pp. 2. https://web.archive.org/web/20050220000225/http:/www.serv.net/~bseidel/AppleSeed/Software.html [NVIDIA-ACS-0165928 - NVIDIA-ACS-0240006]	
	361	SHAH et al., "Sparse Matrices in Matlab*P: Design and Implementation", HiPC 2004, LNCS 3296, pp. 144-155. [NVIDIA-ACS-0235022]	
	362	SHERWANI et al., "Libra: A Computational Economy-Based Job Scheduling System for Clusters", Software-Practice and Experience, 2004, Vol. 34, pp. 573-590.	
	363	SILBERSCHATZ et al., "Applied Operating System Concepts", First Edition, Joh Wiley & Sons, Inc., 2000, pp. 841. [NVIDIA-ACS-0172412 - NVIDIA-ACS-0173252]	
	364	SONNEVELD, Nick, "Star-P / MATLAB Installation Notes", January 18, 2007, pp. 8. [NVIDIA-ACS-0233675 - NVIDIA-ACS-0233682]	
	365	SONNEVELD, Nick, "Star-P Client Installation", January 18, 2007, pp. 30. [NVIDIA-ACS-0233645 - NVIDIA-ACS-0233673]	
	366	Source Code, "Berlekamp Distinct Degree Factorization", Distributed Maple Application Software from the "distsoft" directory, v. 1.1, July 26, 2001, pp. 58. [NVIDIA-ACS-0165069 & NVIDIA-ACS-0226819]	
	367	Source Code, "CASA NeighbGraph", Distributed Maple Application Software from the "distsoft" directory, v. 1.6, January 9, 2001, pp. 47. [NVIDIA-ACS-0165022 & NVIDIA-ACS-0226877]	
	368	Source Code, "Distributed Maple 1.1.16" 2003, pp. 2176. [NVIDIA-ACS-0163414 - NVIDIA-ACS-0163528]	
	369	Source Code, "Distributed Mathematica" 2000, pp. 159. [NVIDIA-ACS-0173254 - NVIDIA-ACS-0173308]	
	370	Source Code, "fftw 2.1.5" 2003, pp. 3325. [NVIDIA-ACS-0165511 - NVIDIA-ACS-0165833]	
	371	Source Code, "General Source Code" 2003, pp. 173. [NVIDIA-ACS-0233750, NVIDIA-ACS-0234468, NVIDIA-ACS-0240000, NVIDIA-ACS-0240002, NVIDIA-ACS-0240005, NVIDIA-ACS-0240008, NVIDIA-ACS-0240011, NVIDIA-ACS-0240019, NVIDIA-ACS-0240022, NVIDIA-ACS-0240024, NVIDIA-ACS-00240030, NVIDIA-ACS-0240033, NVIDIA-ACS-0240042, NVIDIA-ACS-0240044]	
	372	Source Code, "matlabpv2" 2003, pp. 4931. [NVIDIA-ACS-0233752 - NVIDIA-ACS-0234467]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 21 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	373	Source Code, "Public CUDA Brook Code" 2003, pp. 18573. [NVIDIA-ACS-0166655 - NVIDIA-ACS-0166680]	
	374	Source Code, "Maple Interface to Java Scheduler", Distributed Maple, dist.maple5, v 1.63, March 28, 2003, pp. 28. [NVIDIA-ACS-0163828 & NVIDIA-ACS-0226791]	
	375	"Star-P® User Guide", Interactive Supercomputing, October 25, 2006, pp. 211. [NVIDIA-ACS-0168895]	
	376	SUNDERAM, et al., "The PVM Concurrent Computing System: Evolution, Experiences, and Trends. In: Parallel Computing", 1994, Vol. 20, No. 4. pp. 16. [NVIDIA-ACS-0170387]	
	377	Supercomputing 2005 - Floor Map, Level 4, Exhibit Halls, pp. 1. [NVIDIA-ACS-0239997]	
	378	Supercomputing 2005 - Exhibitor Freight Move in Schedule, Level 4, Exhibit Halls, pp. 2. [NVIDIA-ACS-0239998 - NVIDIA-ACS-0239999]	
	379	TATEBE et al., "Efficient Implementation of MPI Using Remote Memory Write," Transactions of Information Processing Society of Japan, May 1999, Vol. 40, No. 5, pp. 14.	X-Abs
	380	TEPENEU et al., "MathGridLink - A Bridge Between Mathematica and 'the Grid'", Department of Computer Science, Graduate School of Systems and Information Engineering, University of Tsukuba, 2003, pp. 4.	
	381	"The Message Passing Interface (MPI) Standard", https://web.archive.org/web/20050403085859/http://www-unix.mcs.anl.gov.mpl/ as archived April 3, 2005 in 2 pages. [NVIDIA-ACS-0235215]	
	382	"The Power of Distributed Computing in Cancer Research", Supercomputing 2005 Keynote Demonstration, 2005, pp. 2. [NVIDIA-ACS-0238402- NVIDIA-ACS-0238403]	
	383	"Topics", Cornell University, Cornell Theory Center, 2005, pp. 2. [NVIDIA-ACS-0238303 - NVIDIA-ACS-0238304]	
	384	TREFETHEN et al., "MultiMATLAB: MATLAB on Multiple Processors", June 1996, pp. 16. [NVIDIA-ACS-0169109]	
	385	"Update to Pooch Software Enhances the Cluster Experience", PRWeb, https://www.prweb.com/releases/2006/01prweb330475.htm, January 10, 2006, pp. 4. [NVIDIA-ACS-0239368 - NVIDIA-ACS-0239371]	
	386	U.S. Provisional Application No. 60/799,474, filed May 10, 2006, titled "Graphical Interface for Monitoring Status of a Concurrent Computing Process", in 45 pages.	
	387	U.S. Provisional Application No. 60/813,738, filed June 13, 2006, titled "Pooch/Mathmatica Interface", in 6 pages. [NVIDIA-ACS-0165311 - NVIDIA-ACS-0165316]	
	388	U.S. Provisional Application No. 60/850,908, filed October 11, 2006, titled "Poochmpi Toolkit for Mathematica", in 25 pages. [NVIDIA-ACS-0165317 - NVIDIA-ACS-0165341]	
	389	VOGES et al., "Computational Marketing Using an AppleSeed Cluster", January 2001, in 11 pages. [NVIDIA-ACS-0166295]	
	390	Windows in Financial Services, "Microsoft's Leadership in Distributed Enterprise Computing Builds Case for HPC", as archived November 13, 2004, pp. 2. [NVIDIA-ACS-0238404 - NVIDIA-ACS-0238405]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 22 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	391	"Windows Server 2003 Deployment Kit: Automating and Customizing Installations", 2003, pp. 349. [NVIDIA-ACS-0238652 - NVIDIA-ACS-0238998]	
	392	WIRED, "Slideshow: That's a Whole Lot of Power, Mac", Wired.com, January 29, 2002, pp. 10. [NVIDIA-ACS-0166333]	
	393	"Wolfram gridMathematica™", <http://www.wolfram.com/products/gridmathematica/> as printed October 3, 2007 in 2 pages.	
	394	Wolfram Library Archive, "High-Performance Computing with Mathematica: The PoochMPI Toolkit", library.wolfram.com/infocenter/Conferences/6455, pp. 2. [NVIDIA-ACS-0237262 - NVIDIA-ACS-0237263] & [NVIDIA-ACS-0238393 - NVIDIA-ACS-0238394]	
	395	Wolfram Library Archive, "Microsoft Windows Compute Cluster Server 2003 Partner Solution Brief", library.wolfram.com/infocenter/TechNotes/6723, pp. 1. [NVIDIA-ACS-0238401]	
	396	Wolfram Library Archive, Search Results as printed August 14, 2021 in 3 pages. [NVIDIA-ACS-0239000 - NVIDIA-ACS-0239002]	
	397	"Wolfram Research Offers Support for Microsoft Windows Compute Cluster Server 2003", June 9, 2006, pp. 1. [NVIDIA-ACS-0238999]	
	398	WOLFRAM, Stephen, "The Mathematica Book", 5th Edition, Wolfram Research, Inc., 2003, pp. 1486.	
	399	WOLFRAM, Stephen, "The Mathematica Book", 5th Edition, Wolfram Research, Inc., 2003, pp. 1301. [NVIDIA-ACS-0235750 - NVIDIA-ACS-0237050]	
	400	Wolfram Science Conference, "NKS 2006", June 16-18, 2006, pp. 2. [NVIDIA-ACS-0239485 - NVIDIA-ACS-0239486]	
	401	Wolfram Technology Conference, "Accelerating Mathematica: Vectors for All", Presentation by Simon McIntosh-Smith, ClearSpeed Technology, October 12, 2006, pp. 27. [NVIDIA-ACS-0239586 - NVIDIA-ACS-0239612]	
	402	ZAIN et al., "Orchestrating Production Computer Algebra Components into Portable Parallel Programs", 2008, pp. 15. [NVIDIA-ACS-0170434]	
	403	DECISION Granting Institution of Inter Partes Review of U.S. Patent No. 8,082,289, in Case IPR2020-01608, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 5, 2021 in 78 pages. [NVIDIA-ACS-0223292]	
	404	DECISION Granting Institution of Inter Partes Review of U.S. Patent No. 8,140,612, in Case IPR2021-00075, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 5, 2021 in 67 pages. [NVIDIA-ACS-0231637]	
	405	DECISION Granting Institution of Inter Partes Review of U.S. Patent No. 8,676,877, in Case IPR2021-00108, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 13, 2021 in 70 pages. [NVIDIA-ACS-0232790]	
	406	DECISION Denying Institution of Inter Partes Review of U.S. Patent No. 10,333,768, in Case IPR2021-00019, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 5, 2021 in 32 pages. [NVIDIA-ACS-0225177]	
	407	DECISION Denying Institution of Inter Partes Review of U.S. Patent No. 10,333,768, in Case IPR2021-00020, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 5, 2021 in 33 pages. [NVIDIA-ACS-0228571]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 23 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	408	Joint Motion to Terminate Under 35 U.S.C. § 317(a) of U.S. Patent No. 8,082,289, in Case IPR2020-01608, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed June 17, 2021 in 6 pages. [NVIDIA-ACS-0223385]	
	409	Joint Motion to Terminate Under 35 U.S.C. § 317(a) of U.S. Patent No. 8,140,612, in Case IPR2021-00075, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed June 17, 2021 in 6 pages. [NVIDIA-ACS-0231729]	
	410	Joint Motion to Terminate Under 35 U.S.C. § 317(a) of U.S. Patent No. 8,676,877, in Case IPR2021-00108, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed June 17, 2021 in 6 pages. [NVIDIA-ACS-0232886]	
	411	Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response of U.S. Patent No. 8,082,289, in Case IPR2020-01608, Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed November 10, 2020 in 5 pages. [NVIDIA-ACS-0222837]	
	412	Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response of U.S. Patent No.10,333,768, in Case IPR2021-00019, Patent No. 10,333,768, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed November 10, 2020 in 5 pages. [NVIDIA-ACS-0224757]	
	413	Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response of U.S. Patent No.10,333,768, in Case IPR2021-00020, Patent No. 10,333,768, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed November 10, 2020 in 5 pages. [NVIDIA-ACS-0228113]	
	414	Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response of U.S. Patent No. 8,140,612, in Case IPR2021-00075, Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed November 10, 2020 in 5 pages. [NVIDIA-ACS-0231196]	
	415	Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response of U.S. Patent No. 8,676,877, in Case IPR2021-00108, Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed November 17, 2020 in 6 pages. [NVIDIA-ACS-0232321]	
	416	Notice of Refund of U.S. Patent No. 8,082,289, Case IPR2020-01608, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed June 30, 2021 in 2 pages. [NVIDIA-ACS-0223400]	
	417	Notice of Refund of U.S. Patent No. 8,140,612, Case IPR2021-00075, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed July 12, 2021 in 2 pages. [NVIDIA-ACS-0231745]	
	418	Notice of Refund of U.S. Patent No. 8,676,877, Case IPR2021-00108, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed July 12, 2021 in 2 pages. [NVIDIA-ACS-0232906]	
	419	Notice of Refund of U.S. Patent No. 10,333,768, Case IPR2021-00019, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed May 18, 2021 in 2 pages. [NVIDIA-ACS-0225212]	
	420	Notice of Refund of U.S. Patent No. 10,333,768, Case IPR2021-00020, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed May 17, 2021 in 2 pages. [NVIDIA-ACS-0228607]	
	421	ORDER Conduct of the Proceeding, IPR2020-01608 (Patent 8,082,289), IPR2021-00019 (Patent 10,333,768), IPR2021-00020 (Patent 10,333,768), IPR2021-00075 (Patent 8,140,612), IPR2021-00108 (Patent 8,676,877)1, NVIDIA Corporation v. Advanced Cluster Systems, Inc., Paper 8 as dated March 10, 2021 in 4 pages. [NVIDIA-ACS-0223288]	
	422	ORDER Conduct of the Proceeding, IPR2020-01608 (Patent 8,082,289), IPR2021-00019 (Patent 10,333,768), IPR2021-00020 (Patent 10,333,768), IPR2021-00075 (Patent 8,140,612), IPR2021-00108 (Patent 8,676,877)1, NVIDIA Corporation v. Advanced Cluster Systems, Inc., Paper 6 as dated March 10, 2021 in 4 pages. [NVIDIA-ACS-0231608]	
	423	Petition for Inter Partes Review of U.S. Patent No. 8,082,289, in Case IPR2020-01608, Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated September 18, 2020 in 97 pages. [NVIDIA-ACS-0222731]	

Examiner Signature	/HERMON ASRES/	Date Considered	04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 24 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	424	Petition for Inter Partes Review of U.S. Patent No. 8,140,612, in Case IPR2021-00075, Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated October 16, 2020 in 87 pages. [NVIDIA-ACS-0231103]	
	425	Petition for Inter Partes Review of U.S. Patent No. 8,676,877, in Case IPR2021-00108, Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated October 23, 2020 in 93 pages. [NVIDIA-ACS-0232222]	
	426	Patent Owner Mandatory Notices in Case No. IPR2020-01608, U.S. Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed October 9, 2020 in 4 pages. [NVIDIA-ACS-0222830]	
	427	Patent Owner Mandatory Notices in Case No. IPR2021-00019, U.S. Patent No. 10,333,768, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed October 27, 2020 in 4 pages. [NVIDIA-ACS-0224753]	
	428	Patent Owner Mandatory Notices in Case No. IPR2021-00020, U.S. Patent No. 10,333,768, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed October 27, 2020 in 4 pages. [NVIDIA-ACS-0228109]	
	429	Patent Owner Mandatory Notices in Case No. IPR2021-00075, U.S. Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed November 6, 2020 in 4 pages. [NVIDIA-ACS-0228109]	
	430	Patent Owner Mandatory Notices in Case No. IPR2021-00108, U.S. Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed November 12, 2020 in 4 pages. [NVIDIA-ACS-0232317]	
	431	Patent Owner Preliminary Response in Case No. IPR2020-01608, U.S. Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed February 10, 2021 in 66 pages. [NVIDIA-ACS-0222842]	
	432	Patent Owner Preliminary Response in Case No. IPR2021-00019, U.S. Patent No. 10,333,768, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed February 10, 2021 in 66 pages. [NVIDIA-ACS-0224762]	
	433	Patent Owner Preliminary Response in Case No. IPR2021-00020, U.S. Patent No. 10,333,768, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed February 10, 2021 in 66 pages. [NVIDIA-ACS-0228118]	
	434	Patent Owner Preliminary Response in Case No. IPR2021-00075, U.S. Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed February 10, 2021 in 66 pages. [NVIDIA-ACS-0231201]	
	435	Patent Owner Preliminary Response in Case No. IPR2021-00108, U.S. Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed February 17, 2021 in 66 pages. [NVIDIA-ACS-0232327]	
	436	Patent Owner Updated Mandatory Notices in Case No. IPR2020-01608, U.S. Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed October 29, 2020 in 3 pages. [NVIDIA-ACS-0222834]	
	437	Patent Owner's Consolidated Sur-Reply in Support of its Preliminary Responses, Per March 10, 2021 Order in Cases IPR2020-01608 (Patent 8,082,289), IPR2021-00019 (Patent 10,333,768), IPR2021-00020 (Patent 10,333,768), IPR2021-00075 (Patent 8,140,612), IPR2021-00108 (Patent 8,676,877), NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed March 26, 2021 in 13 pages. [NVIDIA-ACS-0231624]	
	438	Patent Owner's Updated Exhibit List in Case No. IPR2020-01608, U.S. Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed June 17, 2021 in 5 pages. [NVIDIA-ACS-0223391]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 25 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	439	Patent Owner's Updated Exhibit List in Case No. IPR2021-00075, U.S. Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed June 17, 2021 in 5 pages. [NVIDIA-ACS-0231735]	
	440	Patent Owner's Updated Exhibit List in Case No. IPR2021-00108, U.S. Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed June 17, 2021 in 5 pages. [NVIDIA-ACS-0232892]	
	441	Petitioner's Objections to Evidence in Case No. IPR2020-01608, U.S. Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed May 19, 2021 in 4 pages. [NVIDIA-ACS-0223378]	
	442	Petitioner's Objections to Evidence in Case No. IPR2021-00075, U.S. Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed May 19, 2021 in 4 pages. [NVIDIA-ACS-0231722]	
	443	Petitioner's Objections to Evidence in Case No. IPR2021-00108, U.S. Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed May 19, 2021 in 4 pages. [NVIDIA-ACS-0232871]	
	444	Patent Owner's Objections to Admissibility of Evidence Served with Petition for Inter Partes Review in Case No. IPR2020-01608, U.S. Patent No. 8,082,287, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed May 19, 2021 in 8 pages. [NVIDIA-ACS-0223370]	
	445	Patent Owner's Objections to Admissibility of Evidence Served with Petition for Inter Partes Review in Case No. IPR2021-00075, U.S. Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed May 19, 2021 in 7 pages. [NVIDIA-ACS-0231715]	
	446	Patent Owner's Objections to Admissibility of Evidence Served with Petition for Inter Partes Review in Case No. IPR2021-00108, U.S. Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed May 27, 2021 in 8 pages. [NVIDIA-ACS-0232875]	
	447	Petitioner's Power of Attorney in Case No. IPR2021-00075, U.S. Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed October 16, 2020 in 2 pages. [NVIDIA-ACS-0231190]	
	448	Petitioner's Power of Attorney in Case No. IPR2021-00108, U.S. Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed October 23, 2020 in 2 pages. [NVIDIA-ACS-0232315]	
	449	Petitioner's Reply to Patent Owner's Preliminary Response in IPR2020-01608 (Patent 8,082,289), IPR2021-00019 (Patent 10,333,768), IPR2021-00020 (Patent 10,333,768), IPR2021-00075 (Patent 8,140,612), IPR2021-00108 (Patent 8,676,877), NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated March 16, 2021 in 12 pages. [NVIDIA-ACS-0231612]	
	450	Petitioner's Request for Refund of Fees of U.S. Patent No. 10,333,768, Case IPR2021-00019, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 13, 2021 in 3 pages. [NVIDIA-ACS-0225209]	
	451	Petitioner's Request for Refund of Fees of U.S. Patent No. 10,333,768, Case IPR2021-00020, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 13, 2021 in 3 pages. [NVIDIA-ACS-0228604]	
	452	Petitioner's Request for Refund of Post-Institution Fees of U.S. Patent No. 8,082,289, Case IPR2020-01608, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated June 30, 2021 in 4 pages. [NVIDIA-ACS-0223402]	
	453	Petitioner's Request for Refund of Post-Institution Fees of U.S. Patent No. 8,140,612, Case IPR2021-00075, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated June 30, 2021 in 5 pages. [NVIDIA-ACS-0231740]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 26 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	454	Petitioner's Request for Refund of Post-Institution Fees of U.S. Patent No. 8,676,877, Case IPR2021-00108, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated June 30, 2021 in 5 pages. [NVIDIA-ACS-0232897]	
	455	Scheduling Order of U.S. Patent No. 8,082,289, Case IPR2020-01608 and U.S. Patent No. 8,140,612, Case IPR2021-00075, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 5, 2021 in 11 pages. [NVIDIA-ACS-0231704]	
	456	Scheduling Order of U.S. Patent No. 8,676,877, Case IPR2021-00108, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 13, 2021 in 11 pages. [NVIDIA-ACS-0232860]	
	457	Stipulated Partial Dismissal with Prejudice in Case 1:19-cv-02032-CFC-CJB, Advanced Cluster Systems, Inc v. NVIDIA Corporation, as filed June 14, 2021 in 3 pages. [NVIDIA-ACS-0223382, NVIDIA-ACS-0231726 & NVIDIA-ACS-0232883]	
	458	Termination Due to Settlement After Institution of Trial of U.S. Patent No. 8,082,289, Case IPR2020-01608, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated June 22, 2021 in 4 pages. [NVIDIA-ACS-0223396]	
	459	Termination Due to Settlement After Institution of Trial of U.S. Patent No. 8,676,877, Case IPR2021-00108, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated June 30, 2021 in 4 pages. [NVIDIA-ACS-0232902]	
	460	NVIDIA Power of Attorney, October 5, 2020, pp. 2.	
	461	Ex. 2001 - Singh Declaration, February 9, 2021, pp. 42.	
	462	Ex. 2002 - Singh CV, pp. 4.	
	463	Ex. 2004 - Nexus Claim Chart - SEM - 289 Patent, pp. 20. [NVIDIA-ACS-0222970]	
	464	Ex. 2005 - Nexus Claim Chart - SET - 289 Patent, pp. 28. [NVIDIA-ACS-0222990]	
	465	Ex. 2006 - Dauger Declaration, February 10, 2021, pp. 29. [NVIDIA-ACS-0223018]	
	466	Ex. 2007 - Bhansali Declaration, February 9, 2021, pp. 5.	
	467	Ex. 2008 - Bancroft Declaration, February 9, 2021, pp. 13.	
	468	Ex. 2009 - SEM Poster, 2009, pp. 1.	
	469	Ex. 2011 - SEM Manual, pp. 20.	
	470	Ex. 2012 - SEM White Paper, 2007, pp. 20.	
	471	Ex. 2013 - SET White Paper, pp. 7.	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 27 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	472	Ex. 2014 - SET Manual, pp. 67.	
	473	Ex. 2015 - SET Presentation, December 2011, pp. 54.	
	474	Ex. 2016 - SET Datasheet, pp. 4.	
	475	Ex. 2017 - Parallel Bars the Economist, June 4, 2011, pp. 9.	
	476	Ex. 2018 - SET Presentation, HPC for the Missing Middle!, December 2011, pp. 4.	
	477	Ex. 2019 - DOE Review of Plasma Visualization Project, 2015, pp. 5.	
	478	Ex. 2020 - SET Data Sheet given to Jones, pp. 4.	
	479	Ex. 2021 - DOE Review of Expanded Validation Project, 2015, pp. 5	
	480	Ex. 2022 - DOE Review of SET Windows Implementation, 2015, pp. 5.	
	481	Ex. 2023 - SEM an Independent Report, 2008, pp. 2.	
	482	Ex. 2024 - Multicore Parallelism presentation, February 2011, pp. 2.	
	483	Ex. 2025 - DOE SET Windows Project Narrative, pp. 2.	
	484	Ex. 2026 - DOE Topics, pp. 11.	
	485	Ex. 2027 - Dauger Declaration, February 9, 2021, pp. 30.	
	486	Ex. 2028 - Nexus Claim Chart - SEM - 768 Patent, pp. 13. [NVIDIA-ACS-0237293 - NVIDIA-ACS-0237305]	
	487	Ex. 2029 - Nexus Claim Chart - SET - 768 Patent, pp. 17. [NVIDIA-ACS-0225160]	
	488	Exhibit 1002 - File History of USP 10,333,768 B2, pp. 627.	
	489	Exhibit 1002 - File History of USP 8,082,289 B2, pp. 190. [NVIDIA-ACS-0220502]	
	490	Exhibit 1005 - Declaration of Henry Tufo, October 2, 2020, pp. 132.	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 28 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	491	Exhibit 1006 - Declaration of Wolfgang Schreiner, October 1, 2020, pp. 85.	
	492	Exhibit 1007 - Declaration of Sylvia Hall-Ellis, October 5, 2020, pp. 109.	
	493	Exhibit 1019 - SUN Debuts UltraSPARC IV, October 15, 2003), pp. 2. [NVIDIA-ACS-0165259 & NVIDIA-ACS-0226941]	
	494	Exhibit 1020 - AMD to Unveil Dual-Core PC Chips (2005), May 31, 2005, pp. 1. [NVIDIA-ACS-0163553 & NVIDIA-ACS-0226943]	
	495	Ex. 2001 - Singh Declaration, February 9, 2021, pp. 42.	
	496	Ex. 2030 - Dauger Declaration, February 9, 2021, pp. 31.	
	497	Ex. 2031 - Nexus Claim Chart - SEM - 768 Patent, pp. 13. [NVIDIA-ACS-0225147]	
	498	Ex. 2031 - Nexus Claim Chart - SEM - 768 Patent, pp. 29. [NVIDIA-ACS-0228502 & NVIDIA-ACS-0237264]	
	499	Ex. 2032 - Nexus Claim Chart - SET - 768 Patent, pp. 40. [NVIDIA-ACS-0228531]	
	500	Exhibit 1105 - Declaration of Henry Tufo, October 9, 2020, pp. 147.	
	501	Exhibit 1106 - Declaration of Wolfgang Schreiner, October 1, 2020, pp. 85. [NVIDIA-ACS-0226045]	
	502	Exhibit 1107 - Declaration of Sylvia Hall-Ellis, October 9, 2020, pp. 255. [NVIDIA-ACS-0226130]	
	503	Exhibit 1134 - Maple 5 - PC Magazine (1992) [NVIDIA-ACS-0164764 & NVIDIA-ACS-0227997]	
	504	Exhibit 1135 - Maple V Looks Better with Improved Graphics - PC Magazine (July 1993) [NVIDIA-ACS-0164771 & NVIDIA-ACS-0228004]	
	505	Exhibit 1136 - NAYAK et al., "A Library based compiler to execute MATLAB Programs on a Heterogeneous Platform", pp. 6, https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.36.4659&rep=rep1&type=pdf [NVIDIA-ACS-0165016 & NVIDIA-ACS-00228010]	
	506	Ex. 2001 - Singh Declaration, February 9, 2021, pp. 41.	
	507	Ex. 2033 - Dauger Declaration, February 10, 2021, pp. 30.	
	508	Ex. 2034 - Nexus Claim Chart - SEM - 612 Patent, pp. 11. [NVIDIA-ACS-0231583]	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 29 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	509	Ex. 2035 - Nexus Claim Chart - SET - 612 Patent, pp. 14. [NVIDIA-ACS-0231594]	
	510	Exhibit 1002 - File History of USP 8,140,612 B2	
	511	Exhibit 1005 - Declaration of Henry Tufo, October 16, 2020, pp. 127.	
	512	Exhibit 1006 - Declaration of Wolfgang Schreiner, October 1, 2020, pp. 86.	
	513	Exhibit 1007 - Declaration of Sylvia Hall-Ellis, October 16, 2020, pp. 178.	
	514	Exhibit 1019 - Deitel - Operating Systems, 2004, pp. 1270 (2parts).	
	515	Exhibit 1020 - Chen et al., TH-MPI_ OS Kernel Integrated Fault Tolerant MPI (2001), pp. 75-82. [NVIDIA-ACS-0231046]	
	516	Exhibit 1026 - Jin et al., LiMIC_ Support for High-Performance MPI Intra-Node Communication on Linux, 2005, pp. 184-191. [NVIDIA-ACS-0231086]	
	517	Ex. 2001 - Singh Declaration, February 17, 2021, pp. 40.	
	518	Ex. 2036 - Dauger Declaration, February 15, 2021, pp. 30.	
	519	Ex. 2037 - Nexus Claim Chart - SEM - 877 Patent, pp. 33. [NVIDIA-ACS-0232707]	
	520	Ex. 2038 - Nexus Claim Chart - SET - 877 Patent, pp. 50. [NVIDIA-ACS-0232740]	
	521	Exhibit 1002 - File History of USP 8,676,877 B2 [NVIDIA-ACS-0231771]	
	522	Exhibit 1005 - Declaration of Henry Tufo, October 23, 2020, pp. 130.	
	523	Exhibit 1006 - Declaration of Wolfgang Schreiner, October 1, 2020, pp. 86.	
	524	Exhibit 1007 - Declaration of Sylvia Hall-Ellis, October 23, 2020, pp. 186.	
	525	Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 151 pages.	
	526	Exhibit A-1 - PVMaple System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 270 pages.	
	527	Exhibit A-2 - Distributed Maple System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 261 pages.	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 30 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	528	Exhibit A-3 - Matlab*P System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 254 pages.	
	529	Exhibit A-4 - FFTW, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 467 pages.	
	530	Exhibit A-5 - Intel Paragon Maple System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 137 pages.	
	531	Exhibit A-6 - Stony Brook Bluster, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 289 pages.	
	532	Exhibit A-7 - AppleSeed Pooch System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 160 pages.	
	533	Exhibit A-9 - PVMaple References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 270 pages.	
	534	Exhibit A-10 - Distributed Maple References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 262 pages.	
	535	Exhibit A-11 - Matlab *P References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 246 pages.	
	536	Exhibit A-12 - FFTW References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 467 pages.	
	537	Exhibit A-13 - Intel Paragon Maple References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 137 pages.	
	538	Exhibit A-14 - Stony Brook Cluster References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 289 pages.	
	539	Exhibit A-15 - AppleSeed Pooch References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 163 pages.	
	540	Exhibit A-17 - MultiMatlab System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 249 pages.	
	541	Exhibit A-18 - MultiMatlab References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 254 pages.	
	542	Exhibit A-19 - U.S. Patent No. 10,333,768 ("'768") v. Microsoft Windows Compute Cluster Server 2003 ("CCS"), as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 41 pages.	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 31 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	543	Exhibit A-20 - U.S. Patent No. 10,333,768 ("'768") v. Supercomputing Engine for Mathematica ("SEM"), as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 126 pages.	
	544	Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 215 pages.	
	545	Exhibit A-1 - PVMaple System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 211 pages.	
	546	Exhibit A-2 - Distributed Maple System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 171 pages.	
	547	Exhibit A-3 - Matlab*P System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 246 pages.	
	548	Exhibit A-4 - FFTW, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 467 pages.	
	549	Exhibit A-5 - Intel Paragon Maple System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 137 pages.	
	550	Exhibit A-6 - Stony Brook, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 268 pages.	
	551	Exhibit A-7 - AppleSeed Pooch System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 127 pages.	
	552	Exhibit A-9 - PVMaple References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 211 pages.	
	553	Exhibit A-10 - Distributed Maple References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 170 pages.	
	554	Exhibit A-11 - Matlab *P References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 242 pages.	
	555	Exhibit A-12 - FFTW References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 467 pages.	
	556	Exhibit A-13 - Intel Paragon Maple References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 137 pages.	
	557	Exhibit A-14 - Stony Brook Reference, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 268 pages.	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 32 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	558	Exhibit A-15 - AppleSeed Pooch References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 127 pages.	
	559	Exhibit B-1 - PVMaple System, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 167 pages.	
	560	Exhibit B-2 - Distributed Maple System, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 90 pages.	
	561	Exhibit B-3 - Matlab*P System, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 296 pages.	
	562	Exhibit B-4 - FFTW, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 178 pages.	
	563	Exhibit B-5 - Intel Paragon Maple System, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 128 pages.	
	564	Exhibit B-6 - Stony Brook, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 120 pages.	
	565	Exhibit B-7 - AppleSeed Pooch System, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 194 pages.	
	566	Exhibit B-9 - PVMaple References, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 167 pages.	
	567	Exhibit B-10 - Distributed Maple References, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 91 pages.	
	568	Exhibit B-11 - Matlab *P References, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 296 pages.	
	569	Exhibit B-12 - FFTW References, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 178 pages.	
	570	Exhibit B-13 - Intel Paragon Maple References, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 128 pages.	
	571	Exhibit B-14 - Stony Brook Reference, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 120 pages.	
	572	Exhibit B-15 - AppleSeed Pooch References, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 189 pages.	

Examiner Signature /HERMON ASRES/	Date Considered 04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 33 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	573	Exhibit C-1 - PVMaple System, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 83 pages.	
	574	Exhibit C-2 - Distributed Maple System, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 54 pages.	
	575	Exhibit C-3 - Matlab*P System, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 122 pages.	
	576	Exhibit C-4 - FFTW, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 102 pages.	
	577	Exhibit C-5 - Intel Paragon Maple System, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 43 pages.	
	578	Exhibit C-6 - Stony Brook, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 81 pages.	
	579	Exhibit C-7 - AppleSeed Pooch System, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 64 pages.	
	580	Exhibit C-9 - PVMaple References, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 83 pages.	
	581	Exhibit C-10 - Distributed Maple References, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 54 pages.	
	582	Exhibit C-11 - Matlab *P References, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 122 pages.	
	583	Exhibit C-12 - FFTW References, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 102 pages.	
	584	Exhibit C-13 - Intel Paragon Maple References, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 43 pages.	
	585	Exhibit C-14 - Stony Brook Reference, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 81 pages.	
	586	Exhibit C-15 - AppleSeed Pooch References, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 64 pages.	
	587	Exhibit D-1 - PVMaple System, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 75 pages.	

Examiner Signature	/HERMON ASRES/	Date Considered	04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 34 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	588	Exhibit D-2 - Distributed Maple System, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 61 pages.	
	589	Exhibit D-3 - Matlab*P System, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 129 pages.	
	590	Exhibit D-4 - FFTW, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 155 pages.	
	591	Exhibit D-5 - Intel Paragon Maple System, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 36 pages.	
	592	Exhibit D-6 - Stony Brook, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 97 pages.	
	593	Exhibit D-7 - AppleSeed Pooch System, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 73 pages.	
	594	Exhibit D-9 - PVMaple References, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 75 pages.	
	595	Exhibit D-10 - Distributed Maple References, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 63 pages.	
	596	Exhibit D-11 - Matlab *P References, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 129 pages.	
	597	Exhibit D-12 - FFTW References, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 155 pages.	
	598	Exhibit D-13 - Intel Paragon Maple References, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 36 pages.	
	599	Exhibit D-14 - Stony Brook Reference, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 97 pages.	
	600	Exhibit D-15 - AppleSeed Pooch References, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 73 pages. [Incorrectly labeled in upper right hand corner of document as Ex. D-7]	

58354222

Examiner Signature	/HERMON ASRES/	Date Considered	04/20/2024

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.A./

Bibliographic Data

Application No: 18/479,720

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /HERMON ASRES/ (Examiner's Signature) | (Initials)

Title: CLUSTER COMPUTING

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/02/2023	709	2449	ZTANN.002P1C9
RULE			

APPLICANTS

Advanced Cluster Systems, Inc., Newport Beach, CA, UNITED STATES

INVENTORS

Zvi Tannenbaum, Palo Alto, CA, UNITED STATES

Dean E. Dauger, Huntington Beach, CA, UNITED STATES

CONTINUING DATA

This application is a CON of 18158283 01/23/2023 PAT 11811582

18158283 is a CON of 17374864 07/13/2021 PAT 11563621

18158283 is a CON of 17374789 07/13/2021 PAT 11570034

17374789 is a CON of 16449084 06/21/2019 PAT 11128519

17374864 is a CON of 16449084 06/21/2019 PAT 11128519

16449084 is a CON of 14181112 02/14/2014 PAT 10333768

14181112 is a CON of 13423063 03/16/2012 PAT 8676877

13423063 is a CON of 12040519 02/29/2008 PAT 8140612

12040519 is a CON of 11744461 05/04/2007 PAT 8082289

11744461 has PRO of 60850908 10/11/2006

11744461 has PRO of 60813738 06/13/2006

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

10/17/2023

STATE OR COUNTRY

UNITED STATES

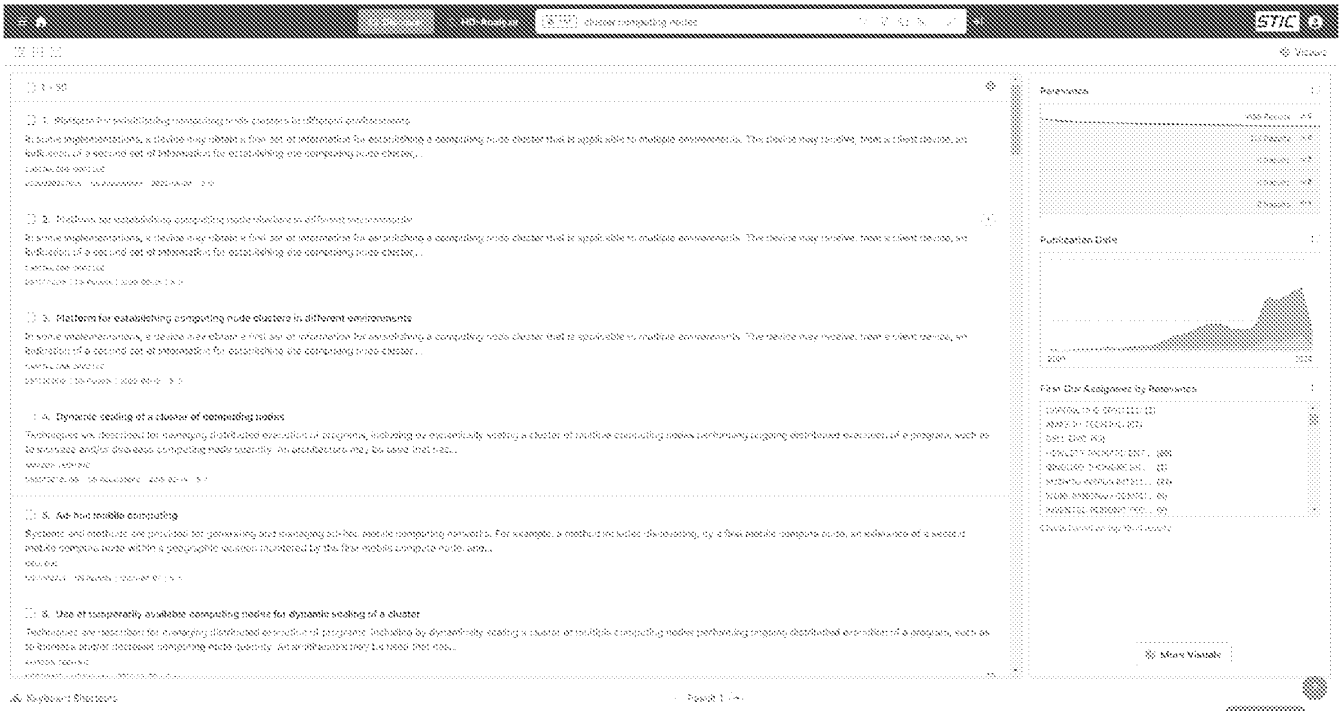
ADDRESS

Knobbe, Martens, Olson & Bear, LLP

2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614
UNITED STATES

FILING FEE RECEIVED

$3,460


Patentcloud
cluster computing nodes
STIC
Relevance
Publication Date
2000
2025
More Visuals
Keyboard Shortcuts

UNITED STATES
PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

APPROVAL LETTER

APPLICATION #	FILING DATE	APPLICANT/PATENT UNDER REEXAMINATION
18/479,720	10/02/2023	Zvi Tannenbaum

Title of Invention

CLUSTER COMPUTING

Electronic terminal disclaimer filed on 04/18/2024

☑ Approved

This patent is subject to a Terminal Disclaimer

Approved / Disapproved by: Electronic Terminal Disclaimer automatically approved

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A PRIOR PATENT

APPLICATION #	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET #
18479720	10/02/2023	Zvi Tannenbaum	ZTANN.002P1C9

Title of Invention

CLUSTER COMPUTING

☑ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☑ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent interest
Advanced Cluster Systems, Inc.	100%
Total	100%

The owner(s) of percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending reference Application Number(s)

Application #	Filing Date

as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the reference application are commonly owned. This agreement runs with any patent granted on the

instant application and is binding upon the grantee, its successors or assigns.
In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said reference application, "as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application," in the event that any such patent granted on the pending reference application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

The owner(s) of percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

Patent #
11811582

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.
In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.



Terminal disclaimer fee under 37 CFR 1.20(d) included with Electronic Terminal Disclaimer request.

Applicant claims the following entity status:
Regular Undiscounted

I hereby declare that all statements made herein of my own knowledge are true and that all statemnts made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I certify, in accordance with 37 CFR 1.4(d)(4) that I am: An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application

Signature	Name	Registration #
/Damien Howard/	Damien Howard	70256

* Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner). Form PTO/SB/96 may be used for making this certification. See MPEP 324.

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/479,720	**04/18/2024 01:39:54 PM Z ET**	**ZTANN.002P1C9**

Title of Invention

CLUSTER COMPUTING

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	4435	FILED BY	Linda Rodriguez
PATENT CENTER #	65148205	FILING DATE	10/02/2023
CUSTOMER #	20995	FIRST NAMED INVENTOR	Zvi Tannenbaum
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Damien Howard

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
petition-request.pdf	3	Terminal Disclaimer-Filed (Electronic)	48 KB
grantLetter.pdf	1	Terminal Disclaimer-Electronic-Approved	19 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
petition-request.pdf	7C5F27587725781C0688416F1F434098DDE4B4163B5747DA908F32EF0C4FCA0161E13B2BB795C1888DBE6954A8C41974B30

	961B9BFCD0272A1A25C8F01D8CDD2
grantLetter.pdf	B624CF255C867CE28BCBC49366BBA9BC27698A8AF007EC8F75297742E675A46D4354A7A8AC3A78DCC4BC9774FF64E2F1E2A44155313F32B5BF5C3D3A5DADEC7B

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/479,720	04/18/2024 01:39:54 PM Z ET	ZTANN.002P1C9

Title of Invention

CLUSTER COMPUTING

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	4435	FILED BY	Linda Rodriguez
PATENT CENTER #	65148205	AUTHORIZED BY	Damien Howard
CUSTOMER #	20995	FILING DATE	10/02/2023
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Zvi Tannenbaum

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
DA / 111410	E20244HD40305813	Damien Howard

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
1814	STATUTORY DISCLAIMER, INCLUDING TERMINAL DISCLAIMER	170.00	1	170.00
			TOTAL AMOUNT:	$170.00

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
18/479,720	10/02/2023		1980	ZTANN.002P1C9	19	1

CONFIRMATION NO. 4435

UPDATED FILING RECEIPT

20995
Knobbe, Martens, Olson & Bear, LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

OC00000007051649

Date Mailed: 03/25/2024

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Zvi Tannenbaum, Palo Alto, CA;
Dean E. Dauger, Huntington Beach, CA;

Applicant(s)

Advanced Cluster Systems, Inc., Newport Beach, CA;

Power of Attorney: The patent practitioners associated with Customer Number 20995

Domestic Priority data as claimed by applicant

This application is a CON of 18/158,283 01/23/2023 PAT 11,811,582
which is a CON of 17/374,864 07/13/2021 PAT 11,563,621
which is a CON of 16/449,084 06/21/2019 PAT 11,128,519
and said 18/158,283 01/23/2023 is a CON of 17/374,789 07/13/2021 PAT 11,570,034
which is a CON of 16/449,084 06/21/2019 PAT 11,128,519
which is a CON of 14/181,112 02/14/2014 PAT 10,333,768
which is a CON of 13/423,063 03/16/2012 PAT 8,676,877
which is a CON of 12/040,519 02/29/2008 PAT 8,140,612
which is a CON of 11/744,461 05/04/2007 PAT 8,082,289
which claims benefit of 60/813,738 06/13/2006
and claims benefit of 60/850,908 10/11/2006

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 10/17/2023

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 18/479,720**

Projected Publication Date: 07/04/2024

Non-Publication Request: No

Early Publication Request: No
Title

CLUSTER COMPUTING

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign

patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 18/479,720

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	320
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	700
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	800
TOTAL CLAIMS (37 CFR 1.16(i))	19 minus 20 =	* 0			OR	x =	0
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1 minus 3 =	*				x =	0
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1820

APPLICATION AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/479,720	**03/19/2024 07:26:19 PM Z ET**	**ZTANN.002P1C9**

Title of Invention

CLUSTER COMPUTING

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	4435	FILED BY	Eiko Fukuda
PATENT CENTER #	64753156	AUTHORIZED BY	Jordan Cox
CUSTOMER #	20995	FILING DATE	10/02/2023
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Zvi Tannenbaum

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
CARD / 7762	**E20243IJ27116705**	**Olivia Zamora**

PRE-AUTHORIZED ACCOUNT	PRE-AUTHORIZED CATEGORY
111410	**37 CFR 1.16 (National application filing, search, and examination fees); 37 CFR 1.17 (Patent application and reexamination processing fees)**

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
1051	SURCHARGE- LATE FILING FEE, SEARCH FEE, EXAMINATION FEE, INVENTOR'S OATH OR DECLARATION, OR APPLICATION FILED WITHOUT AT LEAST ONE CLAIM OR BY REFERENCE	160.00	1	160.00
1111	UTILITY PATENT APPL. SEARCH FEE	700.00	1	700.00
1011	BASIC FILING FEE - UTILITY (PAPER FILING ALSO REQUIRES NON-ELECTRONIC FILING FEE UNDER 1.16(T))	320.00	1	320.00

1311	PATENT APPL. EXAMINATION FEE	800.00	1	800.00
1253	EXTENSION FOR RESPONSE WITHIN THIRD MONTH	1480.00	1	1480.00
			TOTAL AMOUNT:	**$3,460.00**

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/479,720	**03/19/2024 07:26:19 PM Z ET**	**ZTANN.002P1C9**

Title of Invention

CLUSTER COMPUTING

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	4435	FILED BY	Eiko Fukuda
PATENT CENTER #	64753156	FILING DATE	10/02/2023
CUSTOMER #	20995	FIRST NAMED INVENTOR	Zvi Tannenbaum
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Jordan Cox

Documents

TOTAL DOCUMENTS: 4

DOCUMENT		PAGES	DESCRIPTION	SIZE (KB)
2024-03-19 Preliminary Amendment - ZTANN.002P1C9.pdf		5	-	121 KB
2024-03-19 Preliminary Amendment - ZTANN.002P1C9-A.PE.pdf	(1-1)	1	Preliminary Amendment	78 KB
2024-03-19 Preliminary Amendment - ZTANN.002P1C9-CLM.pdf	(2-4)	3	Claims	97 KB
2024-03-19 Preliminary Amendment - ZTANN.002P1C9-REM.pdf	(5-5)	1	Applicant Arguments/Remarks Made in an Amendment	97 KB
2024-03-19 Response to Missing Parts -		1	Applicant Response to Pre-Exam Formalities Notice	79 KB

ZTANN.002P1C9.pdf

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
2024-03-19 Preliminary Amendment - ZTANN.002P1C9.pdf	EB9B918D83D9A0D6380EC7BB5FADF113D175A1F845553F2D ACC13CD6BE666AF36A4C71B62433CB0F0239F313E9D1BEDF 218C9F8948FF028D71C90D861098FBFB
2024-03-19 Preliminary Amendment - ZTANN.002P1C9-A.PE.pdf	64834633323E589E35942DA1BB4A7FE13C99352FAC338E1B0 4E91A193290CD1D56973134BD53B9AF4978BB536EB6475F33 950A536EF9703E5B58B5E07932D19E
2024-03-19 Preliminary Amendment - ZTANN.002P1C9-CLM.pdf	A07167B17F47069B16FA2BB010FC821A082B12DE32852A0779 C91C62EEA87F633CF45BDB348EBF61471F4D6A585E07681FE 2C9AFBFDE13A3D25467B9BE97356A
2024-03-19 Preliminary Amendment - ZTANN.002P1C9-REM.pdf	56E6A0379B8777771D93B0BC46348D6F63DC6FA2ED9A4FC52 6D6FDF1DD37AB591153D5499599FD9869842B903A350B01D2 E6932ED78510FCC7599C11344387B1
2024-03-19 Response to Missing Parts - ZTANN.002P1C9.pdf	1B14676FCFC9165725E78F3EEA32D9863225982E110883CA9 DE7D27D343D9CBA2E5167D0058783F4573AE6DA1BA6E9186 41FA69A79D248BEA4ADFF9F87521934

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PRELIMINARY AMENDMENT

First Inventor: Tannenbaum, Zvi	**Conf. No.:** 4435
App. No.: 18/479720	**Filed:** October 2, 2023
Examiner: Not Yet Assigned	**Art Unit:** Not Yet Assigned
Title: CLUSTER COMPUTING	

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Please enter the following amendment prior to examination of this application.

Amendments to the Claims begin on page 2.

Remarks begin on page 5.

AMENDMENTS TO THE CLAIMS

1. (Canceled)

2. (New) A computer cluster comprising:

a plurality of nodes each comprising a hardware processor and configured to access a non-transitory computer-readable medium comprising program code that, when executed, is capable of causing the hardware processor to evaluate mathematical expressions comprising matrix operations; and

a communications network interface for the nodes to communicate results of mathematical expression evaluation with each other using a peer-to-peer architecture;

wherein the plurality of nodes comprises:

a first node comprising a first hardware processor configured to access a first memory comprising first program code for a user interface and second program code configured to interpret user instructions, identify an array of data elements, and distribute calls to at least one of a plurality of other nodes for execution of matrix operations on the array of data elements; and

a second node comprising a second hardware processor, wherein the second node is configured to receive the calls from the first node, execute the matrix operations on the array of data elements, and communicate a result of the matrix operations to a third node;

wherein the third node comprises a third hardware processor, wherein the third node is configured to receive the result of the matrix operations from the second node, execute at least a mathematical expression evaluation using the received result, and communicate the result of the mathematical expression evaluation to the first node;

wherein the first node is configured to return the result of the mathematical expression evaluation to the user interface;

wherein one or more of the nodes are configured to:

accept, via the user interface or via a script, user instructions; and

after accepting the user instructions, communicate at least some of the user instructions using the communications network interface for the nodes to communicate with each other.

3. (New) The computer cluster of Claim 2, wherein the communications network interface comprises at least one of: a local bus, a local area network (LAN), a wide area network (WAN), a storage area network (SAN), a TCP/IP interface over Ethernet, or a wireless network interface.

4. (New) The computer cluster of Claim 2, wherein each of the nodes comprises one or more cluster node modules.

5. (New) The computer cluster of Claim 2, wherein each single-node kernel is stored in a non-transitory computer-readable medium and configured to accept and execute a request.

6. (New) The computer cluster of Claim 5, wherein each of the nodes comprises one or more cluster node modules, wherein each of the cluster node modules comprises instructions stored in a non-transitory computer-readable medium, and wherein the instructions, when executed by the hardware processor, cause the cluster node module to communicate with the single-node kernel and with one or more other cluster node modules.

7. (New) The computer cluster of Claim 6, wherein the one or more cluster node modules act as a cluster.

8. (New) The computer cluster of Claim 6, wherein the one or more cluster node modules communicate with one another to act as a cluster.

9. (New) The computer cluster of Claim 2, wherein the computer cluster includes the user interface.

10. (New) The computer cluster of Claim 6, wherein each cluster node module accepts instructions from the user interface and interprets one or more of the instructions.

11. (New) The computer cluster of Claim 2, wherein the program code, when executed, is further capable of causing the hardware processor to execute a cluster initialization process configured to establish communication among two or more of the nodes.

12. (New) The computer cluster of Claim 11, wherein the cluster initialization process comprises configuring access by one or more of the nodes to a computer-readable medium comprising program code for a single-node kernel.

13. (New) The computer cluster of Claim 12, wherein the cluster initialization process comprises establishing message-passing support among the nodes in the cluster.

14. (New) The computer cluster of Claim 12, wherein the cluster initialization process comprises launching cluster node modules by the cluster.

15. (New) The computer cluster of Claim 14, wherein the cluster initialization process comprises assigning a processor identification number to each of the cluster node modules.

16. (New) The computer cluster of Claim 11, wherein the cluster initialization process comprises:

launching cluster node modules by the cluster; and

after launching the cluster node modules, configuring access by one or more of the nodes to a non-transitory computer-readable medium comprising program code for a single-node kernel.

17. (New) The computer cluster of Claim 11, wherein the cluster initialization process comprises:

launching cluster node modules by the cluster;

after launching the cluster node modules, establishing communication among two or more of the nodes; and

after establishing communication among two or more of the nodes, assigning a processor identification number to each of the cluster node modules.

18. (New) The computer cluster of Claim 2, wherein one or more of the nodes are configured to communicate at least some of the user instructions.

19. (New) The computer cluster of Claim 18, wherein one or more of the nodes are configured to communicate at least some of the user instructions to one or more single-node kernels.

20. (New) The computer cluster of Claim 2, wherein one or more of the nodes are configured to accept user instructions via one or more of the nodes.

REMARKS

Applicant submits this Preliminary Amendment prior to examination. Claim 1 was previously pending in this application. Claim 1 is being canceled and new Claims 2-20 are being added herein. No new matter is added by the foregoing amendments. Applicant reserves the right to pursue subject matter of the original claims and/or previously pending versions of the claims in this application and/or in continuing applications.

No Disclaimers or Disavowals

Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: March 19, 2024

By: /Jordan M. Cox/
Jordan M. Cox
Registration No. 70,875
Registered Practitioner
(949) 760-0404

58462644

RESPONSE TO FORMALITIES NOTICE

First Inventor: Tannenbaum, Zvi	**Conf. No.:** 4435
App. No.: 18/479720	**Filed:** October 2, 2023
	Art Unit: Not Yet Assigned
Title: CLUSTER COMPUTING	

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Applicant submits the following in compliance with 37 CFR 1.53(f):

(X) Fees will be paid electronically. Any extension of time will be requested by payment of the appropriate extension fee.

(X) Preliminary Amendment

The Commissioner is hereby authorized to charge any additional fees which may be required, now or in the future, or credit any overpayment, to Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: March 19, 2024

By: /Jordan M. Cox/
Jordan M. Cox
Registration No. 70,875
Registered Practitioner
(949) 760-0404

58462599

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
18/479,720	10/02/2023		0	ZTANN.002P1C9	1	1

CONFIRMATION NO. 4435

20995
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

FILING RECEIPT

OC00000006336994

Date Mailed: 10/19/2023

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Zvi Tannenbaum, Palo Alto, CA;
Dean E. Dauger, Huntington Beach, CA;

Applicant(s)

Advanced Cluster Systems, Inc., Newport Beach, CA;

Power of Attorney: The patent practitioners associated with Customer Number 20995

Domestic Priority data as claimed by applicant

This application is a CON of 18/158,283 01/23/2023
which is a CON of 17/374,864 07/13/2021 PAT 11,563,621
which is a CON of 16/449,084 06/21/2019 PAT 11,128,519
and said 18/158,283 01/23/2023 is a CON of 17/374,789 07/13/2021 PAT 11,570,034
which is a CON of 16/449,084 06/21/2019 PAT 11,128,519
which is a CON of 14/181,112 02/14/2014 PAT 10,333,768
which is a CON of 13/423,063 03/16/2012 PAT 8,676,877
which is a CON of 12/040,519 02/29/2008 PAT 8,140,612
which is a CON of 11/744,461 05/04/2007 PAT 8,082,289
which claims benefit of 60/813,738 06/13/2006
and claims benefit of 60/850,908 10/11/2006

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 10/17/2023

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 18/479,720**

Projected Publication Date: To Be Determined - pending completion of Missing Parts.

Non-Publication Request: No

Early Publication Request: No
Title

CLUSTER COMPUTING

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign

patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 18/479,720

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	320
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	700
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	800
TOTAL CLAIMS (37 CFR 1.16(i))	1 minus 20 =	* 0			OR	x =	0
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1 minus 3 =	*				x =	0
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1820

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
18/479,720	10/02/2023	Zvi Tannenbaum	ZTANN.002P1C9

CONFIRMATION NO. 4435

20995
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

FORMALITIES LETTER

OC000000063369947

Date Mailed: 10/19/2023

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

An application number and filing date have been accorded to the above-identified nonprovisional application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee has not been received.
- The application search fee must be submitted.
- The application examination fee must be submitted.
- Surcharge as set forth in 37 CFR 1.16(f) has not been received.

  The surcharge is due for any one of:
  - late submission of the basic filing fee, search fee, or examination fee,
  - late submission of inventor's oath or declaration,
  - filing an application that does not contain at least one claim on filing, or
  - submission of an application filed by reference to a previously filed application.

SUMMARY OF FEES DUE:

The fee(s) required (including the fees noted above) are as follows. No entity status discount is in effect. If applicant is qualified for small entity status, a written assertion of small entity status must be submitted to establish small entity status. (See 37 CFR 1.27). If applicant is qualified for micro entity status, an acceptable Certification of Micro Entity Status must be submitted to establish micro entity status. (See 37 CFR 1.29 and forms PTO/SB/15A and 15B.)

- $**320** basic filing fee.
- $**160** surcharge.
- $**700** search fee.
- $**800** examination fee.
- $(**0**) previous unapplied payment amount.
- $**1980** TOTAL FEE BALANCE DUE.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be addressed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

REPLY VIA ELECTRONIC FILING

A reply may be submitted via electronic filing only by registered users of the appropriate USPTO patent electronic filing system and must include:

- A separate document having the document description, "**Applicant response to Pre-Exam Formalities Notice**"; and
- the item(s) for which a reply period is set forth above.

For more information about electronic filing, contact the Patent Electronic Business Center (EBC) 1-866-217-9197 or visit https://www.uspto.gov/ebc

NOTE: If the reply is not being submitted electronically, a copy of this notice must be included.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/hyassin/

United States Patent and Trademark Office

Under Secretary of Commerce for Intellectual Property and
Director of the United States Patent and Trademark Office

WELCOME TO THE UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)

*Congratulations on taking the first step to protect your invention. You can now advertise or mark any products covered by this application for your invention as **"Patent Pending"** for as long as this application is pending!*

We are here to help you on the rest of your journey.

New to the process? The Patent Basics page will take you from "What is a patent?" to assistance with the application process.

- **www.uspto.gov/PatentBasics**

Consider cost savings. You might qualify for small entity or micro entity status, which means a discount on most USPTO patent fees.

- **www.uspto.gov/EntityStatus**

Become a registered electronic filer (eFiler). You'll gain access to the full capabilities of Patent Center. As a registered eFiler, you can electronically view your submission, track the progress of your application, and respond to USPTO correspondence.

- **www.uspto.gov/NewPatentFilers**

Learn how to identify which of your creative ideas might be intellectual property assets and how to protect them by using the USPTO Intellectual Property (IP) Identifier.

- **ipidentifier.uspto.gov**

We also provide Pro Se Assistance, support specifically geared for **independent inventors without an attorney or agent.** Follow the link below, call us at 866-767-3848, or email **proseassistancecenter@uspto.gov**.

- **www.uspto.gov/ProSePatents**

Need help near you? We have regional offices across the country, as well as Patent and Trademark Resource Centers in libraries in nearly every state, with specialists standing by to help you at no cost.

- **www.uspto.gov/locations**
- **www.uspto.gov/ptrc**

Contact us:

- **General information:** USPTO Contact Center
  - **www.uspto.gov/help**
- **Patent Center:**
  Patent Electronic Business Center
  - **www.uspto.gov/EBC**
- **Pre or post-examination:** Application Assistance Unit
  - **www.uspto.gov/PatentAssistance**

Want to learn more?

- **Access our free services** all in one spot. Find all of our contact centers, nationwide services, events, education, and training.
  - **www.uspto.gov/FreeServices**
- **Connect with us** on Instagram, LinkedIn, Twitter, Facebook, and YouTube.
- **Hear about resources for startups, inventors, and entrepreneurs,** as well as our initiatives engaging women, the military community, and others. These programs offer helpful tips and tricks on identifying and managing your IP, finding options for funding, and expanding your network to support your business.
  - **www.uspto.gov/startups**
  - **www.uspto.gov/inventors**
  - **www.uspto.gov/initiatives**
- We hope you connect with us by subscribing to receive important notifications by email.
  - **www.uspto.gov/subscribe**

Kathi Vidal

Kathi Vidal
Under Secretary of Commerce for Intellectual Property and
Director of the United States Patent and Trademark Office

Derrick Brent
Deputy Under Secretary of Commerce for Intellectual Property and
Deputy Director of the United States Patent and Trademark Office

INFORMATION DISCLOSURE STATEMENT

First Inventor: Tannenbaum, Zvi	**Conf. No.:** 4435
App. No.: 18/479720	**Filed:** October 2, 2023
Examiner: Not Yet Assigned	**Art Unit:** Not Yet Assigned
Title: CLUSTER COMPUTING	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

References and Listing

Pursuant to 37 CFR 1.56, an Information Disclosure Statement listing references is provided herewith. References numbered 2-600 are of record in U.S. patent application No. 18/158283, filed January 23, 2023, which is relied upon for an earlier filing date under 35 USC 120. Accordingly, no references are being submitted pursuant to 37 CFR 1.98(d).

No Disclaimers

To the extent that anything in the Information Disclosure Statement or the listed references could be construed as a disclaimer of any subject matter supported by the present application, Applicant hereby rescinds and retracts such disclaimer.

Timing of Disclosure

This Information Disclosure Statement is being filed within three months of the filing date and no fee is believed to be required.

Respectfully submitted,
KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: October 3, 2023

By: /Jordan M. Cox/
Jordan M. Cox
Registration No. 70,875
Registered Practitioner
(949) 760-0404

58354254

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 1 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	1	2023/0308339 (Attorney Docket No. ZTANN.002P1C8) U.S. Application No. 18/158,283 and its entire prosecution history**	09-28-2023	Tannenbaum et al.	
	2	5,423,046	06-06-1995	Nunnelley et al.	
	3	5,881,315	03-09-1999	Cohen	
	4	5,930,768	07-27-1999	Hooban	
	5	6,006,259	11-20-1998	Adelman et al.	
	6	6,067,609	05-23-2000	Meeker et al.	
	7	6,074,427	06-13-2000	Fought et al.	
	8	6,108,699	08-22-2000	Moiin	
	9	6,195,680	02-27-2001	Goldszmidt et al.	
	10	6,202,080	03-13-2001	Lu et al.	
	11	6,546,403	04-08-2003	Carlson, Jr. et al.	
	12	6,578,068	06-10-2003	Bowman-Amuah	
	13	6,604,134	08-05-2003	Haury	
	14	6,691,216	02-10-2004	Kelly et al.	
	15	6,751,698	06-15-2004	Deneroff et al.	
	16	6,782,537	08-24-2004	Blackmore et al.	
	17	6,968,335	11-22-2005	Bayliss et al.	
	18	6,968,359	11-22-2005	Miller	
	19	7,015,915	03-21-2006	Diard	
	20	7,031,944	04-18-2006	Tanioka	
	21	7,093,004	08-15-2006	Bernardin et al.	
	22	7,136,924	11-14-2006	Dauger	
	23	7,139,882	11-21-2006	Suzuoki et al.	
	24	7,162,590	01-09-2007	Pruvost et al.	
	25	7,174,381	02-06-2007	Gulko et al.	
	26	7,177,874	02-13-2007	Jardin	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 2 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	27	7,249,357	07-24-2007	Landman et al.	
	28	7,275,123	09-25-2007	Duncan et al.	
	29	7,289,125	10-30-2007	Diard et al.	
	30	7,315,877	01-01-2008	Bhanot et al.	
	31	7,334,232	02-19-2008	Jacobs et al.	
	32	7,437,460	10-14-2008	Chidambaran et al.	
	33	7,469,309	12-23-2008	Duncan et al.	
	34	7,472,193	12-30-2008	Dauger	
	35	7,502,915	03-10-2009	Jacob et al.	
	36	7,519,652	04-14-2009	Page et al.	
	37	7,533,141	05-12-2009	Nadgir et al.	
	38	7,533,168	05-12-2009	Pabla et al.	
	39	7,533,389	05-12-2009	Verbeke et al.	
	40	7,542,981	06-02-2009	Choy et al.	
	41	7,554,949	06-30-2009	Chen	
	42	7,562,174	07-14-2009	Danilak	
	43	7,568,131	07-28-2009	Vertes	
	44	7,627,744	12-01-2009	Maher et al.	
	45	7,634,530	12-15-2009	Dean et al.	
	46	7,644,130	01-05-2010	Magro et al.	
	47	7,663,633	02-16-2010	Diamond et al.	
	48	7,694,158	04-06-2010	Melpignano et al.	
	49	7,698,390	04-13-2010	Harkness et al.	
	50	7,716,323	05-11-2010	Gole et al.	
	51	7,757,236	07-13-2010	Singh	
	52	7,788,314	08-31-2010	Holt	
	53	7,814,462	10-12-2010	Husbands et al.	
	54	7,835,022	11-16-2010	Matsumoto	
	55	7,861,060	12-28-2010	Nickolls et al.	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 3 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	56	7,937,455	05-03-2011	Saha et al.	
	57	7,996,592	08-09-2011	Kim et al.	
	58	8,074,224	12-06-2011	Nordquist et al.	
	59	8,082,289 (Attorney Docket No. ZTANN.002A) U.S. Application No. 11/744,461 and its entire prosecution history**	12-20-2011	Tannenbaum et al.	
	60	8,117,288	02-14-2012	Bhanot et al.	
	61	8,140,612 (Attorney Docket No. ZTANN.002CP1) U.S. Application No. 12/040,519 and its entire prosecution history**	03-20-2012	Tannenbaum et al.	
	62	8,321,849	11-27-2012	Nickolls et al.	
	63	8,402,080 (Attorney Docket No. ZTANN.001C1) U.S. Application No. 11/749,554 and its entire prosecution history**	03-19-2013	Tannenbaum et al.	
	64	8,402,083 (Attorney Docket No. ZTANN.002CP1C1) U.S. Application No. 12/465,519 and its entire prosecution history**	03-19-2013	Tannenbaum et al.	
	65	8,539,207	09-17-2013	LeGrand	
	66	8,601,101	12-03-2013	Singh	
	67	8,676,877 (Attorney Docket No. ZTANN.002P1C2) U.S. Application No. 13/423,063 and its entire prosecution history**	03-18-2014	Tannenbaum et al.	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 4 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	68	8,849,889 (Attorney Docket No. ZTANN.001C2) U.S. Application No. 13/846,567 and its entire prosecution history**	09-30-2014	Tannenbaum et al.	
	69	8,941,668	01-27-2015	Diamond	
	70	9,405,564	08-02-2016	Muellers et al.	
	71	10,333,768 (Attorney Docket No. ZTANN.002P1C3) U.S. Application No. 14/181,112 and its entire prosecution history**	06-25-2019	Tannenbaum et al.	
	72	11,128,519 (Attorney Docket No. ZTANN.002P1C5) U.S. Application No. 16/449,084 and its entire prosecution history**	09-21-2021	Tannenbaum et al.	
	73	11,563,621 (Attorney Docket No. ZTANN.002P1C6) U.S. Application No. 17/374,864 and its entire prosecution history**	01-24-2023	Tannenbaum et al.	
	74	11,570,034 (Attorney Docket No. ZTANN.002P1C7) U.S. Application No. 17/374,789 and its entire prosecution history**	01-31-2023	Tannenbaum et al.	
	75	2002/0013832	01-31-2002	Hubbard	
	76	2002/0049859	04-25-2002	Bruckert et al.	
	77	2003/0005068	01-02-2003	Nickel et al.	
	78	2003/0005266	01-02-2003	Akkary et al.	
	79	2003/0051062	03-13-2003	Circenis	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 5 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	80	2003/0135621	07-17-2003	Romagnoli	
	81	2003/0195931	10-16-2003	Dauger	
	82	2003/0195938	10-16-2003	Howard et al.	
	83	2004/0015968	01-22-2004	Neiman et al.	
	84	2004/0098359	05-20-2004	Bayliss et al.	
	85	2004/0098447	05-20-2004	Verbeke et al.	
	86	2004/0110209	06-10-2004	Yokota et al.	
	87	2004/0157203	08-12-2004	Dunk	
	88	2004/0195572	10-07-2004	Kato et al.	
	89	2004/0252710	12-16-2004	Jeter, Jr. et al.	
	90	2004/0254984	12-16-2004	Dinker	
	91	2005/0015460	01-20-2005	Goyle et al.	
	92	2005/0021751	01-27-2005	Block et al.	
	93	2005/0038852	02-17-2005	Howard	
	94	2005/0060237	03-17-2005	Barsness et al.	
	95	2005/0076105	04-07-2005	Keohane et al.	
	96	2005/0097300	05-05-2005	Gildea et al.	
	97	2005/0108394	05-19-2005	Braun et al.	
	98	2005/0154789	07-14-2005	Fellenstein et al.	
	99	2005/0180095	08-18-2005	Ellis	
	100	2005/0188088	08-25-2005	Fellenstein et al.	
	101	2005/0235055	10-20-2005	Davidson	
	102	2005/0251644	11-10-2005	Maher et al.	
	103	2006/0026601	02-02-2006	Solt	
	104	2006/0053216	03-09-2006	Deokar et al.	
	105	2006/0059473	03-16-2006	Moler	
	106	2006/0106931	05-18-2006	Richou	
	107	2006/0107266	05-18-2006	Martin et al.	
	108	2007/0044099	02-22-2007	Rajput	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 6 OF 34	Attorney Docket No.	ZTANN.002P1C9

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	109	2007/0073705	03-29-2007	Gray	
	110	2007/0094532	04-26-2007	Sengupta	
	111	2007/0124363	05-31-2007	Lurie et al.	
	112	2008/0250347	10-09-2008	Gray et al.	
	113	2008/0281997	11-13-2008	Archer et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document *Country Code-Number-Kind Code* Example: JP 1234567 A1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T[1]
	114	EP 1 368 948	12-10-2003	Prismedia Networks, Inc.		PCT Eq.
	115	EP 1 501 013	01-26-2005	Toshiba KK		
	116	JP 08-087473	02-04-1996	Toshiba Corp		X
	117	JP 11-126196	05-11-1999	Hitachi Ltd.		X-MT
	118	JP 11-328134	11-30-1999	Hitachi Ltd.		X-Abs
	119	JP 2001-229145	08-24-2001	Oki Systek Tokai Co Ltd.		X
	120	JP 2002-117010	04-19-2002	International Business Machine Corp.		X
	121	JP 2004-061359	02-26-2004	Ricoh Co., LTd.		X-Abs
	122	JP 2004-247405	09-02-2004	Semiconductor Energy Lab		X-MT
	123	JP 2005-063033	10-03-2005	Toshiba Corp.		X-Abs
	124	JP 2005-071333	03-17-2005	Network Appliance Inc.		X-MT
	125	WO 2004/086270	10-07-2004	ECI Telecom Ltd.		
	126	WO 2006/050404	05-11-2006	Interactive Supercomputing, Inc.		

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	127	"128-Xserve G5 CLUSTER ACHIEVES 1.21 TeraFlop", January 14, 2005, https://www.hpcwire.com/2005/01 /14/128-xserve-g5-cluster-achieves-1-21-teraflop/, pp. 2. [NVIDIA-ACS-0239003 - NVIDIA-ACS-0239004]	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 7 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	128	Advanced Cluster Systems, LLC, "Math Supercomputer-In-A-Box", 2007, pp. 1. [NVIDIA-ACS-0237306]	
	129	Affidavit of Elizabeth Rosenberg, dated September 1, 2020 in 7 pages. [NVIDIA-ACS-0163529, NVIDIA-ACS-0227196 & NVIDIA-ACS-0231075]	
	130	AGARWAL et al., "A High Performance Parallel Algorithm for 1-D FFT", Proceedings, Supercomputing '94, Washington, D.C., November 14-18, 1994, pp. 34-40 (17 TOTAL pages). [NVIDIA-ACS-0163536 & NVIDIA-ACS-0227225]	
	131	ANNARATONE et al., "The Warp Computer: Architecture, Implementation, and Performance", Dept. of Computer Science, The Robotics Institute, Carnegie Mellon University, Pittsburgh, PA, July 1987, pp. 31.	
	132	AppleSeed Development Page, April 12, 2004 https://web.archive.org/web/20050317034217/http:/exodus.physics.ucla.edu/appleseed/dev/developer.html as archived March 17, 2005, pp. 6. [NVIDIA-ACS-0165922]	
	133	BALAY et al., "PETSc Users Manual", ANL-95/11 - Revision 2.3.2, Argonne National Laboratory, September 1, 2006, pp. 184. [NVIDIA-ACS-0168513]	
	134	BARNELL et al., "Migrating Modeling and Simulation Applications on to High Performance Computers", SPIE Enabling Technologies for Simulation Science X Conference, April 18, 2006, pp. 8. [NVIDIA-ACS-0234890]	
	135	BEKKER, Scott, "HPC Edition of Windows Server 2003 on Tap for 2005", ENT News, June 23, 2004, pp. 3. [NVIDIA-ACS-0238318 - NVIDIA-ACS-0238320]	
	136	BEKKER, Scott, "Microsoft Enterprise Product Roadmap for 2005", Redmond Channel Partner, January 10, 2005, pp. 14. https://rcpmag.com/articles/2005/01/10/microsoft-enterprise-product-roadmap-for-2005.aspx [NVIDIA-ACS-0239391 - NVIDIA-ACS-0239404]	
	137	BEKKER, Scott, "Muglia Updates Windows Server Roadmap", MCP Mag, December 10, 2004, pp. 5. https://mcpmag.com/articles/2004/12/10/muglia-updates-windows-server-roadmap.aspx [NVIDIA-ACS-0239405 - NVIDIA-ACS-0239409]	
	138	BERNARDIN, Laurent, "Maple on the Intel Paragon", October 15, 1996, pp. 7. https://www.research-collection.ethz.ch/handle/20.500.11850/68829 [NVIDIA-ACS-0172328 - NVIDIA-ACS-0172334]	
	139	BÓSA et al., "Task Logging, Rescheduling and Peer Checking in Distributed Maple", RISC-Linz, Johannes Kepler University, Linz, Austria. Technical Report No. 02-10, March 18, 2002, pp. 24. [NVIDIA-ACS-0165235 & NVIDIA-ACS-0226467]	
	140	BRIDGES et al., "Users' Guide to mpich, a Portable Implementation of MPI", September 18, 1995, pp. 35. [NVIDIA-ACS-0235035]	
	141	BUCHBERGER et al., "CONCERT, A Software Architecture for Coordinating Education Sessions in Distributed Environments", RISC-Linz Technical Report 97-04, February 17, 1997, pp. 60. [NVIDIA-ACS-0169480]	
	142	BUCK et al., "Brook for GPUs", Presentation, February 10, 2003, pp. 19. [NVIDIA-ACS-0166705]	
	143	BUCK et al., "Brook for GPUs: Stream Computing on Graphics Hardware", 2004, pp. 777-786. [NVIDIA-ACS-0166724]	
	144	BUCK et al., "Brook for GPUs: Stream Computing on Graphics Hardware", Presentation, SIGGRAPH2004, 2004, pp. 36. [NVIDIA-ACS-0166734]	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 8 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	145	BUCK, Ian, "Brook: A Streaming Programming Language", October 8, 2001, pp. 12. [NVIDIA-ACS-0166693]	
	146	BUCK, Ian, "GPU Computing with NVIDIA CUDA", SIGGRAPH 2007, pp. 29. [NVIDIA-ACS-0166770 & NVIDIA-ACS-0166799]	
	147	BUCK, Ian, "From Brook to CUDA", GPU Technology Conference, 2009, pp. 30. [NVIDIA-ACS-0166955]	
	148	BUCK, Ian, "Stream Computing on Graphics Hardware", Dissertation, Stanford University, September 2006, pp. 106. [NVIDIA-ACS-0166849]	
	149	BUCK, Ian, "TESLA, GPU Computing, Past, Present, Future", Presentation, 2012, pp. 21. [NVIDIA-ACS-0166828]	
	150	BURNS et al., "LAM: An Open Cluster Environment for MPI", Ohio Supercomputer Center, Colombus, OH, 2001, pp. 8. [NVIDIA-ACS-0168697]	
	151	CARNS et al., "An Evaluation of Message Passing Implementations on Beowulf Workstations", Aerospace Conference, March 6-13, 1999, IEEE 1999, Vol. 5, pp. 41-54.	
	152	CCS Sample RIS Scripts, 2003, pp. 55. [NVIDIA-ACS-0237326 - NVIDIA-ACS-0237380]	
	153	"Chapter 4, Merrimac: The Streaming Supercomputer", 2003, pp. 155-209. [NVIDIA-ACS-0167001]	
	154	CHEN, Julian Yu-Chung, "Fast Fourier Transform with BrookGPU", April 25, 2006, pp. 16. [NVIDIA-ACS-0166985]	
	155	CHENG et al., "Fast Sorting on a Distributed-Memory Architecture", December 2004, pp. 7. [NVIDIA-ACS-0234898]	
	156	CHINCHILLA et al., "Parallel N-Body Simulation using GPUs", Technical Report TR04-032, December, 2004, pp. 8. [NVIDIA-ACS-0165482 - NVIDIA-ACS-0165489]	
	157	CHOY et al., "Parallel MATLAB:Doing it Right", Proceedings of the IEEE, Vol. 93, No. 2, February 2005, pp. 331-341 [NVIDIA-ACS-0168766]	
	158	CHOY et al., "MATLAB*P 2.0: A Unified Parallel MATLAB", MIT DSpace, Computer Science Collection, January 2003, pp. 6. [NVIDIA-ACS-0168705]	
	159	CHOY et al., "Star-P: High {Productivity Parallel Computing", June 9, 2004, pp. 2. [NVIDIA-ACS-0234905]	
	160	CHOY et al., "Star-P: High {Productivity Parallel Computing", Presentation Agenda, June 9, 2004, pp. 33. [NVIDIA-ACS-0168777]	
	161	CHOY, Long Yin, "MATLAB*P 2.0: Interactive Supercomputing Made Practical", Thesis, MIT, September 2002, pp. 67. [NVIDIA-ACS-0168810, NVIDIA-ACS-0233448 & NVIDIA-ACS-0233683]	
	162	CHOY, Long Yin, "Chapter 1", Draft, MIT, September 2002, pp. 16. [NVIDIA-ACS-0233432 - NVIDIA-ACS-0233447]	
	163	CHOY, Ron, "Parallel MATLAB: Doing it Right", Presentation, MIT, 2005, pp. 55. [NVIDIA-ACS-0168711]	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 9 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	164	CHOY, Ron, "Source Code", Project Status, Matlab*P 1.0 & Matlab*P 2.0, as archived December 13, 2002, in 1 page. https://web.archive.org/web/20021213224219fw_/http:/theory.lcs.mit.edu/~cly/download.html	
	165	CHU et al., "FFT Algorithms and their Adaptation to Parallel Processing", Linear Algebra and its Applications, Vol. 284, 1998, pp. 95-124. [NVIDIA-ACS-0163554, NVIDIA-ACS-0221165 & NVIDIA-ACS-0227333]	
	166	"Compute Cluster Job Aids", Windows Server 2003 Deployment Kit, 2003, pp. 80. [NVIDIA-ACS-0238212 - NVIDIA-ACS-0238291]	
	167	"Compute Cluster Server: Getting Started", 2006, pp. 1. [NVIDIA-ACS-0238300]	
	168	"Compute Cluster Server Glossary", December 5, 2005, pp. 6. [NVIDIA-ACS-0238292 - NVIDIA-ACS-0238297]	
	169	"Compute Cluster Server Setup Command-Line Interface Reference", June 6, 2006, pp. 2. [NVIDIA-ACS-0238298 - NVIDIA-ACS-0238299]	
	170	"Compute Cluster Server: Technical Reference", 2007, pp. 2. [NVIDIA-ACS-0238301 - NVIDIA-ACS-0238302]	
	171	COTRONIS et al., "Recent Advances in Parallel Virtual Machine and Message Passing Interface", 8th European PVM/MPI Users' Group Meeting, Santorini/Thera, Greece, September 2001, Proceedings, pp. 456, [NVIDIA-ACS-0170449 - NVIDIA-ACS-0170904]	
	172	COWNIE et al., "A Standard Interface for Debugger Access to Message Queue Information in MPI", Conference Paper, September 1999, pp. 9. [NVIDIA-ACS-0232908 - NVIDIA-ACS-0232916]	
	173	CRAMER, et al., "The Development and Integration of a Distributed 3D FFT for a Cluster of Workstations", Proceedings of the 4th Annual Liux Showcase & Conference, Atlanta, GA, October 10-14, 2000, pp. 1-9. [NVIDIA-ACS-0163589 - NVIDIA-ACS-0163597]	
	174	DALLY et al., "A Streaming Supercomputer", September 18, 2001, pp. 17. [NVIDIA-ACS-0167056]	
	175	DALLY et al., "Merrimac: Supercomputing with Streams", SC'03, November 15-21, 2003, Phoenix, AZ, pp. 8. [NVIDIA-ACS-0167073]	
	176	DAUGER, Dean, "DR's Pooch Cluster Software for MAC OS X v10.4 'Tiger'", https://www.prweb.com/releases/2005/04/prweb234831.htm, April 29, 2005, pp. 3. [NVIDIA-ACS-0239021 - NVIDIA-ACS-0239023]	
	177	DAUGER, Dean, "Pooch Application", Pooch Quick Start, Parallel Operation and Control Heuristic Application, Version 1.2.1, 2002, pp. 61. [DR_NVIDIA_000006 - DR_NVIDIA_000066]	
	178	DAUGER, Dean, "Pooch Application", Pooch Quick Start, Parallel Operation and Control Heuristic Application, Version 1.4, 2004, pp. 82. [DR_NVIDIA_000160 - DR_NVIDIA_000241]	
	179	DAUGER, Dean, "Pooch Application", Parallel Operation and Control Heuristic Application, Version 1.3.5, 2003, pp. 67. [DR_NVIDIA_000400 - DR_NVIDIA_000466]	
	180	DAUGER, Dean, "Simulation and Study of Fresnel Diffraction for Arbitrary two-dimensional Apertures", Computers in Physics, Vol. 10, No. 6, Nov/Dec 1996, pp. 15. [NVIDIA-ACS-0165941]	
	181	DAUGER, Dean, "The Launch Den Mother and Launch Puppy", Advanced Information, 2000, pp. 10. [DR_NVIDIA_000713 - DR_NVIDIA_000722] & [NVIDIA-ACS-0239381 - NVIDIA-ACS-0239390]	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 10 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	182	DAUGER, Dean, "The Launch Den Mother and Launch Puppy", Read Me, 1999, pp. 10. [DR_NVIDIA_000703 - DR_NVIDIA_000712]	
	183	DAUGER et al., "Numerically-Intensive 'Plug-and-Play' Parallel Computing", Proceedings. 2001 IEEE Cluster, pp. 8. [ACS_NVIDIA_005621 - ACS_NVIDIA_005628]	
	184	DAUGER et al., "Numerically-Intensive 'Plug-and-Play' Parallel Computing", Proceedings. 2001 IEEE Cluster, pp. 8. [ACS_NVIDIA_005654 - ACS_NVIDIA_005661]	
	185	DAUGER, Dean E., "'Plug-and-Play' Cluster Computing Brings HPC to the Mainstrem", 2007, pp. 1. [NVIDIA-ACS-0239454]	
	186	DAUGER, Dean E., "Semiclassical Modeling of Quantum-Mechanical Multiparticle Systems using Parallel Particle-In-Cell Methods", Dissertation, 2001, pp. 291. [NVIDIA-ACS-0166004]	
	187	DAUGER et al., "Clúster de Cómputo 'Enchufar y Listo'", "'Plug-and-Play' Cluster Computing", 2006, pp. 9, http://daugerresearch.com/vault/clcarPnPCluster.pdf [NVIDIA-ACS-0166502]	
	188	DAUGER et al., "'Plug-and-Play' Cluster Computing using Mac OS X", Proceedings. 2003 IEEE International Conference on Cluster Computing, December 1-4, 2003, published January 2004, pp. 6. [ACS_NVIDIA_005715 & NVIDIA-ACS-0166343]	
	189	DAUGER et al., "'Plug-and-Play' Cluster Computing: High-Performance Computing for the Mainstrem", Computing in Science & Engineering, January /February 2005, pp. 22-28. [ACS_NVIDIA_005607 & NVIDIA-ACS-0166485]	
	190	DAUGER et al., "Plug-and-Play Cluster Computing: High-Performance Computing for the Mainstream", IEEE Computing in Science and Engineering, March/April 2005, pp. 27-33. [NVIDIA-ACS-0163598 & NVIDIA-ACS-0166495]	
	191	DAUGER et al., "'Plug-and-Play' Cluster Computing: HPC Designed for the Mainstream Scientist", ICCS 2005, pp. 7. [ACS-NVIDIA-005614, NVIDIA-ACS-0170905 & NVIDIA-ACS-0166475]	
	192	DAUGER et al., "Semiclassical Modeling of Multiparticle Quantum Systems Using High-Performance Clustering and Visualization on the Macintosh", 2006, p. 1. [NVIDIA-ACS-0166510]	
	193	Dauger Research, Computing in Science & Engineering, Excerpt, March/April 2005, pp. 2. [ACS_NVIDIA_005634 - ACS_NVIDIA_005635]	
	194	Dauger Research, "Keeping America Strong Award", 2005, pp. 3. [NVIDIA-ACS-0239455 - NVIDIA-ACS-0239457]	
	195	Dauger Research, "Parallel Zoology", Dauger Research Vault, 2006, pp. 7. [NVIDIA-ACS-0237202 - NVIDIA-ACS-0237208]	
	196	Dauger Research, "Parallelization", Dauger Research Vault, 2006, pp. 3. [NVIDIA-ACS-0237209 - NVIDIA-ACS-0237211]	
	197	Dauger Research, "Parallelization - Parallel Adder", Dauger Research Vault, 2006, pp. 7. [NVIDIA-ACS-0237154 - NVIDIA-ACS-0237160]	
	198	Dauger Research, "Parallelization - Parallel Circle Pi", Dauger Research Vault, 2006, pp. 13. [NVIDIA-ACS-0237161 - NVIDIA-ACS-0237173]	
	199	Dauger Research, "Parallelization - Parallel Knock", Dauger Research Vault, 2006, pp. 4. [NVIDIA-ACS-0237174 - NVIDIA-ACS-0237177]	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 11 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	200	Dauger Research, "Parallelization - Parallel Life", Dauger Research Vault, 2006, pp. 14. [NVIDIA-ACS-0237178 - NVIDIA-ACS-0237191]	
	201	Dauger Research, "Parallelization - Parallel Pascal's Triangle", Dauger Research Vault, 2006, pp. 10. [NVIDIA-ACS-0237192 - NVIDIA-ACS-0237201]	
	202	Dauger Research, "Pooch Application: Parallel Operation and Control Heuristic Application", Dauger Research Vault, April 28, 2001, pp. 1. [NVIDIA-ACS-0239122]	
	203	Dauger Research, "Pooch Quick Start", Pooch Application, Parallel Operation and Control Heuristic Application, Version 1.3, 2002, pp. 65. [NVIDIA-ACS-0239123 - NVIDIA-ACS-0239187]	
	204	Dauger Research, "Pooch Quick Start", Pooch Application, Parallel Operation and Control Heuristic Application, Version 1.4, 2004, pp. 82. [NVIDIA-ACS-0239188 - NVIDIA-ACS-0239269]	
	205	Dauger Research, "Pooch Quick Start", Pooch Application, Parallel Operation and Control Heuristic Application, Version 1.5, 2004, pp. 98. [NVIDIA-ACS-0239270 & NVIDIA-ACS-0166377]	
	206	Dauger Research, "Plug-and-Play" Clustering, Build your cluster in minutes!, Apple HPC Seminar Series, 2002, pp. 66. [ACS_NVIDIA_001238 - ACS_NVIDIA_001303]	
	207	Dauger Research, "Pooch Selected for Omneta Supercomputer", Paris, France, Apple Expo, September 21, 2005, pp. 1. [NVIDIA-ACS-0239020]	
	208	Dauger Research, "Pooch, Build Your Personal Computing Cluster in minutes!", 2004, pp. 4. [DR_NVIDIA_000002 - DR_NVIDIA_000005]	
	209	Dauger Research, "Pooch", Supercomputer-Style Cluster Computing Support for Mathematica, 2006, pp. 4. [NVIDIA-ACS-0237307 - NVIDIA-ACS-0237310]	
	210	Dauger Research, "Supercomputing Engine for Mathematica", Advanced Cluster Systems, LLC and Dauger Research, 2006. pp. 20. [NVIDIA-ACS-0166511]	
	211	Dauger Research, "Supercomputing Engine for Mathematica", Machine Evaluation Workshop, UK, December 2008, Advanced Cluster Systems, LLC and Dauger Research, pp. 39. [NVIDIA-ACS-0166576]	
	212	Dauger Research, "The PoochMPI Toolkit", High-Performance Computing with Mathematica, Wolfram Technology Conference 2006, Champaign, IL, pp. 45. [NVIDIA-ACS-0237217 & NVIDIA-ACS-0166531]	
	213	Dauger Research, "Visualizing Message Passing with MacMPI", Dauger Research Vault, 2006, pp. 5. [NVIDIA-ACS-0237212 - NVIDIA-ACS-0237216]	
	214	Dauger Research, "What's New", SET and SET/Scilab debut at Supercomputing 2012, 2012. pp. 25. [NVIDIA-ACS-0239458 - NVIDIA-ACS-0239482]	
	215	Declaration of Henry Tufo, Ph.D., under 37 C.F.R. § 1.68 in Support of Petition for Inter Partes Review of U.S. Patent No. 8,082,289, dated September 18, 2020 in 160 pages.	
	216	Declaration of Sylvia Hall-Ellis Ph.D., for Inter Partes Review of U.S. Patent No. 8,082,289, dated September 18, 2020 in 138 pages. [NVIDIA-ACS-0163606 - NVIDIA-ACS-0163743]	
	217	Declaration of Wolfgang Schreiner, Ph.D., for Inter Partes Review of U.S. Patent No. 8,082,289, dated September 7, 2020 in 84 pages. [NVIDIA-ACS-0163744 - NVIDIA-ACS-0163827]	
	218	Declaration of Wolfgang Schreiner, Ph.D., for Inter Partes Review of U.S. Patent No. 10,333,768, dated October 1, 2020 in 85 pages. [NVIDIA-ACS-0170912 - NVIDIA-ACS-0170996]	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 12 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	219	DECYK, Viktor K., "Advanced PIC Techniques: Parallelization and Object-Oriented Programming", Proceedings of ISSS-7, March 26-31, 2005, pp. 3. [NVIDIA-ACS-0170997 & NVIDIA-ACS-0166482]	
	220	DECYK et al., "AppleSeed: A Parallel Macintosh Cluster for Numerically Intensive Computing", Abstract, 1999, pp. 1. [ACS_NVIDIA_0165956]	
	221	DECYK et al., "AppleSeed: A Parallel Macintosh Cluster for Numerically Intensive Computing", January 2001, pp. 8. [ACS_NVIDIA_005692 - ACS_NVIDIA_005699]	
	222	DECYK et al., "5. AppleSeed: A Parallel Macintosh Cluster for Scientific Computing", Journal of Plasma Fusion Research, Vol. 79, No. 8, May 2003, pp. 772-779. [NVIDIA-ACS-0166369]	
	223	DECYK et al., "AppleSeed: A Parallel Macintosh Cluster for Numerically Intensive Computing", January 2001, pp. 6. [ACS_NVIDIA_005700 - ACS_NVIDIA_005705]	
	224	DECYK et al., "AppleSeed: A Parallel Macintosh Cluster for Scientific Computing", 2003, pp. 16. [ACS_NVIDIA_005638 - ACS_NVIDIA_005653]	
	225	DECYK et al., "AppleSeed: Personal Parallel Computing, Plug and Play Parallel Processing", 2002, as archived June 12, 2005, pp. 2, https://web.archive.org/web/20050612083102/http://exodus.physics.ucla.edu:80/appleseed/appleseed.html [NVIDIA-ACS-0165931]	
	226	DECYK et al., "How to Build an AppleSeed: A Parallel Macintosh Cluster for Numerically Intensive Computing", January 2001, pp. 11. [ACS_NVIDIA_005680 - ACS_NVIDIA_005690]	
	227	DECYK et al., "How to Build an AppleSeed: A Parallel Macintosh Cluster for Numerically Intensive Computing", 2000, pp. 18. [ACS_NVIDIA_0165967]	
	228	DECYK et al., "Plasma Physics Calculations on a Parallel Macintosh Cluster", 1999, pp. 1-10. [NVIDIA-ACS-0165957]	
	229	DECYK et al., "Skeleton PIC Codes for Parallel Computers", Computer Physics Communications, 1995, Vol. 87, pp. 87-94. [NVIDIA-ACS-0165933]	
	230	DECYK et al., "Supercomputing for the Masses: A Parallel Macintosh Cluster", 2002, pp. 10-22. [NVIDIA-ACS-0171000 & NVIDIA-ACS-0166308]	
	231	DECYK et al., "Two Dimensional Particle-in-Cell Code for Simulation of Plasma", Bulletin of the American Physical Society, November 2002, Vol. 47, No. 9, p. 52 (2 pages total). NVIDIA-ACS-0166306	
	232	"Deploying and Managing Microsoft Windows Compute Cluster Server 2003", Microsoft, June 6, 2006, pp. 10. [NVIDIA-ACS-0238305 - NVIDIA-ACS-0238314]	
	233	"Distributed Maple", https://web.archive.org/web/20040216100904/http:/www.risc.uni-linz.ac.at/software/distmaple/ as archived February 16, 2004 in 1 page. [NVIDIA-ACS-0163856 & NVIDIA-ACS-0227203]	
	234	"Distributed Maple Papers", https://web.archive.org/web/20040304035455/http://www.risc.uni-linz.ac.at/software/distmaple/index_1.html as archived March 4, 2004 in 3 pages. [NVIDIA-ACS-0163857 & NVIDIA-ACS-0227204]	
	235	EDELMAN et al., "Interactive Supercomputing's Star-P Platform: Parallel MATLAB and MPI Homework Classroom Study on High Level Language Productivity", 2006, pp. 2. [NVIDIA-ACS-0239024 & NVIDIA-ACS-0234907]	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 13 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	236	EDELMAN , Alan, "SIAM Conference on Parallel Processing for Scientific Computing", San Francisco, CA, February 25-27, 2004, pp. 3. [NVIDIA-ACS-0234909]	
	237	EDELMAN et al., "The Future Fast Fourier Transform?", SIAM Journal on Scientific Computing, 1999, Vol. 20, No. 3, pp. 1094-1114. [NVIDIA-ACS-0235070]	
	238	EREZ, Mattan, "MERRIMAC – High-Performance and Highly-Efficient Scientific Computing with Streams", A Dissertation Submitted to the Department of Electrical Engineering and the Committee on Graduate Studies of Stanford University in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy, May 2007, pp. 229	
	239	EREZ et al., "MERRIMAC – Supercomputing with Streams", 2004, in 1 page. [NVIDIA-ACS-0167081]	
	240	EVERS, Joris, "Windows Server for Supercomputers Delayed", Network World, April 6, 2005, pp. 2. https://www.computerworld.com/article/2556337/windows-server-for-supercomputers-delayed.html [NVIDIA-ACS-0239410 - NVIDIA-ACS-0239411]	
	241	FAGG et al., "PVMPI: An Integration of the PVM and MPI Systems", April 12, 1996, pp. 14. [NVIDIA-ACS-0169540]	
	242	FAN et al., "GPU Cluster for High Performance Computing", SC '04: Proceedings of the 2004 ACM/IEEE Conference on Supercomputing : 6-12 November 2004, Pittsburgh, PA, USA, pp. 12. [NVIDIA-ACS-0172335 - NVIDIA-ACS-0172346]	
	243	FERRON, Jay, "Microsoft Compute Cluster Server Partner Training", Windows Compute Cluster Server 2003, 2005, pp. 161. [NVIDIA-ACS-0237381 - NVIDIA-ACS-0237541]	
	244	FRIED, Ina, "Gates Touts Microsoft's Supercomputing Move", ZD Net, November 15, 2005, pp. 3. [NVIDIA-ACS-0239412 - NVIDIA-ACS-0239414]	
	245	FRIGO et al., "FFTW User's Manual", Version 2.1.5, March 16, 2003, pp. 74. [NVIDIA-ACS-0169554, NVIDIA-ACS-0163860 & NVIDIA-ACS-0227914]	
	246	FRIGO et al., "The Fastest Fourier Transform in the West", Technical Report, MIT, September 11, 1997, pp. 20. [NVIDIA-ACS-0165490 - NVIDIA-ACS-0165509]	
	247	GEIST et al., "PVM: Parallel Virtual Machine, A Users' Guide and Tutorial for Network Parallel Computing", The MIT Press, 1994, pp. 287. [NVIDIA-ACS-0169648]	
	248	"Getting Started with Compute Cluster 2003", Chapter 2, Designing Unattended Installations, June 2006, pp. 72. https://download.microsoft.com/download/e/2/b/e2bfb017-8525-4991-bbd5-7d7081f3d228/04_CHAPTER_2_Designing_Unattended_Installations.doc [NVIDIA-ACS-0238321 - NVIDIA-ACS-0238392]	
	249	"Getting Started with Star-P Taking Your First Test-Drive", Interactive Supercomputing, Inc., 2006, pp. 32. [NVIDIA-ACS-0233516 - NVIDIA-ACS-0233547]	
	250	GILBERT et al., "High-Performance Graph Algorithms from Parallel Sparse Matrices", June 2006, pp. 4.	
	251	"gridMathematica 2: Grid Mathematica Extras", Wolfram Research, November 9, 2006, in 1 page. https://web.archive.org/web/20061109144357/http://www.wolfram.com/products/gridmathematica/extras.html [NVIDIA-ACS-0239622]	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 14 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	252	"gridMathematica 1.1: Grid Computing Gets a Speed Boost from Mathematica 5", The Mathematica Journal, Vol. 9, No. 2, August 25, 2003, in 1 page. <https://web.archive.org/web/20040618053429/https://www.mathematica-journal.com/issue/v9i2/newproducts/gridmathematica.html>	
	253	GRIGORAS et al., "Advanced Environments, Tools, and Applications for Cluster Computing", NATO Advanced Research Workshop, IWCC 2001, Mangalia, Romania, September 2001, pp. 333. [NVIDIA-ACS-0169147]	
	254	GROPP et al., "A High-Performance, Portable Implementation of the MPI Message Passing Interface Standard", Parallel Computing, Vol. 22, 1996, pp. 789-828. [NVIDIA-ACS-023509]	
	255	GROPP et al., "Installation Guide to mpich, a Portable Implementation of MPI", Argonne National Laboratory, July 1996, pp. 42. [NVIDIA-ACS-0235131]	
	256	GROPP et al., "MPICH2 Installer's Guide", Version 0.4, Mathematics and Computer Science Division, Argonne National Laboratory, September 9, 2004, pp. 21.	
	257	GROPP et al., "MPICH2 User's Guide", Version 0.4, Mathematics and Computer Science Division, Argonne National Laboratory, September 9, 2004, pp. 19.	
	258	GRUBER et al., "Choosing an Automated Installation Method", Chapter 1, Microsoft Windows Server 2003 Deployment Kit, Automating and Customizing Installations, 2003, pp. 18. [NVIDIA-ACS-0238572 - NVIDIA-ACS-0238589]	
	259	GRUBER et al., "Introduction", Microsoft Windows Server 2003 Deployment Kit, Automating and Customizing Installations, 2003, pp. 8. [NVIDIA-ACS-0238590 - NVIDIA-ACS-0238597]	
	260	HAMSCHER et al., "Evaluation of Job-Scheduling Strategies for Grid Computing", GRID 2000, 2000, pp. 191-202.	
	261	HAYNOS, Matt, "Perspectives on Grid: Grid Ccomputing -- Next-Generation Distributed Computing", IBM Developer Works, January 27, 2004 in 7 pages, http://www-106.ibm.com/developerworks/library/gr-heritage	
	262	HEAL et al., "Maple V: Learning Guide", Springer, Waterloo Maple Inc., 1996, 1998, pp. 299. [NVIDIA-ACS-0163934 & NVIDIA-ACS-0226491]	
	263	HEMSOTH, Nicole, "Startup Aims to Bring Parallel Applications to the Masses", HPC Wire, November 16, 2011, pp. 4. [NVIDIA-ACS-0165918 - NVIDIA-ACS-0165921]	
	264	HILLIS, W. Daniel, "Richard Feynman and The Connection Machine", for Physics Today, originally published 1989, http://longnow.org/essays/richard-feynman-connection-machine/, printed October 1, 2019, pp. 8.	
	265	HPC Wire, "Advanced Cluster Systems Unveils Software that Parallelizes Sequential Apps", November 1, 2011, pp. 1. [NVIDIA-ACS-0239483]	
	266	HUSBANDS, Parry, "Interactive Supercomputing", Thesis, MIT, February 1999, pp. 97. http://dspace.mit.edu/bitstream/handle/1721.1/79973/42430246-MIT.pdf;sequence=2 [NVIDIA-ACS-0233548 - NVIDIA-ACS-0233644]	
	267	HUSBANDS, Parry, "Interactive Supercomputing with MITMatlab", August 2001, pp. 10. https://math.mit.edu/~edelman/publications/interactive_supercomputing.pdf [NVIDIA-ACS-0239026 - NVIDIA-ACS-0239035]	
	268	"INSTALL", File, Distributed Maple Application Software, June 16, 2000, pp. 5. [NVIDIA-ACS-0164237 & NVIDIA-ACS-0226933]	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 15 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	269	"INSTALL", File, Distributed Maple, March 28, 2003, pp. 4. [NVIDIA-ACS-0164233 & NVIDIA-ACS-0226924]	
	270	Interactive Supercomputing, "Background", https://web.archive.org/web/20060427034450/http://www.interactivesupercomputing.com/index.php?option=com_content&task=view&id=30&Itemid=73, as archived April 27, 2006, pp. 2. [NVIDIA-ACS-0234916]	
	271	Interactive Supercomputing, "Delivering Parallel Computing Power to the Desktop", Presentation, November 2004, pp. 15. [NVIDIA-ACS-0234990]	
	272	Interactive Supercomputing, "Delivering Parallel Computing Power to the Desktop", Presentation, 2003, pp. 17. [NVIDIA-ACS-0235005]	
	273	Interactive Supercomputing, "Home", https://web.archive.org/web/20060427034450/http://www.interactivesupercomputing.com, as archived April 27, 2006, in 1 page. [NVIDIA-ACS-0234918]	
	274	Interactive Supercomputing, "Parallel Matlab Survey", https://web.archive.org/web/20061018110626/http://www.interactivesupercomputing.com/reference/ParallelMatlabsurvey.htm, as archived October 18, 2006, in 8 pages. [NVIDIA-ACS-0234925]	
	275	Interactive Supercomputing, "Products", https://web.archive.org/web/20061018104836/http://www.interactivesupercomputing.com/product.php, as archived October 18, 2006, in 3 pages. [NVIDIA-ACS-0234919]	
	276	Interactive Supercomputing, "Resources", https://web.archive.org/web/20061018105452/http://www.interactivesupercomputing.com/resources.php, as archived October 18, 2006, in 3 pages. [NVIDIA-ACS-0234922]	
	277	JAIN et al., "Data Clustering: A Review", ACM Computing Surveys, September 1999, Vol. 31, No. 3, pp. 264-323.	
	278	JOHNSON, Steven G., "FFTs, Portability, & Performance", MIT, May 4, 2004, pp. 41. [NVIDIA-ACS-0234933]	
	279	JOHNSTON, Stuart J., "Gates: Microsoft Ships Beta 2 of HPC Cluster Version of Windows", MCP Mag, November 16, 2005, pp. 2. [NVIDIA-ACS-0239415 - NVIDIA-ACS-00239416]	
	280	KAHNEY, Leander, "That's a Whole Lot of Power, Mac", Wired, January 29, 2002, pp. 9. [NVIDIA-ACS-0239372 & NVIDIA-ACS-0166321]	
	281	KAPASI et al., "The Imagine Stream Processor", Appears in the Proceedings of the 2002 International Conference on Computer Design, September 16-18, 2002, pp. 282-288. [NVIDIA-ACS-0167610]	
	282	KARONIS et al., "MPICH-G2: A Grid-Enabled Implementation of the Message Passing Interface", November 2002, pp. 22. [NVIDIA-ACS-0169949]	
	283	KEPNER et al., "MatlabMPI", January 3, 2003, pp. 12. https://arxiv.org/pdf/astro-ph/0305090.pdf [NVIDIA-ACS-0239036 - NVIDIA-ACS-0239047]	
	284	KEPNER et al., "Parallel Matlab: The Next Generation", MIT Lincoln Laboratory, Lexington, MA, August 20, 2004, pp. 2.	
	285	KHOT et al., "A Parallel Data Mining Toolbox Using MatlabMPI", August 2004, pp. 44. [NVIDIA-ACS-0239048 - NVIDIA-ACS-0239091]	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 16 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	286	KIM et al., "Introduction to Parallel Programming and pMatlab v2.0", MIT Lincoln Laboratory, Lexington, MA, 2011, pp. 29. [NVIDIA-ACS-0239092 - NVIDIA-ACS-0239120]	
	287	KOFLER, Michael, "Maple: An Introduction and Reference", Addison-Wesley, 1997, pp. 522. [NVIDIA-ACS-0164242 & NVIDIA-ACS-0227369]	
	288	KONISHI, et al., "Performance Evaluation of Parallel Computing Tool for MATLAB on PC Grid Environment," IPSJ SIG Technical Reports, August 5, 2005, Vol. 2005, No. 84, pp. 9.	X-Abs
	289	KRISHNAN et al., "Windows Compute Cluster Server and Deskside Clusters: An Overview", Microsoft WinHEC 2006, pp. 30. [NVIDIA-ACS-0239417 - NVIDIA-ACS-0239446]	
	290	LABONTE et al., "The Stream Virtual Machine", 2004, pp. 267-277. [NVIDIA-ACS-0167617]	
	291	LAI, Eric, "Microsoft Offers Beta 2 of Compute Cluster Server 2003", Computerworld, November 15, 2005, pp. 4. https://www.computerworld.com/article/2559328/microsoft-offers-beta-2-of-compute-cluster-server-2003.html [NVIDIA-ACS-0239447 - NVIDIA-ACS-0239450]	
	292	LANTZ, Eric, "Introduction to Windows 2003 Compute Cluster Edition", Datacenter Fabric Workshop Windows IB, August 22, 2005, pp. 28. [NVIDIA-ACS-0238622 - NVIDIA-ACS-0238649]	
	293	Lecture Slides, https://web.archive.org/web/2005090320572/http://beowulf.lcs.mit.edu/18.337-2004/lectslides.html, pp. 2. [NVIDIA-ACS-0234888]	
	294	LEFOHN et al., "GPGPU", Presentation, VIS 05, 2005, pp. 528. [NVIDIA-ACS-0167082]	
	295	LINDHOLM et al., "NVIDIA Tesla: A Unified Graphics and Computing Architecture", IEEE Computer Society, 2008, pp. 39-55. [NVIDIA-ACS-0167629]	
	296	MAEDER, Roman, "Mathematica: Parallel Computing Toolkit - Unleash the Power of Parallel Computing", Wolfram Research, January 2005, pp. 95. [NVIDIA-ACS-0239486 - NVIDIA-ACS-0239585]	
	297	Maple 7: Getting Started Guide, Waterloo Maple, Inc., 2001, pp. 38. [NVIDIA-ACS-0170271]	
	298	Maple 7: Learning Guide, Waterloo Maple, Inc., 2001, pp. 300. [NVIDIA-ACS-0169971]	
	299	Maplesoft, "Digital Signal Processing with Short Term Fourier Transforms", 2004, pp. 7. [NVIDIA-ACS-0170309]	
	300	MARTENS, China, "Platform Steps Up Partnership with Microsoft", InfoWorld, November 15, 2005, pp. 3. https://www.infoworld.com/article/2673914/platform-steps-up-partnership-with-microsoft.html [NVIDIA-ACS-0239451 - NVIDIA-ACS-0239453]	
	301	MATLAB*P Instructions, https://web.archive.org/web/20050904175008fw_/http://beowulf.lcs.mit.edu/18.337/matlabp.html, as archived September 4, 2005 in 2 pages.	
	302	MATSUMURA, et al. "Construction of Distributed Computing System for Large-Scale Matrices Intended or Reduction of Communication Blocks", August 5, 1998, Vol. 98, No. 18, pp. 9.	X-MT
	303	MENON et al., "MultiMATLAB: Integrating MATLAB with High-Performance Parallel Computing", 1997, pp. 18. [NVIDIA-ACS-0168877]	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 17 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	304	Microsoft, "Accelerating Scientific Discovery with Microsoft Windows Compute Cluster Server 2003", 2003, pp. 10. http://download.microsoft.com/download/8/6/1/86149563-03ec-427e-80f1-d683bd715b2b/Bio%20Team%20and%20Life%20Sciences%20Solution%20Brief.pdf [NVIDIA-ACS-0237316 - NVIDIA-ACS-0237325]	
	305	"Microsoft Aims to Enter Supercomputer Market", Reuters, November 15, 2005, pp. 364. [NVIDIA-ACS-0239623 - NVIDIA-ACS-0239986]	
	306	Microsoft, "Bill Gates Shares Microsoft's Vision for Technical Computing", November 15, 2005, pp. 5. https://news.microsoft.com/2005/11/15/bill-gates-shares-microsofts-vision-for-technical-computing/ [NVIDIA-ACS-0237311 - NVIDIA-ACS-0237315]	
	307	Microsoft, "Cluster Components and Interconnects", Microsoft Windows 2000, January 5, 2001, pp. 3. [NVIDIA-ACS-0237553 - NVIDIA-ACS-0237555]	
	308	Microsoft, "Increasing the Value of Simulation While Shrinking the Costs", Microsoft Windows Compute Cluster Server 2003 Partner Solution Brief", March 2007, pp. 6. [NVIDIA-ACS-0237556 - NVIDIA-ACS-0237561]	
	309	Microsoft, "On-Demand Supercomputing Multiplies the Possibilities", Microsoft Windows Compute Cluster Server 2003 Partner Solution Brief", April 2007, pp. 7. [NVIDIA-ACS-0237542 - NVIDIA-ACS-0237548]	
	310	Microsoft, "Microsoft Releases Windows Compute Cluster Server 2003, Bringing High-Performance Computing to the Mainstream", Microsoft.com, June 9, 2006, pp. 6. [NVIDIA-ACS-0238395 - NVIDIA-ACS-0238400]	
	311	Microsoft, "Parallel Programming Software", Microsoft.com, January 26, 2001, pp. 4. [NVIDIA-ACS-0238406 - NVIDIA-ACS-0238409]	
	312	Microsoft, "Technical Computing Tools Combined with Cluster Computing Deliver High-Performance Solutions", Microsoft Windows Compute Cluster Server 2003 Partner Solution Brief", May 2007, pp. 6. [NVIDIA-ACS-0238598 - NVIDIA-ACS-0238603]	
	313	Microsoft, "Windows Compute Cluster Server 2003", Overview, September 2005, pp. 12. [NVIDIA-ACS-0238610 - NVIDIA-ACS-0238621]	
	314	Microsoft, "Windows Server 2003 Deployment Kit, Automating and Customizing Installations", October 19, 2005, pp. 3. [NVIDIA-ACS-0238315 - NVIDIA-ACS-0238317]	
	315	"Microsoft Windows Server 2003 Deployment Kit, Automating and Customizing Installations, A Resource Kit Publication", 2003, pp. 359. [NVIDIA-ACS-0237567 - NVIDIA-ACS-0237925]	
	316	"Microsoft Windows Server 2003 Deployment Kit, Automating and Customizing Installations, A Resource Kit Publication", 2003, pp. 286. [NVIDIA-ACS-0237926 - NVIDIA-ACS-0238211]	
	317	MIRMAN, Ilya, "Going Parallel the New Way", Interactive Supercomputing, June 2006, pp. 4. [NVIDIA-ACS-0234976]	
	318	MOORE, Charles, "Apple Ends DIY Repairs, Does Mac mini Kill the Used Mac Market?, USB Drive Kit Matches Mac mini, and More, May 13, 2005, pp. 15. https://lowendmac.com/newsrev/05/0513.html [NVIDIA-ACS-0239005 - NVIDIA-ACS-0239019]	
	319	MOORE, Charles, "The AppleSeed Project: Clustered Power Macs Outperform Cray Supercompter", LowEndMac.com, April 19, 2000, pp. 3. [NVIDIA-ACS-0165985]	
	320	"MPI: A Message-Passing Interface Standard", Message Passing Interface Forum, June 12, 1995, pp. 239. [NVIDIA-ACS-0164777 & NVIDIA-ACS-0226944]	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 18 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	321	"MPI-2: Extensions to the Message-Passing Interface", https://web.archive.org/web/20050403213517/http://www.mpi-forum.org/docs/mpi-20-html/mpi2-report.html as archived April 3, 2005 in 11 pages. [NVIDIA-ACS-0235217]	
	322	MPI Demo in 4 pages. [NVIDIA-ACS-0234980]	
	323	MPICH for Microsoft Windows Download Page, https://web.archive.org/web/20050309131254/http://www-unix.mcs.anl.gov/mpi/mpich/mpich-nt/ as archived March 9, 2005 in 2 pages. [NVIDIA-ACS-0235213]	
	324	MPICH-A Portable Implementation of MPI, https://web.archive.org/web/20050318092617/http://www-unix.mcs.anl.gov/mpi/mpich/ as archived March 18, 2005 in 3 pages. [NVIDIA-ACS-0235231]	
	325	MPICH2 Home Page, https://web.archive.org/web/20050401035643/http://www-unix.mcs.anl.gov/mpi/mpich2/index.htm#docs as archived April 1, 2005 in 2 pages. [NVIDIA-ACS-0235228]	
	326	MPICH2 License, https://web.archive.org/web/20050312051250/http://www-unix.mcs.anl.gov/mpi/mpich2/license.htm as archived March 12, 2005 in 1 page. [NVIDIA-ACS-0235230]	
	327	NAYAK, Anshuman, "Design and Characterization of MATLAB Functions on a Distributed and Heterogeneous System", Center for Parallel and Distributed Computing, Technical Report No. CPDC-TR-9912-021, December 1999, pp. 98. [NVIDIA-ACS-0234790 - NVIDIA-ACS-0234887*]	
	328	NVIDIA, "NVIDIA CUDA Compute Unified Device Architecture", Programming Guide, Version 1.0, June 23, 2007, pp. 119. [NVIDIA-ACS-0167649]	
	329	"Omneta Technology: Pooch", Omneta PLC, October 30, 2005, pp. 1. [NVIDIA-ACS-0239121]	
	330	PAU et al., "Distributed Mathematica - User and Reference Manual", July 5, 2000, pp. 18. [NVIDIA-ACS-0165127, NVIDIA-ACS-0227207 & NVIDIA-ACS-0237136]	
	331	Partial MPI Library based on Sockets in Macintosh OS X, using TCP/IP Protocol, https://web.archive.org/web/20051225215129/http:/exodus.physics.ucla.edu/appleseed/dev/MacMPI_S.c, as archived December 25, 2005, pp. 1. [NVIDIA-ACS-0165930]	
	332	Partial MPI Library based on the program-to-Program Communications ToolBox in the Macintosh OS, November 8, 2000, pp. 65. [NVIDIA-ACS-0172347 - NVIDIA-ACS-0172411]	
	333	PCI Express®, Base Specification, Revision 1.1, March 28, 2005, pp. 508. [NVISIA-ACS-0167768]	
	334	PELIKÁN, Josef, "Interconnect Efficiency of Tyan PSC T-630 with Microsoft Compute Cluster Server 2003", pp. 1-5. [NVIDIA-ACS-0237562 - NVIDIA-ACS-0237566]	
	335	PETCU, Dana, "Working with Multiple Maple Kernels Connected by Distributed Maple or PVMaple", 2001, pp. 11. [NVIDIA-ACS-0170367]	
	336	PETCU et al., "A User-Level Interface for Clustering Mathematical Software Kernels", IWCC 2001: Advanced Environments, Tools, and Applications for Cluster Computing, Vol. 2326, pp 172–178. [NVIDIA-ACS-0170316]	
	337	PETCU et al., "Design and Implementation of a Grid Extension for Maple", Scientific Programming, Vol. 13, 2005, pp. 14. [NVIDIA-ACS-0169935]	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 19 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	338	PETCU et al., "Extending Maple to the Grid: Design and Implementation", Third International Symposium on Parallel and Distributed Computing/Third International Workshop on Algorithms, Models and Tools for Parallel Computing on Heterogeneous Networks, 2004, pp. 209-216. [NVIDIA-ACS-0170323]	
	339	PETCU et al., "Pavis: A Parallel Virtual Environment for Solving Large Mathematical Problems", World Scientific, 2003, pp. 8. [NVIDIA-ACS-0170331]	
	340	PETCU et al., "PVMaple: A Distributed Approach to Cooperative Work of Maple Processes", Lecture Notes in Computer Science, August 2000, Vol. 1908, pp. 8. [NVIDIA-ACS-0170339]	
	341	PETCU, Dana, "Solving Initial Value Problems with Parallel Maple Processes", European Conference on Parallel Processing August 28, 2001, pp. 926-934. [NVIDIA-ACS-0170347]	
	342	PETCU et al., "Survey of Symbolic Computations on the Grid", SETIT 2005, 3rd International Conference, March 2005, pp. 11. [NVIDIA-ACS-0170356]	
	343	"Pingpong MPI Benchmark - SEM vs 'grid'", Dauger Research, Inc., January 2009, 1 page, http://daugerresearch.com/pooch/mathmatica/	
	344	"QuickSIlver Software Architecture", Software, Data Sheet, November 2005, pp. 4. [NVIDIA-ACS-0238410 - NVIDIA-ACS-0238413]	
	345	QUINN, Michael J., "Parallel Programming in C with MPI and OpenMP", McGraw Hill, 2003, pp. 516. [NVIDIA-ACS-0235234]	
	346	"README File", Distributed Maple Application Software, July 26, 2001, pp. 3. [NVIDIA-ACS-0165145 & NVIDIA-ACS-0226938]	
	347	"README File", Distributed Maple 1.1.15, March 28, 2003, pp. 5. [NVIDIA-ACS-0165148 & NVIDIA-ACS-0226928]	
	348	Reference Manual, TRANSPUTER, Inmos, IMS, January 1987, pp. 162.	
	349	"Running Star-P on Beowulf", 2005, pp. 5. http://courses.csail.mit.edu/18.337/2005/QuickStartGuide.pdf [NVIDIA-ACS-0234985]	
	350	SAMEH, Ahmed, "The Schlumberger High Performance Cluster at AUC", Proceedings of the 13th International Conference on Artificial Intelligence Applications, Cairo, February 4-6, 2005, pp. 9. [NVIDIA-ACS-0170378]	
	351	SC 05, Seattle, WA, 2005, Press Releases, "Microsoft Chairman and Chief Software Architect Bill Gates to Deliver Keynote at SC|05 Conference", July 25, 2005, pp. 2. [NVIDIA-ACS-0239987 - NVIDIA-ACS-0239988]	
	352	SC 05, Seattle, WA, 2005, Technical Papers, November 12-18, 2005, pp. 5. [NVIDIA-ACS-0239989 - NVIDIA-ACS-0239993]	
	353	SC 05, Seattle, WA, 2005, Tutorials, November 12-18, 2005, pp. 3. [NVIDIA-ACS-0239994 - NVIDIA-ACS-0239996]	
	354	SC 09, Portland, OR, 2009, Conference Program, November 14-20, 2009, pp. 158. [NVIDIA-ACS-0238414 - NVIDIA-ACS-0238571]	
	355	SCHREINER et al., "Distributed Maple: Lessons Learned on Parallel Computer Algebra in Distributed Environments", Presentation, 2003, pp. 47. [NVIDIA-ACS-0237089 - NVIDIA-ACS-0237135]	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 20 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	356	SCHREINER et al., "Distributed Maple: Parallel Computer Algebra in Networked Environments", Journal of Symbolic Computation, March 2003, Vol. 35, No. 3, pp. 305-347. [NVIDIA-ACS-0165190 & NVIDIA-ACS-0226385]	
	357	SCHREINER, Wolfgang, "Distributed Maple - User and Reference Manual (V 1.1.12)", Research Institute for Symbolic Computation (RISC-Linz), Johannes Kepler University, A-4040 Linz, Austria, July 6, 2001, pp. 1-37. [NVIDIA-ACS-0165153 & NVIDIA-ACS-0226430]	
	358	SCHREINER, Wolfgang, "Manager-Worker Parallelism versus Dataflow in a Distributed Computer Algebra System", Research Institute for Symbolic Computation (RISC-Linz), Johannes Kepler University, A-4040 Linz, Austria, 2001, pp. 15. [NVIDIA-ACS-0237074 - NVIDIA-ACS-0237088]	
	359	SCHREINER, Wolfgang, "Manager-Worker Parallelism versus Dataflow in Distributed Maple", Research Institute for Symbolic Computation (RISC-Linz), Johannes Kepler University, A-4040 Linz, Austria, December 13, 2000, pp. 23. [NVIDIA-ACS-0237051 - NVIDIA-ACS-0237073]	
	360	SEIDEL, Brent, "Sample Software", May 24, 2000, pp. 2. https://web.archive.org/web/20050220000225/http:/www.serv.net/~bseidel/AppleSeed/Software.html [NVIDIA-ACS-0165928 - NVIDIA-ACS-0240006]	
	361	SHAH et al., "Sparse Matrices in Matlab*P: Design and Implementation", HiPC 2004, LNCS 3296, pp. 144-155. [NVIDIA-ACS-0235022]	
	362	SHERWANI et al., "Libra: A Computational Economy-Based Job Scheduling System for Clusters", Software-Practice and Experience, 2004, Vol. 34, pp. 573-590.	
	363	SILBERSCHATZ et al., "Applied Operating System Concepts", First Edition, Joh Wiley & Sons, Inc., 2000, pp. 841. [NVIDIA-ACS-0172412 - NVIDIA-ACS-0173252]	
	364	SONNEVELD, Nick, "Star-P / MATLAB Installation Notes", January 18, 2007, pp. 8. [NVIDIA-ACS-0233675 - NVIDIA-ACS-0233682]	
	365	SONNEVELD, Nick, "Star-P Client Installation", January 18, 2007, pp. 30. [NVIDIA-ACS-0233645 - NVIDIA-ACS-0233673]	
	366	Source Code, "Berlekamp Distinct Degree Factorization", Distributed Maple Application Software from the "distsoft" directory, v. 1.1, July 26, 2001, pp. 58. [NVIDIA-ACS-0165069 & NVIDIA-ACS-0226819]	
	367	Source Code, "CASA NeighbGraph", Distributed Maple Application Software from the "distsoft" directory, v. 1.6, January 9, 2001, pp. 47. [NVIDIA-ACS-0165022 & NVIDIA-ACS-0226877]	
	368	Source Code, "Distributed Maple 1.1.16" 2003, pp. 2176. [NVIDIA-ACS-0163414 - NVIDIA-ACS-0163528]	
	369	Source Code, "Distributed Mathematica" 2000, pp. 159. [NVIDIA-ACS-0173254 - NVIDIA-ACS-0173308]	
	370	Source Code, "fftw 2.1.5" 2003, pp. 3325. [NVIDIA-ACS-0165511 - NVIDIA-ACS-0165833]	
	371	Source Code, "General Source Code" 2003, pp. 173. [NVIDIA-ACS-0233750, NVIDIA-ACS-0234468, NVIDIA-ACS-0240000, NVIDIA-ACS-0240002, NVIDIA-ACS-0240005, NVIDIA-ACS-0240008, NVIDIA-ACS-0240011, NVIDIA-ACS-0240019, NVIDIA-ACS-0240022, NVIDIA-ACS-0240024, NVIDIA-ACS-00240030, NVIDIA-ACS-0240033, NVIDIA-ACS-0240042, NVIDIA-ACS-0240044]	
	372	Source Code, "matlabpv2" 2003, pp. 4931. [NVIDIA-ACS-0233752 - NVIDIA-ACS-0234467]	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 21 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	373	Source Code, "Public CUDA Brook Code" 2003, pp. 18573. [NVIDIA-ACS-0166655 - NVIDIA-ACS-0166680]	
	374	Source Code, "Maple Interface to Java Scheduler", Distributed Maple, dist.maple5, v 1.63, March 28, 2003, pp. 28. [NVIDIA-ACS-0163828 & NVIDIA-ACS-0226791]	
	375	"Star-P® User Guide", Interactive Supercomputing, October 25, 2006, pp. 211. [NVIDIA-ACS-0168895]	
	376	SUNDERAM, et al., "The PVM Concurrent Computing System: Evolution, Experiences, and Trends. In: Parallel Computing", 1994, Vol. 20, No. 4. pp. 16. [NVIDIA-ACS-0170387]	
	377	Supercomputing 2005 - Floor Map, Level 4, Exhibit Halls, pp. 1. [NVIDIA-ACS-0239997]	
	378	Supercomputing 2005 - Exhibitor Freight Move in Schedule, Level 4, Exhibit Halls, pp. 2. [NVIDIA-ACS-0239998 - NVIDIA-ACS-0239999]	
	379	TATEBE et al., "Efficient Implementation of MPI Using Remote Memory Write," Transactions of Information Processing Society of Japan, May 1999, Vol. 40, No. 5, pp. 14.	X-Abs
	380	TEPENEU et al., "MathGridLink - A Bridge Between Mathematica and 'the Grid'", Department of Computer Science, Graduate School of Systems and Information Engineering, University of Tsukuba, 2003, pp. 4.	
	381	"The Message Passing Interface (MPI) Standard", https://web.archive.org/web/20050403085859/http://www-unix.mcs.anl.gov.mpl/ as archived April 3, 2005 in 2 pages. [NVIDIA-ACS-0235215]	
	382	"The Power of Distributed Computing in Cancer Research", Supercomputing 2005 Keynote Demonstration, 2005, pp. 2. [NVIDIA-ACS-0238402- NVIDIA-ACS-0238403]	
	383	"Topics", Cornell University, Cornell Theory Center, 2005, pp. 2. [NVIDIA-ACS-0238303 - NVIDIA-ACS-0238304]	
	384	TREFETHEN et al., "MultiMATLAB: MATLAB on Multiple Processors", June 1996, pp. 16. [NVIDIA-ACS-0169109]	
	385	"Update to Pooch Software Enhances the Cluster Experience", PRWeb, https://www.prweb.com/releases/2006/01prweb330475.htm, January 10, 2006, pp. 4. [NVIDIA-ACS-0239368 - NVIDIA-ACS-0239371]	
	386	U.S. Provisional Application No. 60/799,474, filed May 10, 2006, titled "Graphical Interface for Monitoring Status of a Concurrent Computing Process", in 45 pages.	
	387	U.S. Provisional Application No. 60/813,738, filed June 13, 2006, titled "Pooch/Mathmatica Interface", in 6 pages. [NVIDIA-ACS-0165311 - NVIDIA-ACS-0165316]	
	388	U.S. Provisional Application No. 60/850,908, filed October 11, 2006, titled "Poochmpi Toolkit for Mathematica", in 25 pages. [NVIDIA-ACS-0165317 - NVIDIA-ACS-0165341]	
	389	VOGES et al., "Computational Marketing Using an AppleSeed Cluster", January 2001, in 11 pages. [NVIDIA-ACS-0166295]	
	390	Windows in Financial Services, "Microsoft's Leadership in Distributed Enterprise Computing Builds Case for HPC", as archived November 13, 2004, pp. 2. [NVIDIA-ACS-0238404 - NVIDIA-ACS-0238405]	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 22 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	391	"Windows Server 2003 Deployment Kit: Automating and Customizing Installations", 2003, pp. 349. [NVIDIA-ACS-0238652 - NVIDIA-ACS-0238998]	
	392	WIRED, "Slideshow: That's a Whole Lot of Power, Mac", Wired.com, January 29, 2002, pp. 10. [NVIDIA-ACS-0166333]	
	393	"Wolfram gridMathematica™", <http://www.wolfram.com/products/gridmathematica/> as printed October 3, 2007 in 2 pages.	
	394	Wolfram Library Archive, "High-Performance Computing with Mathematica: The PoochMPI Toolkit", library.wolfram.com/infocenter/Conferences/6455, pp. 2. [NVIDIA-ACS-0237262 - NVIDIA-ACS-0237263] & [NVIDIA-ACS-0238393 - NVIDIA-ACS-0238394]	
	395	Wolfram Library Archive, "Microsoft Windows Compute Cluster Server 2003 Partner Solution Brief", library.wolfram.com/infocenter/TechNotes/6723, pp. 1. [NVIDIA-ACS-0238401]	
	396	Wolfram Library Archive, Search Results as printed August 14, 2021 in 3 pages. [NVIDIA-ACS-0239000 - NVIDIA-ACS-0239002]	
	397	"Wolfram Research Offers Support for Microsoft Windows Compute Cluster Server 2003", June 9, 2006, pp. 1. [NVIDIA-ACS-0238999]	
	398	WOLFRAM, Stephen, "The Mathematica Book", 5th Edition, Wolfram Research, Inc., 2003, pp. 1486.	
	399	WOLFRAM, Stephen, "The Mathematica Book", 5th Edition, Wolfram Research, Inc., 2003, pp. 1301. [NVIDIA-ACS-0235750 - NVIDIA-ACS-0237050]	
	400	Wolfram Science Conference, "NKS 2006", June 16-18, 2006, pp. 2. [NVIDIA-ACS-0239485 - NVIDIA-ACS-0239486]	
	401	Wolfram Technology Conference, "Accelerating Mathematica: Vectors for All", Presentation by Simon McIntosh-Smith, ClearSpeed Technology, October 12, 2006, pp. 27. [NVIDIA-ACS-0239586 - NVIDIA-ACS-0239612]	
	402	ZAIN et al., "Orchestrating Production Computer Algebra Components into Portable Parallel Programs", 2008, pp. 15. [NVIDIA-ACS-0170434]	
	403	DECISION Granting Institution of Inter Partes Review of U.S. Patent No. 8,082,289, in Case IPR2020-01608, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 5, 2021 in 78 pages. [NVIDIA-ACS-0223292]	
	404	DECISION Granting Institution of Inter Partes Review of U.S. Patent No. 8,140,612, in Case IPR2021-00075, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 5, 2021 in 67 pages. [NVIDIA-ACS-0231637]	
	405	DECISION Granting Institution of Inter Partes Review of U.S. Patent No. 8,676,877, in Case IPR2021-00108, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 13, 2021 in 70 pages. [NVIDIA-ACS-0232790]	
	406	DECISION Denying Institution of Inter Partes Review of U.S. Patent No. 10,333,768, in Case IPR2021-00019, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 5, 2021 in 32 pages. [NVIDIA-ACS-0225177]	
	407	DECISION Denying Institution of Inter Partes Review of U.S. Patent No. 10,333,768, in Case IPR2021-00020, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 5, 2021 in 33 pages. [NVIDIA-ACS-0228571]	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 23 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	408	Joint Motion to Terminate Under 35 U.S.C. § 317(a) of U.S. Patent No. 8,082,289, in Case IPR2020-01608, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed June 17, 2021 in 6 pages. [NVIDIA-ACS-0223385]	
	409	Joint Motion to Terminate Under 35 U.S.C. § 317(a) of U.S. Patent No. 8,140,612, in Case IPR2021-00075, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed June 17, 2021 in 6 pages. [NVIDIA-ACS-0231729]	
	410	Joint Motion to Terminate Under 35 U.S.C. § 317(a) of U.S. Patent No. 8,676,877, in Case IPR2021-00108, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed June 17, 2021 in 6 pages. [NVIDIA-ACS-0232886]	
	411	Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response of U.S. Patent No. 8,082,289, in Case IPR2020-01608, Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed November 10, 2020 in 5 pages. [NVIDIA-ACS-0222837]	
	412	Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response of U.S. Patent No.10,333,768, in Case IPR2021-00019, Patent No. 10,333,768, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed November 10, 2020 in 5 pages. [NVIDIA-ACS-0224757]	
	413	Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response of U.S. Patent No.10,333,768, in Case IPR2021-00020, Patent No. 10,333,768, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed November 10, 2020 in 5 pages. [NVIDIA-ACS-0228113]	
	414	Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response of U.S. Patent No. 8,140,612, in Case IPR2021-00075, Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed November 10, 2020 in 5 pages. [NVIDIA-ACS-0231196]	
	415	Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response of U.S. Patent No. 8,676,877, in Case IPR2021-00108, Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed November 17, 2020 in 6 pages. [NVIDIA-ACS-0232321]	
	416	Notice of Refund of U.S. Patent No. 8,082,289, Case IPR2020-01608, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed June 30, 2021 in 2 pages. [NVIDIA-ACS-0223400]	
	417	Notice of Refund of U.S. Patent No. 8,140,612, Case IPR2021-00075, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed July 12, 2021 in 2 pages. [NVIDIA-ACS-0231745]	
	418	Notice of Refund of U.S. Patent No. 8,676,877, Case IPR2021-00108, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed July 12, 2021 in 2 pages. [NVIDIA-ACS-0232906]	
	419	Notice of Refund of U.S. Patent No. 10,333,768, Case IPR2021-00019, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed May 18, 2021 in 2 pages. [NVIDIA-ACS-0225212]	
	420	Notice of Refund of U.S. Patent No. 10,333,768, Case IPR2021-00020, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as mailed May 17, 2021 in 2 pages. [NVIDIA-ACS-0228607]	
	421	ORDER Conduct of the Proceeding, IPR2020-01608 (Patent 8,082,289), IPR2021-00019 (Patent 10,333,768), IPR2021-00020 (Patent 10,333,768), IPR2021-00075 (Patent 8,140,612), IPR2021-00108 (Patent 8,676,877)1, NVIDIA Corporation v. Advanced Cluster Systems, Inc., Paper 8 as dated March 10, 2021 in 4 pages. [NVIDIA-ACS-0223288]	
	422	ORDER Conduct of the Proceeding, IPR2020-01608 (Patent 8,082,289), IPR2021-00019 (Patent 10,333,768), IPR2021-00020 (Patent 10,333,768), IPR2021-00075 (Patent 8,140,612), IPR2021-00108 (Patent 8,676,877)1, NVIDIA Corporation v. Advanced Cluster Systems, Inc., Paper 6 as dated March 10, 2021 in 4 pages. [NVIDIA-ACS-0231608]	
	423	Petition for Inter Partes Review of U.S. Patent No. 8,082,289, in Case IPR2020-01608, Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated September 18, 2020 in 97 pages. [NVIDIA-ACS-0222731]	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 24 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	424	Petition for Inter Partes Review of U.S. Patent No. 8,140,612, in Case IPR2021-00075, Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated October 16, 2020 in 87 pages. [NVIDIA-ACS-0231103]	
	425	Petition for Inter Partes Review of U.S. Patent No. 8,676,877, in Case IPR2021-00108, Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated October 23, 2020 in 93 pages. [NVIDIA-ACS-0232222]	
	426	Patent Owner Mandatory Notices in Case No. IPR2020-01608, U.S. Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed October 9, 2020 in 4 pages. [NVIDIA-ACS-0222830]	
	427	Patent Owner Mandatory Notices in Case No. IPR2021-00019, U.S. Patent No. 10,333,768, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed October 27, 2020 in 4 pages. [NVIDIA-ACS-0224753]	
	428	Patent Owner Mandatory Notices in Case No. IPR2021-00020, U.S. Patent No. 10,333,768, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed October 27, 2020 in 4 pages. [NVIDIA-ACS-0228109]	
	429	Patent Owner Mandatory Notices in Case No. IPR2021-00075, U.S. Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed November 6, 2020 in 4 pages. [NVIDIA-ACS-0228109]	
	430	Patent Owner Mandatory Notices in Case No. IPR2021-00108, U.S. Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed November 12, 2020 in 4 pages. [NVIDIA-ACS-0232317]	
	431	Patent Owner Preliminary Response in Case No. IPR2020-01608, U.S. Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed February 10, 2021 in 66 pages. [NVIDIA-ACS-0222842]	
	432	Patent Owner Preliminary Response in Case No. IPR2021-00019, U.S. Patent No. 10,333,768, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed February 10, 2021 in 66 pages. [NVIDIA-ACS-0224762]	
	433	Patent Owner Preliminary Response in Case No. IPR2021-00020, U.S. Patent No. 10,333,768, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed February 10, 2021 in 66 pages. [NVIDIA-ACS-0228118]	
	434	Patent Owner Preliminary Response in Case No. IPR2021-00075, U.S. Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed February 10, 2021 in 66 pages. [NVIDIA-ACS-0231201]	
	435	Patent Owner Preliminary Response in Case No. IPR2021-00108, U.S. Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed February 17, 2021 in 66 pages. [NVIDIA-ACS-0232327]	
	436	Patent Owner Updated Mandatory Notices in Case No. IPR2020-01608, U.S. Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed October 29, 2020 in 3 pages. [NVIDIA-ACS-0222834]	
	437	Patent Owner's Consolidated Sur-Reply in Support of its Preliminary Responses, Per March 10, 2021 Order in Cases IPR2020-01608 (Patent 8,082,289), IPR2021-00019 (Patent 10,333,768), IPR2021-00020 (Patent 10,333,768), IPR2021-00075 (Patent 8,140,612), IPR2021-00108 (Patent 8,676,877), NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed March 26, 2021 in 13 pages. [NVIDIA-ACS-0231624]	
	438	Patent Owner's Updated Exhibit List in Case No. IPR2020-01608, U.S. Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed June 17, 2021 in 5 pages. [NVIDIA-ACS-0223391]	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 25 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	439	Patent Owner's Updated Exhibit List in Case No. IPR2021-00075, U.S. Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed June 17, 2021 in 5 pages. [NVIDIA-ACS-0231735]	
	440	Patent Owner's Updated Exhibit List in Case No. IPR2021-00108, U.S. Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed June 17, 2021 in 5 pages. [NVIDIA-ACS-0232892]	
	441	Petitioner's Objections to Evidence in Case No. IPR2020-01608, U.S. Patent No. 8,082,289, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed May 19, 2021 in 4 pages. [NVIDIA-ACS-0223378]	
	442	Petitioner's Objections to Evidence in Case No. IPR2021-00075, U.S. Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed May 19, 2021 in 4 pages. [NVIDIA-ACS-0231722]	
	443	Petitioner's Objections to Evidence in Case No. IPR2021-00108, U.S. Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed May 19, 2021 in 4 pages. [NVIDIA-ACS-0232871]	
	444	Patent Owner's Objections to Admissibility of Evidence Served with Petition for Inter Partes Review in Case No. IPR2020-01608, U.S. Patent No. 8,082,287, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed May 19, 2021 in 8 pages. [NVIDIA-ACS-0223370]	
	445	Patent Owner's Objections to Admissibility of Evidence Served with Petition for Inter Partes Review in Case No. IPR2021-00075, U.S. Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed May 19, 2021 in 7 pages. [NVIDIA-ACS-0231715]	
	446	Patent Owner's Objections to Admissibility of Evidence Served with Petition for Inter Partes Review in Case No. IPR2021-00108, U.S. Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed May 27, 2021 in 8 pages. [NVIDIA-ACS-0232875]	
	447	Petitioner's Power of Attorney in Case No. IPR2021-00075, U.S. Patent No. 8,140,612, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed October 16, 2020 in 2 pages. [NVIDIA-ACS-0231190]	
	448	Petitioner's Power of Attorney in Case No. IPR2021-00108, U.S. Patent No. 8,676,877, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as filed October 23, 2020 in 2 pages. [NVIDIA-ACS-0232315]	
	449	Petitioner's Reply to Patent Owner's Preliminary Response in IPR2020-01608 (Patent 8,082,289), IPR2021-00019 (Patent 10,333,768), IPR2021-00020 (Patent 10,333,768), IPR2021-00075 (Patent 8,140,612), IPR2021-00108 (Patent 8,676,877), NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated March 16, 2021 in 12 pages. [NVIDIA-ACS-0231612]	
	450	Petitioner's Request for Refund of Fees of U.S. Patent No. 10,333,768, Case IPR2021-00019, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 13, 2021 in 3 pages. [NVIDIA-ACS-0225209]	
	451	Petitioner's Request for Refund of Fees of U.S. Patent No. 10,333,768, Case IPR2021-00020, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 13, 2021 in 3 pages. [NVIDIA-ACS-0228604]	
	452	Petitioner's Request for Refund of Post-Institution Fees of U.S. Patent No. 8,082,289, Case IPR2020-01608, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated June 30, 2021 in 4 pages. [NVIDIA-ACS-0223402]	
	453	Petitioner's Request for Refund of Post-Institution Fees of U.S. Patent No. 8,140,612, Case IPR2021-00075, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated June 30, 2021 in 5 pages. [NVIDIA-ACS-0231740]	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 26 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	454	Petitioner's Request for Refund of Post-Institution Fees of U.S. Patent No. 8,676,877, Case IPR2021-00108, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated June 30, 2021 in 5 pages. [NVIDIA-ACS-0232897]	
	455	Scheduling Order of U.S. Patent No. 8,082,289, Case IPR2020-01608 and U.S. Patent No. 8,140,612, Case IPR2021-00075, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 5, 2021 in 11 pages. [NVIDIA-ACS-0231704]	
	456	Scheduling Order of U.S. Patent No. 8,676,877, Case IPR2021-00108, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated May 13, 2021 in 11 pages. [NVIDIA-ACS-0232860]	
	457	Stipulated Partial Dismissal with Prejudice in Case 1:19-cv-02032-CFC-CJB, Advanced Cluster Systems, Inc v. NVIDIA Corporation, as filed June 14, 2021 in 3 pages. [NVIDIA-ACS-0223382, NVIDIA-ACS-0231726 & NVIDIA-ACS-0232883]	
	458	Termination Due to Settlement After Institution of Trial of U.S. Patent No. 8,082,289, Case IPR2020-01608, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated June 22, 2021 in 4 pages. [NVIDIA-ACS-0223396]	
	459	Termination Due to Settlement After Institution of Trial of U.S. Patent No. 8,676,877, Case IPR2021-00108, NVIDIA Corporation v. Advanced Cluster Systems, Inc., as dated June 30, 2021 in 4 pages. [NVIDIA-ACS-0232902]	
	460	NVIDIA Power of Attorney, October 5, 2020, pp. 2.	
	461	Ex. 2001 - Singh Declaration, February 9, 2021, pp. 42.	
	462	Ex. 2002 - Singh CV, pp. 4.	
	463	Ex. 2004 - Nexus Claim Chart - SEM - 289 Patent, pp. 20. [NVIDIA-ACS-0222970]	
	464	Ex. 2005 - Nexus Claim Chart - SET - 289 Patent, pp. 28. [NVIDIA-ACS-0222990]	
	465	Ex. 2006 - Dauger Declaration, February 10, 2021, pp. 29. [NVIDIA-ACS-0223018]	
	466	Ex. 2007 - Bhansali Declaration, February 9, 2021, pp. 5.	
	467	Ex. 2008 - Bancroft Declaration, February 9, 2021, pp. 13.	
	468	Ex. 2009 - SEM Poster, 2009, pp. 1.	
	469	Ex. 2011 - SEM Manual, pp. 20.	
	470	Ex. 2012 - SEM White Paper, 2007, pp. 20.	
	471	Ex. 2013 - SET White Paper, pp. 7.	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 27 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	472	Ex. 2014 - SET Manual, pp. 67.	
	473	Ex. 2015 - SET Presentation, December 2011, pp. 54.	
	474	Ex. 2016 - SET Datasheet, pp. 4.	
	475	Ex. 2017 - Parallel Bars the Economist, June 4, 2011, pp. 9.	
	476	Ex. 2018 - SET Presentation, HPC for the Missing Middle!, December 2011, pp. 4.	
	477	Ex. 2019 - DOE Review of Plasma Visualization Project, 2015, pp. 5.	
	478	Ex. 2020 - SET Data Sheet given to Jones, pp. 4.	
	479	Ex. 2021 - DOE Review of Expanded Validation Project, 2015, pp. 5	
	480	Ex. 2022 - DOE Review of SET Windows Implementation, 2015, pp. 5.	
	481	Ex. 2023 - SEM an Independent Report, 2008, pp. 2.	
	482	Ex. 2024 - Multicore Parallelism presentation, February 2011, pp. 2.	
	483	Ex. 2025 - DOE SET Windows Project Narrative, pp. 2.	
	484	Ex. 2026 - DOE Topics, pp. 11.	
	485	Ex. 2027 - Dauger Declaration, February 9, 2021, pp. 30.	
	486	Ex. 2028 - Nexus Claim Chart - SEM - 768 Patent, pp. 13. [NVIDIA-ACS-0237293 - NVIDIA-ACS-0237305]	
	487	Ex. 2029 - Nexus Claim Chart - SET - 768 Patent, pp. 17. [NVIDIA-ACS-0225160]	
	488	Exhibit 1002 - File History of USP 10,333,768 B2, pp. 627.	
	489	Exhibit 1002 - File History of USP 8,082,289 B2, pp. 190. [NVIDIA-ACS-0220502]	
	490	Exhibit 1005 - Declaration of Henry Tufo, October 2, 2020, pp. 132.	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 28 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	491	Exhibit 1006 - Declaration of Wolfgang Schreiner, October 1, 2020, pp. 85.	
	492	Exhibit 1007 - Declaration of Sylvia Hall-Ellis, October 5, 2020, pp. 109.	
	493	Exhibit 1019 - SUN Debuts UltraSPARC IV, October 15, 2003), pp. 2. [NVIDIA-ACS-0165259 & NVIDIA-ACS-0226941]	
	494	Exhibit 1020 - AMD to Unveil Dual-Core PC Chips (2005), May 31, 2005, pp. 1. [NVIDIA-ACS-0163553 & NVIDIA-ACS-0226943]	
	495	Ex. 2001 - Singh Declaration, February 9, 2021, pp. 42.	
	496	Ex. 2030 - Dauger Declaration, February 9, 2021, pp. 31.	
	497	Ex. 2031 - Nexus Claim Chart - SEM - 768 Patent, pp. 13. [NVIDIA-ACS-0225147]	
	498	Ex. 2031 - Nexus Claim Chart - SEM - 768 Patent, pp. 29. [NVIDIA-ACS-0228502 & NVIDIA-ACS-0237264]	
	499	Ex. 2032 - Nexus Claim Chart - SET - 768 Patent, pp. 40. [NVIDIA-ACS-0228531]	
	500	Exhibit 1105 - Declaration of Henry Tufo, October 9, 2020, pp. 147.	
	501	Exhibit 1106 - Declaration of Wolfgang Schreiner, October 1, 2020, pp. 85. [NVIDIA-ACS-0226045]	
	502	Exhibit 1107 - Declaration of Sylvia Hall-Ellis, October 9, 2020, pp. 255. [NVIDIA-ACS-0226130]	
	503	Exhibit 1134 - Maple 5 - PC Magazine (1992) [NVIDIA-ACS-0164764 & NVIDIA-ACS-0227997]	
	504	Exhibit 1135 - Maple V Looks Better with Improved Graphics - PC Magazine (July 1993) [NVIDIA-ACS-0164771 & NVIDIA-ACS-0228004]	
	505	Exhibit 1136 - NAYAK et al., "A Library based compiler to execute MATLAB Programs on a Heterogeneous Platform", pp. 6, https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.36.4659&rep=rep1&type=pdf [NVIDIA-ACS-0165016 & NVIDIA-ACS-00228010]	
	506	Ex. 2001 - Singh Declaration, February 9, 2021, pp. 41.	
	507	Ex. 2033 - Dauger Declaration, February 10, 2021, pp. 30.	
	508	Ex. 2034 - Nexus Claim Chart - SEM - 612 Patent, pp. 11. [NVIDIA-ACS-0231583]	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 29 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	509	Ex. 2035 - Nexus Claim Chart - SET - 612 Patent, pp. 14. [NVIDIA-ACS-0231594]	
	510	Exhibit 1002 - File History of USP 8,140,612 B2	
	511	Exhibit 1005 - Declaration of Henry Tufo, October 16, 2020, pp. 127.	
	512	Exhibit 1006 - Declaration of Wolfgang Schreiner, October 1, 2020, pp. 86.	
	513	Exhibit 1007 - Declaration of Sylvia Hall-Ellis, October 16, 2020, pp. 178.	
	514	Exhibit 1019 - Deitel - Operating Systems, 2004, pp. 1270 (2parts).	
	515	Exhibit 1020 - Chen et al., TH-MPI_ OS Kernel Integrated Fault Tolerant MPI (2001), pp. 75-82. [NVIDIA-ACS-0231046]	
	516	Exhibit 1026 - Jin et al., LiMIC_ Support for High-Performance MPI Intra-Node Communication on Linux, 2005, pp. 184-191. [NVIDIA-ACS-0231086]	
	517	Ex. 2001 - Singh Declaration, February 17, 2021, pp. 40.	
	518	Ex. 2036 - Dauger Declaration, February 15, 2021, pp. 30.	
	519	Ex. 2037 - Nexus Claim Chart - SEM - 877 Patent, pp. 33. [NVIDIA-ACS-0232707]	
	520	Ex. 2038 - Nexus Claim Chart - SET - 877 Patent, pp. 50. [NVIDIA-ACS-0232740]	
	521	Exhibit 1002 - File History of USP 8,676,877 B2 [NVIDIA-ACS-0231771]	
	522	Exhibit 1005 - Declaration of Henry Tufo, October 23, 2020, pp. 130.	
	523	Exhibit 1006 - Declaration of Wolfgang Schreiner, October 1, 2020, pp. 86.	
	524	Exhibit 1007 - Declaration of Sylvia Hall-Ellis, October 23, 2020, pp. 186.	
	525	Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 151 pages.	
	526	Exhibit A-1 - PVMaple System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 270 pages.	
	527	Exhibit A-2 - Distributed Maple System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 261 pages.	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 30 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	528	Exhibit A-3 - Matlab*P System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 254 pages.	
	529	Exhibit A-4 - FFTW, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 467 pages.	
	530	Exhibit A-5 - Intel Paragon Maple System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 137 pages.	
	531	Exhibit A-6 - Stony Brook Bluster, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 289 pages.	
	532	Exhibit A-7 - AppleSeed Pooch System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 160 pages.	
	533	Exhibit A-9 - PVMaple References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 270 pages.	
	534	Exhibit A-10 - Distributed Maple References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 262 pages.	
	535	Exhibit A-11 - Matlab *P References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 246 pages.	
	536	Exhibit A-12 - FFTW References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 467 pages.	
	537	Exhibit A-13 - Intel Paragon Maple References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 137 pages.	
	538	Exhibit A-14 - Stony Brook Cluster References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 289 pages.	
	539	Exhibit A-15 - AppleSeed Pooch References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 163 pages.	
	540	Exhibit A-17 - MultiMatlab System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 249 pages.	
	541	Exhibit A-18 - MultiMatlab References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 254 pages.	
	542	Exhibit A-19 - U.S. Patent No. 10,333,768 ("'768") v. Microsoft Windows Compute Cluster Server 2003 ("CCS"), as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 41 pages.	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 31 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	543	Exhibit A-20 - U.S. Patent No. 10,333,768 ("'768") v. Supercomputing Engine for Mathematica ("SEM"), as listed in Defendant NVIDIA Corporation's Supplemental Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated August 17, 2021 in 126 pages.	
	544	Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 215 pages.	
	545	Exhibit A-1 - PVMaple System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 211 pages.	
	546	Exhibit A-2 - Distributed Maple System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 171 pages.	
	547	Exhibit A-3 - Matlab*P System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 246 pages.	
	548	Exhibit A-4 - FFTW, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 467 pages.	
	549	Exhibit A-5 - Intel Paragon Maple System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 137 pages.	
	550	Exhibit A-6 - Stony Brook, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 268 pages.	
	551	Exhibit A-7 - AppleSeed Pooch System, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 127 pages.	
	552	Exhibit A-9 - PVMaple References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 211 pages.	
	553	Exhibit A-10 - Distributed Maple References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 170 pages.	
	554	Exhibit A-11 - Matlab *P References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 242 pages.	
	555	Exhibit A-12 - FFTW References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 467 pages.	
	556	Exhibit A-13 - Intel Paragon Maple References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 137 pages.	
	557	Exhibit A-14 - Stony Brook Reference, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 268 pages.	

Examiner Signature	Date Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 32 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	558	Exhibit A-15 - AppleSeed Pooch References, U.S. Patent No. 10,333,768, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 127 pages.	
	559	Exhibit B-1 - PVMaple System, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 167 pages.	
	560	Exhibit B-2 - Distributed Maple System, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 90 pages.	
	561	Exhibit B-3 - Matlab*P System, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 296 pages.	
	562	Exhibit B-4 - FFTW, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 178 pages.	
	563	Exhibit B-5 - Intel Paragon Maple System, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 128 pages.	
	564	Exhibit B-6 - Stony Brook, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 120 pages.	
	565	Exhibit B-7 - AppleSeed Pooch System, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 194 pages.	
	566	Exhibit B-9 - PVMaple References, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 167 pages.	
	567	Exhibit B-10 - Distributed Maple References, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 91 pages.	
	568	Exhibit B-11 - Matlab *P References, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 296 pages.	
	569	Exhibit B-12 - FFTW References, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 178 pages.	
	570	Exhibit B-13 - Intel Paragon Maple References, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 128 pages.	
	571	Exhibit B-14 - Stony Brook Reference, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 120 pages.	
	572	Exhibit B-15 - AppleSeed Pooch References, U.S. Patent No. 8,082,289, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 189 pages.	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 33 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	573	Exhibit C-1 - PVMaple System, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 83 pages.	
	574	Exhibit C-2 - Distributed Maple System, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 54 pages.	
	575	Exhibit C-3 - Matlab*P System, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 122 pages.	
	576	Exhibit C-4 - FFTW, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 102 pages.	
	577	Exhibit C-5 - Intel Paragon Maple System, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 43 pages.	
	578	Exhibit C-6 - Stony Brook, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 81 pages.	
	579	Exhibit C-7 - AppleSeed Pooch System, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 64 pages.	
	580	Exhibit C-9 - PVMaple References, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 83 pages.	
	581	Exhibit C-10 - Distributed Maple References, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 54 pages.	
	582	Exhibit C-11 - Matlab *P References, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 122 pages.	
	583	Exhibit C-12 - FFTW References, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 102 pages.	
	584	Exhibit C-13 - Intel Paragon Maple References, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 43 pages.	
	585	Exhibit C-14 - Stony Brook Reference, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 81 pages.	
	586	Exhibit C-15 - AppleSeed Pooch References, U.S. Patent No. 8,140,612, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 64 pages.	
	587	Exhibit D-1 - PVMaple System, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 75 pages.	

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	18/479720
	Filing Date	October 02, 2023
	First Named Inventor	Tannenbaum, Zvi
	Art Unit	Not Yet Assigned
(Multiple sheets used when necessary)	Examiner	Not Yet Assigned
SHEET 34 OF 34	Attorney Docket No.	ZTANN.002P1C9

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	588	Exhibit D-2 - Distributed Maple System, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 61 pages.	
	589	Exhibit D-3 - Matlab*P System, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 129 pages.	
	590	Exhibit D-4 - FFTW, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 155 pages.	
	591	Exhibit D-5 - Intel Paragon Maple System, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 36 pages.	
	592	Exhibit D-6 - Stony Brook, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 97 pages.	
	593	Exhibit D-7 - AppleSeed Pooch System, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 73 pages.	
	594	Exhibit D-9 - PVMaple References, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 75 pages.	
	595	Exhibit D-10 - Distributed Maple References, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 63 pages.	
	596	Exhibit D-11 - Matlab *P References, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 129 pages.	
	597	Exhibit D-12 - FFTW References, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 155 pages.	
	598	Exhibit D-13 - Intel Paragon Maple References, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 36 pages.	
	599	Exhibit D-14 - Stony Brook Reference, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 97 pages.	
	600	Exhibit D-15 - AppleSeed Pooch References, U.S. Patent No. 8,676,877, as listed in Defendant NVIDIA Corporation's Invalidity Contentions in Case No. 1:19-cv-2032-CFC, Advanced Cluster Systems, Inc., v. NVIDIA Corporation as dated October 5, 2019 in 73 pages. [Incorrectly labeled in upper right hand corner of document as Ex. D-7]	

58354222

Examiner Signature	Date Considered
***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T[1] - Place a check mark in this area when an English language Translation is attached.

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/479,720	**10/03/2023 06:28:54 PM ET**	**ZTANN.002P1C9**

Title of Invention

CLUSTER COMPUTING

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	4435	FILED BY	Eiko Fukuda
PATENT CENTER #	62922269	FILING DATE	-
CUSTOMER #	20995	FIRST NAMED INVENTOR	Zvi Tannenbaum
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Jordan Cox

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
2023-10-03 IDS Transmittal - ZTANN.002P1C9.pdf	1	Transmittal Letter	77 KB
2023-10-03 IDS List Form - ZTANN.002P1C9.pdf	34	Information Disclosure Statement (IDS) Form (SB08)	273 KB

Warning: This is not a USPTO supplied IDS fillable form. Data in the form cannot be automatically loaded to other USPTO systems.

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)

2023-10-03 IDS Transmittal - ZTANN.002P1C9.pdf	FB391467019E5C79F1D0E2C55BC53B503DBFA54F4D389D8A004512E1D0BBA3FFDA1BB496ED317FF11E0CF6D2D9FEC0B7E2DF060CD3C2D4E7D8CA15E17103411C
2023-10-03 IDS List Form - ZTANN.002P1C9.pdf	65ECD280F3AB465EF927B9997FDEECC1E65ABAF2673CB5A79FC8E13B763ED7A6554927983C84D48DA7669A34761B0BE6F7EEED47A1ACABA548B7E54352C13804

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

RESCISSION OF ANY PRIOR DISCLAIMERS AND REQUEST TO REVISIT ART

First Inventor: Tannenbaum, Zvi	**Conf. No.:** Not Yet Assigned
App. No.: Not Yet Assigned	**Filed:** Herewith
Examiner: Not Yet Assigned	**Art Unit:** Not Yet Assigned
Title: CLUSTER COMPUTING	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

The claims of the present application are different and possibly broader in scope than the claims pursued in the parent application(s). To the extent any prior amendments or characterizations of the scope of any claim or referenced art could be construed as a disclaimer of any subject matter supported by the present disclosure, Applicant hereby rescinds and retracts such disclaimer. Accordingly, the references previously considered in the parent application(s) may need to be re-visited.

Respectfully submitted,

Knobbe, Martens, Olson & Bear, LLP

Dated: October 2, 2023

By: /Jordan M. Cox/
Jordan M. Cox
Registration No. 70,875
Registered Practitioner
(949) 760-0404

58260293

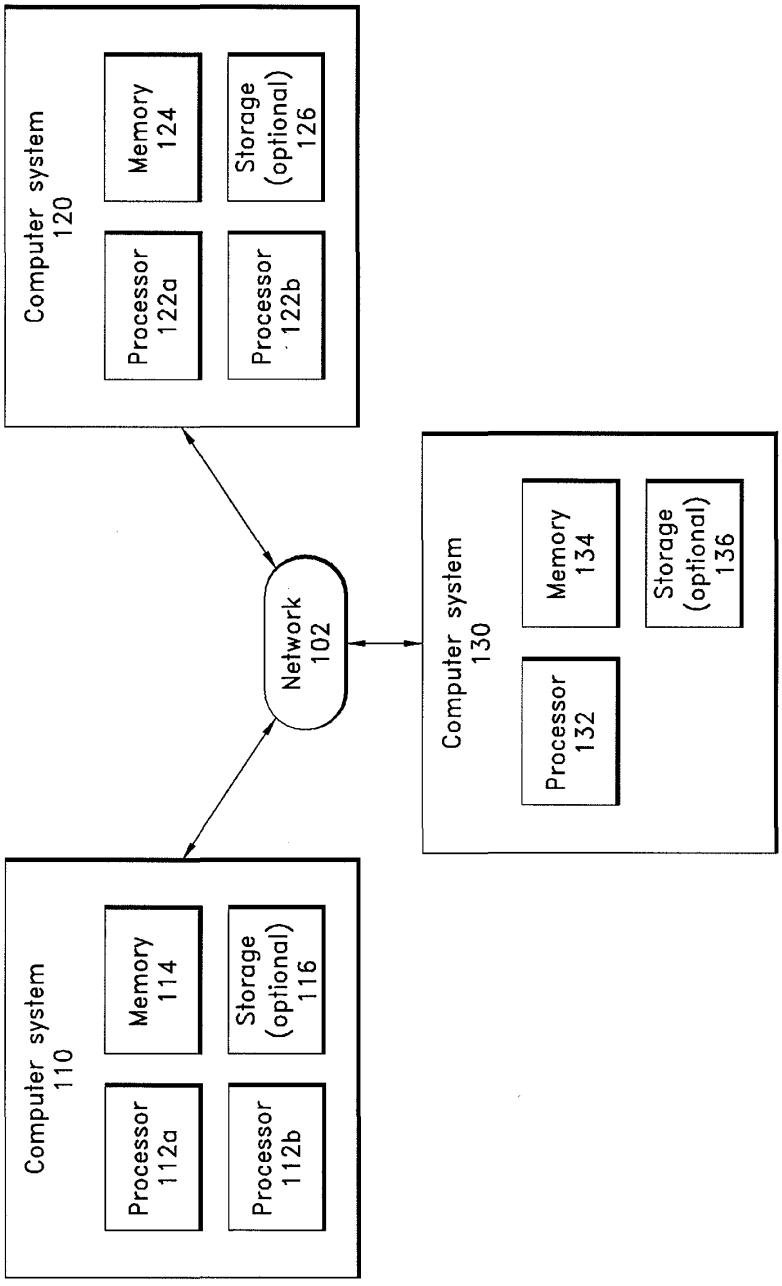

Computer system
120
Processor
122a
Processor
122b
Memory
124
Storage
(optional)
126
Network
102
Computer system
130
Processor
132
Memory
134
Storage
(optional)
136
Computer system
110
Processor
112a
Processor
112b
Memory
114
Storage
(optional)
116

FIG. 1

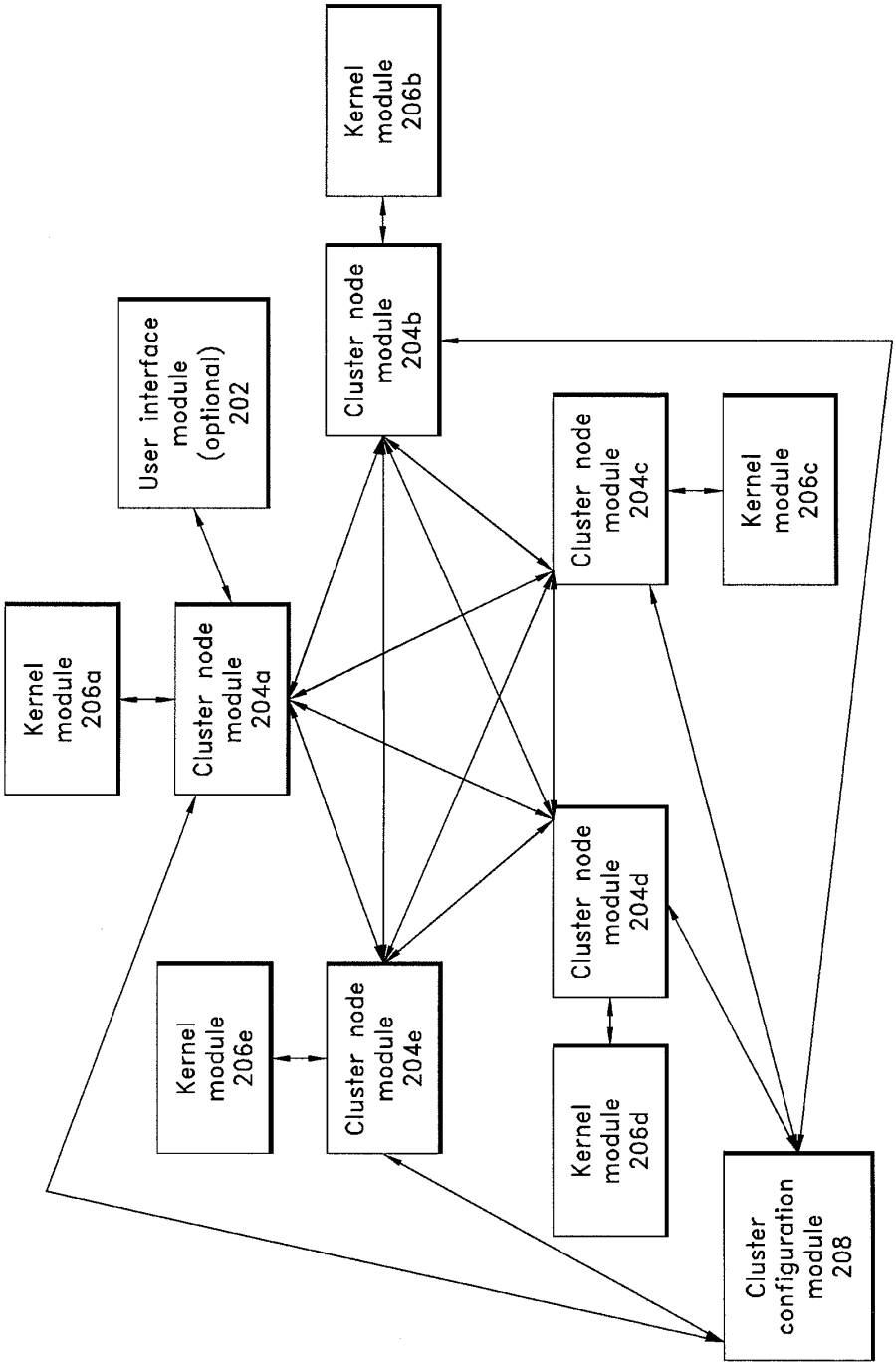

Kernel module 206b
Cluster node module 204b
User interface module (optional) 202
Cluster node module 204c
Kernel module 206c
Kernel module 206a
Cluster node module 204a
Cluster node module 204d
Kernel module 206e
Cluster node module 204e
Kernel module 206d
Cluster configuration module 208

FIG. 2

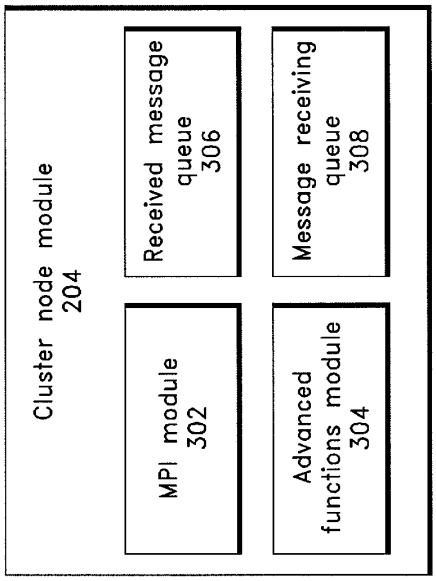

Cluster node module
204
MPI module
302
Received message
queue
306
Advanced
functions module
304
Message receiving
queue
308

FIG. 3

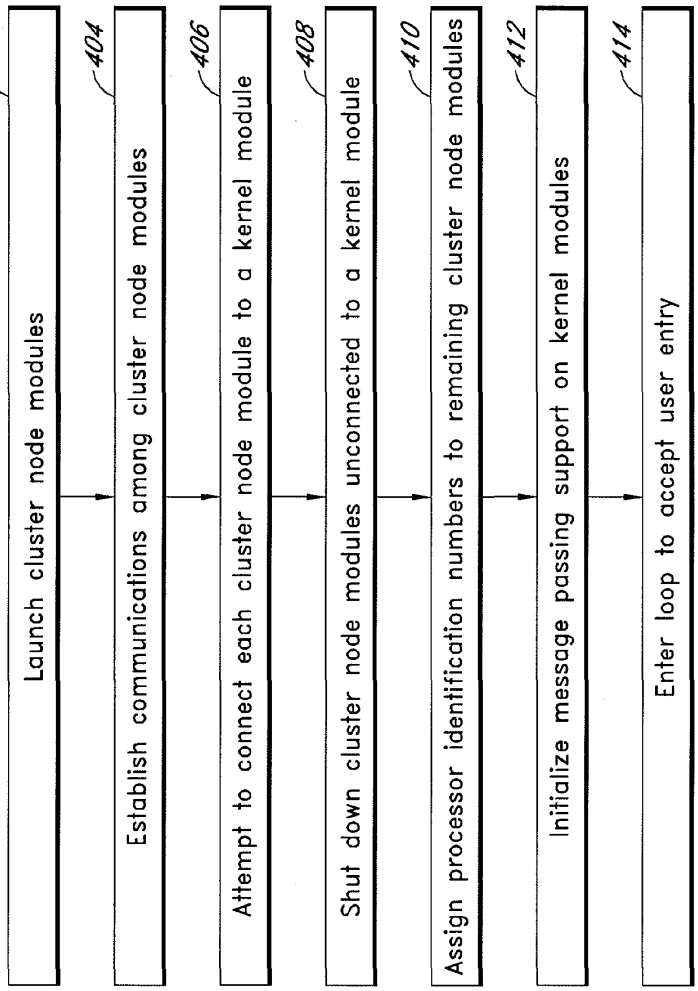

402
Launch cluster node modules
404
Establish communications among cluster node modules
406
Attempt to connect each cluster node module to a kernel module
408
Shut down cluster node modules unconnected to a kernel module
410
Assign processor identification numbers to remaining cluster node modules
412
Initialize message passing support on kernel modules
414
Enter loop to accept user entry

FIG. 4

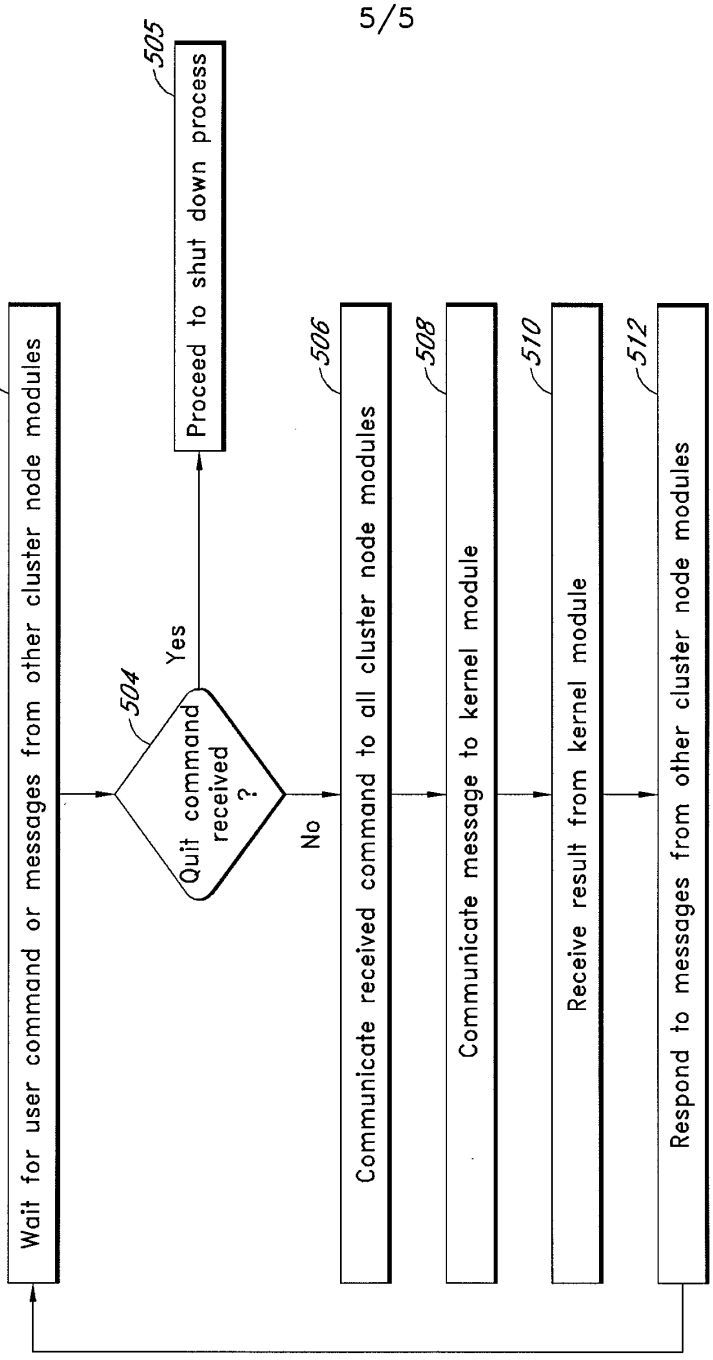

502
Wait for user command or messages from other cluster node modules
504
Quit command received ?
Yes
505
Proceed to shut down process
No
506
Communicate received command to all cluster node modules
508
Communicate message to kernel module
510
Receive result from kernel module
512
Respond to messages from other cluster node modules

FIG. 5

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	CLUSTER COMPUTING

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/181,112 filed on February 14, 2014.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Zvi Tannenbaum Date (Optional): 3/12/14

Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	CLUSTER COMPUTING

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/181,112

filed on February 14, 2014.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Dean E. Dauger Date (Optional): 3/12/14

Signature: Dean E. Dauger

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
Approved for use through 09/30/2025. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	Not Yet Assigned
Filing Date	Herewith
First Named Inventor	Tannenbaum, Zvi
Title	CLUSTER COMPUTING
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	ZTANN.002P1C9

SIGNATURE of Applicant or Patent Practitioner

Signature	/Jordan M. Cox/	Date (Optional)	9/28/2023
Name	Jordan M. Cox	Registration Number	70,875
Title (if Applicant is a juristic entity)	Registered Practitioner		
Applicant Name (if Applicant is a juristic entity)	Advanced Cluster Systems, Inc.		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ *Total of 1 forms are submitted.

A Federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with an information collection subject to the requirements of the Paperwork Reduction Act of 1995, unless the information collection has a currently valid OMB Control Number. The OMB Control Number for this information collection is 0651-0035. Public burden for this form is estimated to average 3 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden to the Chief Administrative Officer, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 or email InformationCollection@uspto.gov. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.** If filing this completed form by mail, send to: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 11/30/2014. OMB 0651-0051
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

[X] I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 20995

OR

[ ] I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

[X] The address associated with the above-mentioned Customer Number

OR

[ ] The address associated with Customer Number:

OR

Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Advanced Cluster Systems, Inc.

[ ] Inventor or Joint Inventor (title not required below)

[ ] Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

[X] Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

[ ] Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	
Name	Zvi Tannenbaum		
Title	Chief Executive Officer		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

[X] Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/479,720	**10/02/2023 07:33:04 PM ET**	**ZTANN.002P1C9**

Title of Invention

CLUSTER COMPUTING

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	4435	FILED BY	Carolina Garcia
PATENT CENTER #	62910454	FILING DATE	-
CUSTOMER #	20995	FIRST NAMED INVENTOR	Zvi Tannenbaum
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Jordan Cox

Documents

TOTAL DOCUMENTS: 6

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
2023-10-02 ADS - ZTANN.002P1C9.pdf	9	Application Data Sheet	2175 KB
2023-10-02 Rescission and Request to Revisit Art - ZTANN.002P1C9.pdf	1	Miscellaneous Incoming Letter	77 KB
2023-10-02 Drawings - ZTANN.002P1C9.pdf	5	Drawings-other than black and white line drawings	190 KB
2023-10-02 Declarations from parent - ZTANN.002P1C9.pdf	2	Oath or Declaration filed	244 KB
2023-10-02 Specification -	47	Application body structured text	67 KB

ZTANN.002P1C9-APP.TEXT.docx		document	

Warning: Bookmarks were found and have been removed. The specification paragraph numbering is not consecutive. Please review and revise if necessary. The paragraph number appears to be in the incorrect format. Please review and revise if necessary. Duplicate paragraph numbering has been detected. Please review and revise if necessary.

2023-10-02 POA - ZTANN.002P1C9.pdf	2	Power of Attorney	1316 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
2023-10-02 ADS - ZTANN.002P1C9.pdf	74C8FEA8071D85791BA13011124454237ECA07878956020AEE05303286FD6B2D44E67E20B2FCC6CDE6CC39EC93C784AE1105E2594A9B04FC8C02E5666B1E2373
2023-10-02 Rescission and Request to Revisit Art - ZTANN.002P1C9.pdf	5B5FE6587C64A0A521113A85F5B13891E775EBC8AC246A488CF6CFF9D2CC53073392A6981D38B39806417E5AC661E904CBFB5E39B0F0CEDD7E04428499BB4051
2023-10-02 Drawings - ZTANN.002P1C9.pdf	F8DA3ECB3B6CE2CA9110EA3F74EEAAE518AE31D2AF2C2F0BD913F15B53BA7803FA37755BD7341BF4BF033EED4BDA0220C73FAA74273997C437F8A5E8F6D10559
2023-10-02 Declarations from parent - ZTANN.002P1C9.pdf	85C30115DC45632F4ACFB851DD82F12B6D4F5335764E636B9955B5A461614C2B948D8DF410EFEF220E924B7BA188D1B4C30080DD87DA66E59CCCE5B2C226AC31
2023-10-02 Specification - ZTANN.002P1C9-APP.TEXT.docx	D7F107C6A032CA8E78E93380D6EABCC6FC60E4C48FE1368D6132F075D4E9A5F7A2F89F4667F6B0D58330E46604CC686CF4405CDF22DCB0832EDC9C8741473B3D
2023-10-02 POA - ZTANN.002P1C9.pdf	6710D806D5F3E5B6BC68844E5D2FCC8265B2D97546182F479A81EE6756B6C39CCF6F92535DFF64D76A90A72B0FB4A8B620

1CEC52E9DA6228B328FC004A7FA44C

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

CLUSTER COMPUTING

INCORPORATION BY REFERENCE TO PRIORITY APPLICATIONS

[0001] All applications for which a foreign or domestic priority claim is identified in the Application Data Sheet as filed with the present application are incorporated by reference under 37 CFR 1.57 and made a part of this specification.

BACKGROUND

Field

[0002] The present disclosure relates to the field of cluster computing generally and to systems and methods for adding cluster computing functionality to a computer program, in particular.

Description of Related Art

[0003] Computer clusters include a group of two or more computers, microprocessors, and/or processor cores ("nodes") that intercommunicate so that the nodes can accomplish a task as though they were a single computer. Many computer application programs are not currently designed to benefit from advantages that computer clusters can offer, even though they may be running on a group of nodes that could act as a cluster. Some computer programs can run on only a single node because, for example, they are coded to perform tasks serially or because they are designed to recognize or send instructions to only a single node.

[0004] Some application programs include an interpreter that executes instructions provided to the program by a user, a script, or another source. Such an interpreter is sometimes called a "kernel" because, for example, the interpreter can manage at least some hardware resources of a computer system and/or can manage communications between those resources and software (for example, the provided instructions, which can include a high-level programming language). Some software programs include a kernel that is designed to communicate with a single node. An example of a software package that includes a kernel that is designed to communicate with a single node is Mathematica® from Wolfram Research, Inc. ("Mathematica"). Mathematics software packages from other vendors and other types of software can also include such a kernel.

[0005] A product known as gridMathematica, also from Wolfram Research, Inc., gives Mathematica the capability to perform a form of grid computing known as "distributed computing." Grid computers include a plurality of nodes that generally do not communicate with one another as peers. Distributed computing can be optimized for workloads that consist of many independent jobs or packets of work, which do not need to share data between the jobs during the computational process. Grid computers include at least one node known as a master node that manages a plurality of slave nodes or computational nodes. In gridMathematica, each of a plurality of kernels runs on a single node. One kernel is designated the master kernel, which handles all input, output, and scheduling of the other kernels (the computational kernels or slave kernels). Computational kernels receive commands and data only from the node running the master kernel. Each computational kernel performs its work independently of the other computational kernels and intermediate results of one job do not affect other jobs in progress on other nodes.

SUMMARY

[0006] Embodiments described herein have several features, no single one of which is solely responsible for their desirable attributes. Without limiting the scope of the invention as expressed by the claims, some of the advantageous features will now be discussed briefly.

[0007] Some embodiments described herein provide techniques for conveniently adding cluster computing functionality to a computer application. In one embodiment, a user of a software package may be able to achieve higher performance and/or higher availability from the software package by enabling the software to benefit from a plurality of nodes in a cluster. One embodiment allows a user to create applications, using a high-level language such as Mathematica, that are able to run on a computer cluster having supercomputer-like performance. One embodiment provides access to such high-performance computing through a Mathematica Front End, a command line interface, one or more high-level commands, or a programming language such as C or FORTRAN.

[0008] One embodiment adapts a software module designed to run on a single node, such as, for example, the Mathematica kernel, to support cluster computing, even when the software module is not designed to provide such support. One embodiment provides parallelization for an application program, even if no access to the program's source code is

available. One embodiment adds and supports Message Passing Interface ("MPI") calls directly from within a user interface, such as, for example, the Mathematica programming environment. In one embodiment, MPI calls are added to or made available from an interactive programming environment, such as the Mathematica Front End.

[0009] One embodiment provides a computer cluster including a first processor, a second processor, and a third processor. The cluster includes at least one computer-readable medium in communication at least one of the first processor, the second processor, or the third processor. A first kernel resides in the at least one computer-readable medium and is configured to translate commands into code for execution on the first processor. A first cluster node module resides in the at least one computer-readable medium. The first cluster node module is configured to send commands to the first kernel and receives commands from a user interface. A second kernel resides in the at least one computer-readable medium. The second kernel is configured to translate commands into code for execution on the second processor. A second cluster node module resides in the at least one computer-readable medium. The second cluster node module is configured to send commands to the second kernel and communicates with the first cluster node module. A third kernel resides in the at least one computer-readable medium. The third kernel is configured to translate commands into code for execution on the third processor. A third cluster node module resides in the at least one computer-readable medium. The third cluster node module is configured to send commands to the third kernel and configured to communicate with the first cluster node module and the second cluster node module. The first cluster node module comprises a data structure in which messages originating from the second and third cluster node modules are stored.

[0010] Another embodiment provides a computer cluster that includes a plurality of nodes and a software package including a user interface and a single-node kernel for interpreting program code instructions. A cluster node module is configured to communicate with the single-node kernel and other cluster node modules. The cluster node module accepts instructions from the user interface and interprets at least some of the instructions such that several cluster node modules in communication with one another act as a cluster. The cluster node module appears as a single-node kernel to the user interface. In one embodiment, the single-node kernel includes a Mathematical kernel. In some embodiments, the user interface can include at least one of a Mathematica front end or a command line. In some embodiments,

the cluster node module includes a toolkit including library calls that implement at least a portion of MPI calls. In some embodiments, the cluster node module includes a toolkit including high-level cluster computing commands. In one embodiment, the cluster system can include a plurality of Macintosh® computers ("Macs"), Windows®-based personal computers ("PCs"), and/or Unix/Linux-based workstations.

[0011] A further embodiment provides a computer cluster including a plurality of nodes. Each node is configured to access a computer-readable medium comprising program code for a user interface and program code for a single-node kernel module configured to interpret user instructions. The cluster includes a plurality of cluster node modules. Each cluster node module is configured to communicate with a single-node kernel and with one or more other cluster node modules, to accept instructions from the user interface, and to interpret at least some of the user instructions such that the plurality of cluster node modules communicate with one another in order to act as a cluster. A communications network connects the nodes. One of the plurality of cluster node modules returns a result to the user interface.

[0012] Another embodiment provides a method of evaluating a command on a computer cluster. A command from at least one of a user interface or a script is communicated to one or more cluster node modules within the computer cluster. Each of the one or more cluster node modules communicates a message based on the command to a respective kernel module associated with the cluster node module. Each of the one or more cluster node modules receives a result from the respective kernel module associated with the cluster node module. At least one of the one or more cluster node modules responds to messages from other cluster node modules.

[0013] Another embodiment provides a computing system for executing Mathematica code on multiple nodes. The computing system includes a first node module in communication with a first Mathematica kernel executing on a first node, a second node module in communication with a second Mathematica kernel executing on a second node, and a third node module in communication with a third Mathematica kernel executing on a third node. The first node module, the second node module, and the third node module are configured to communicate with one another using a peer-to-peer architecture. In some embodiments, each of the first node module, the second node module, and third node module includes a data structure for maintaining messages originating from other node modules and a

data structure for maintaining data specifying a location to which an message is expected to be received and an identifier for a node from which the message is expected to be sent.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] A general architecture that implements the various features are described with reference to the drawings. The drawings and the associated descriptions are provided to illustrate embodiments and not to limit the scope of the disclosure. Throughout the drawings, reference numbers are re-used to indicate correspondence between referenced elements.

[0015] FIG. 1 is a block diagram of one embodiment of a computer cluster.

[0016] FIG. 2 is a block diagram showing relationships between software modules running on one embodiment of a computer cluster.

[0017] FIG. 3 is a block diagram of one embodiment of a cluster node module.

[0018] FIG. 4 is a flow chart showing one embodiment of a cluster initialization process.

[0019] FIG. 5 is a flow chart showing one embodiment of the operation of a cluster node module.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0020] For purposes of illustration, some embodiments are described herein in the context of cluster computing with Mathematica software. The present disclosure is not limited to a single software program; the systems and methods can be used with other application software such as, for example, Maple®, MATLAB®, MathCAD®, Apple Shake®, Apple® Compressor, IDL®, other applications employing an interpreter or a kernel, Microsoft Excel®, Adobe After Effects®, Adobe Premiere®, Adobe Photoshop®, Apple Final Cut Pro®, and Apple iMovie®. Some figures and/or descriptions, however, relate to embodiments of computer clusters running Mathematica. The system can include a variety of uses, including but not limited to students, educators, scientists, engineers, mathematicians, researchers, and technicians. It is also recognized that in other embodiments, the systems and methods can be implemented as a single module and/or implemented in conjunction with a variety of other modules. Moreover, the specific implementations described herein are set forth in order to illustrate, and not to limit, the disclosure.

I. Overview

[0021] The cluster computing system described herein generally includes one or more computer systems connected to one another via a communications network or networks. The communications network can include one or more of a local area network ("LAN"), a wide area network ("WAN"), an intranet, the Internet, etc. In one embodiment, a computer system comprises one or more processors such as, for example, a microprocessor that can include one or more processing cores ("nodes"). The term "node" refers to a processing unit or subunit that is capable of single-threaded execution of code. The processors can be connected to one or more memory devices such as, for example, random access memory ("RAM"), and/or one or more optional storage devices such as, for example, a hard disk. Communications among the processors and such other devices may occur, for example, via one or more local buses of a computer system or via a LAN, a WAN, a storage area network ("SAN"), and/or any other communications network capable of carrying signals among computer system components. In one embodiment, one or more software modules such as kernels, run on nodes within the interconnected computer systems. In one embodiment, the kernels are designed to run on only a single node. In one embodiment, cluster node modules communicate with the kernels and with each other in order to implement cluster computing functionality.

[0022] FIG. 1 is a block diagram of one embodiment of a computer cluster 100 wherein computer systems 110, 120, 130 communicate with one another via a communications network 102. Network 102 includes one or more of a LAN, a WAN, a wireless network, an intranet, or the Internet. In one embodiment of the computer cluster, computer system 110 includes processors 112a, 112b, memory 114, and optional storage 116. Other computer systems 120, 130 can include similar devices, which generally communicate with one another within a computer system over a local communications architecture such as a local bus (not shown). A computer system can include one or more processors, and each processor can contain one or more processor cores that are capable of single-threaded execution. Processor cores are generally independent microprocessors, but more than one can be included in a single chip package. Software code designed for single-threaded execution can generally run on one processor core at a time. For example, single-threaded software code typically does not benefit from multiple processor cores in a computer system.

[0023] FIG. 2 is a block diagram showing relationships among software modules running on one embodiment of a computer cluster 100. In the embodiment shown in FIG. 2, the kernel modules 206a-e are designed for single-threaded execution. For example, if each of the processors 112a, 112b, 122a, 122b, 132 shown in FIG. 1 includes only one processor core, two kernel modules (for example, kernel modules 206a, 206b) loaded into the memory 114 of computer system 110 could exploit at least some of the processing bandwidth of the two processors 112a, 112b. Similarly, two kernel modules 206c, 206d loaded into the memory 124 of computer system 120 could exploit at least some of the processing bandwidth of the two processors 122a, 122b. Likewise, the bandwidth of processor 132 of computer system 130 could be utilized by a single instance of a cluster node module 204e loaded into the computer system's memory 134.

[0024] In the embodiment shown in FIG. 2, each of the kernel modules 206a-e is in communication with a single cluster node module 204a-e, respectively. For example, the kernel module 206a is in communication with the cluster node module 204a, the kernel module 206b is in communication with the cluster node module 206b, and so forth. In one embodiment, one instance of a cluster node module 204a-e is loaded into a computer system's memory 114, 124, 134 for every instance of a kernel module 206a-e running on the system. As shown in FIG. 2, each of the cluster node modules 204a-e is in communication with each of the other cluster node modules 204a-e. For example, one cluster node module 204a is in communication with all of the other cluster node modules 204b-e. A cluster node module 204a may communicate with another cluster node module 204b via a local bus (not shown) when, for example, both cluster node modules 204a-b execute on processors 112a, 112b within the same computer system 110. A cluster node module 204a may also communicate with another cluster node module 204c over a communications network 102 when, for example, the cluster node modules 204a, c execute on processors 112a, 122a within different computer systems 110, 120.

[0025] As shown in FIG. 2, an optional user interface module 202 such as, for example, a Mathematica front end and/or a command line interface, can connect to a cluster node module 204a. The user interface module can run on the same computer system 110 and/or the same microprocessor 112a on which the cluster node module 204a runs. The cluster node modules 204a-e provide MPI calls and/or advanced cluster functions that implement cluster computing capability for the single-threaded kernel modules. The cluster node modules 204a-

e are configured to look and behave like a kernel module 206a from the perspective of the user interface module 202. Similarly, the cluster node modules 204a-e are configured to look and behave like a user interface module 202 from the perspective of a kernel module 206a. The first cluster node module 204a is in communication with one or more other cluster node modules 204b, 204c, and so forth, each of which provides a set of MPI calls and/or advanced cluster commands. In one embodiment, MPI may be used to send messages between nodes in a computer cluster.

[0026] Communications can occur between any two or more cluster node modules (for example, between a cluster node module 204a and another cluster node module 204c) and not just between "adjacent" kernels. Each of the cluster node modules 204a-e is in communication with respective kernel modules 206a-e. Thus, the cluster node module 204a communicates with the kernel module 206a. MPI calls and advanced cluster commands are used to parallelize program code received from an optional user interface module 208 and distribute tasks among the kernel modules 206a-e. The cluster node modules 204a-e provide communications among kernel modules 206a-e while the tasks are executing. Results of evaluations performed by kernel modules 206a-e are communicated back to the first cluster node module 204a via the cluster node modules 204a-e, which communicates them to the user interface module 208.

[0027] Intercommunication among kernel modules 206a-e during thread execution, which is made possible by cluster node modules 204a-e, provides advantages for addressing various types of mathematic and scientific problems, for example. Intercommunication provided by cluster computing permits exchange of information between nodes during the course of a parallel computation. Embodiments of the present disclosure provide such intercommunication for software programs such as Mathematica, while grid computing solutions can implement communication between only one master node and many slave nodes. Grid computing does not provide for communication between slave nodes during thread execution.

[0028] For purposes of providing an overview of some embodiments, certain aspects, advantages, benefits, and novel features of the invention are described herein. It is to be understood that not necessarily all such advantages or benefits can be achieved in accordance with any particular embodiment of the invention. Thus, for example, those skilled

in the art will recognize that the invention can be embodied or carried out in a manner that achieves one advantage or group of advantages as taught herein without necessarily achieving other advantages or benefits as can be taught or suggested herein.

II. Computer Cluster 100

[0029] As shown in FIG. 1, one embodiment of a cluster system 100 includes computer systems 110, 120, 130 in communication with one another via a communications network 102. A first computer system 110 can include one or more processors 112a-b, a memory device 114, and an optional storage device 116. Similarly, a second computer system 120 can include one or more processors 122a-b, a memory device 124, and an optional storage device 126. Likewise, a third computer system 130 can include one or more processors 132, a memory device 134, and an optional storage device 136. Each of the computer systems 110, 120, 130 includes a network interface (not shown) for connecting to a communications network 102, which can include one or more of a LAN, a WAN, an intranet, a wireless network, and/or the Internet.

A. Computer System 110

[0030] In one embodiment, a first computer system 110 communicates with other computer systems 120, 130 via a network 102 as part of a computer cluster 100. In one embodiment, the computer system 110 is a personal computer, a workstation, a server, or a blade including one or more processors 112a-b, a memory device 114, an optional storage device 116, as well as a network interface module (not shown) for communications with the network 102.

1. Processors 112a-b

[0031] In one embodiment, the computer system 110 includes one or more processors 112a-b. The processors 112a-b can be one or more general purpose single-core or multi-core microprocessors such as, for example, a Pentium® processor, a Pentium® II processor, a Pentium® Pro processor, a Pentium® III processor, Pentium® 4 processor, a Core Duo® processor, a Core 2 Duo® processor, a Xeon® processor, an Itanium® processor, a Pentium® M processor, an x86 processor, an Athlon® processor, an 8051 processor, a MIPS® processor, a PowerPC® processor, an ALPHA® processor, etc. In addition, one or more of the processors 112a-b can be a special purpose microprocessor such as a digital signal processor. The total number of processing cores (for example, processing units capable of single-threaded

execution) within all processors 112a-b in the computer system 110 corresponds to the number of nodes available in the computer system 110. For example, if the processors 112a-b were each Core 2 Duo® processors having two processing cores, computer system 110 would have four nodes in all. Each node can run one or more instances of a program module, such as a single-threaded kernel module.

2. Network Interface Module

[0032] The computer system 110 can also include a network interface module (not shown) that facilitates communication between the computer system 110 and other computer systems 120, 130 via the communications network 102.

[0033] The network interface module can use a variety of network protocols. In one embodiment, the network interface module includes TCP/IP. However, it is to be appreciated that other types of network communication protocols such as, for example, Point-to-Point Protocol ("PPP"), Server Message Block ("SMB"), Serial Line Internet Protocol ("SLIP"), tunneling PPP, AppleTalk, etc., may also be used.

3. Memory 114 and Storage 116

[0034] The computer system 110 can include memory 114. Memory 114 can include, for example, processor cache memory (such as processor core-specific or cache memory shared by multiple processor cores), dynamic random-access memory ("DRAM"), static random-access memory ("SRAM"), or any other type of memory device capable of storing computer data, instructions, or program code. The computer system 110 can also include optional storage 116. Storage 116 can include, for example, one or more hard disk drives, floppy disks, flash memory, magnetic storage media, CD-ROMs, DVDs, optical storage media, or any other type of storage device capable of storing computer data, instructions, and program code.

4. Computer System 110 Information

[0035] The computer system 110 may be used in connection with various operating systems such as: Microsoft® Windows® 3.X, Windows 95®, Windows 98®, Windows NT®, Windows 2000®, Windows XP®, Windows CE®, Palm Pilot OS, OS/2, Apple® MacOS®, MacOS X®, MacOS X Server®, Disk Operating System (DOS), UNIX, Linux®, VxWorks, or IBM® OS/2®, Sun OS, Solaris OS, IRIX OS operating systems, etc.

[0036] In one embodiment, the computer system 110 is a personal computer, a laptop computer, a Blackberry® device, a portable computing device, a server, a computer workstation, a local area network of individual computers, an interactive kiosk, a personal digital assistant, an interactive wireless communications device, a handheld computer, an embedded computing device, or the like.

[0037] As can be appreciated by one of ordinary skill in the art, the computer system 110 may include various sub-routines, procedures, definitional statements, and macros. Each of the foregoing modules are typically separately compiled and linked into a single executable program. However, it is to be appreciated by one of ordinary skill in the art that the processes that are performed by selected ones of the modules may be arbitrarily redistributed to one of the other modules, combined together in a single module, made available in a shareable dynamic link library, or partitioned in any other logical way.

B. Computer System 120

[0038] In one embodiment, a second computer system 120 communicates with other computer systems 110, 130 via a network 102 as part of a computer cluster 100. In one embodiment, the computer system 120 is a personal computer, a workstation, a server, or a blade including one or more processors 122a-b, a memory device 124, an optional storage device 126, as well as a network interface module (not shown) for communications with the network 102.

1. Processors 112a-b

[0039] In one embodiment, the computer system 120 includes one or more processors 122a-b. The processors 122a-b can be one or more general purpose single-core or multi-core microprocessors such as a Pentium® processor, a Pentium® II processor, a Pentium® Pro processor, a Pentium® III processor, Pentium® 4 processor, a Core Duo® processor, a Core 2 Duo® processor, a Xeon® processor, an Itanium® processor, a Pentium® M processor, an x86 processor, an Athlon® processor, an 8051 processor, a MIPS® processor, a PowerPC® processor, an ALPHA® processor, etc. In addition, the processors 122a-b can be any special purpose microprocessors such as a digital signal processor. The total number of processing cores (for example, processing units capable of single-threaded execution) within all processors 122a-b in the computer system 120 corresponds to the number of nodes available in the computer system 120. For example, if the processors 122a-b were each Core 2 Duo®

processors having two processing cores, computer system 120 would have four nodes in all. Each node can run one or more instances of a program module, such as a single-threaded kernel module.

2. Network Interface Module

[0040] The computer system 120 can also include a network interface module (not shown) that facilitates communication between the computer system 120 and other computer systems 110, 130 via the communications network 102.

[0041] The network interface module can use a variety of network protocols. In one embodiment, the network interface module includes TCP/IP. However, it is to be appreciated that other types of network communication protocols such as, for example, Point-to-Point Protocol ("PPP"), Server Message Block ("SMB"), Serial Line Internet Protocol ("SLIP"), tunneling PPP, AppleTalk, etc., may also be used.

3. Memory 124 and Storage 126

[0042] The computer system 120 can include memory 124. Memory 124 can include, for example, processor cache memory (such as processor core-specific or cache memory shared by multiple processor cores), dynamic random-access memory ("DRAM"), static random-access memory ("SRAM"), or any other type of memory device capable of storing computer data, instructions, or program code. The computer system 120 can also include optional storage 126. Storage 126 can include, for example, one or more hard disk drives, floppy disks, flash memory, magnetic storage media, CD-ROMs, DVDs, optical storage media, or any other type of storage device capable of storing computer data, instructions, and program code.

4. Computer System 120 Information

[0043] The computer system 120 may be used in connection with various operating systems such as: Microsoft® Windows® 3.X, Windows 95®, Windows 98®, Windows NT®, Windows 2000®, Windows XP®, Windows CE®, Palm Pilot OS, OS/2, Apple® MacOS®, MacOS X®, MacOS X Server®, Disk Operating System (DOS), UNIX, Linux®, VxWorks, or IBM® OS/2®, Sun OS, Solaris OS, IRIX OS operating systems, etc.

[0044] In one embodiment, the computer system 120 is a personal computer, a laptop computer, a Blackberry® device, a portable computing device, a server, a computer workstation, a local area network of individual computers, an interactive kiosk, a personal

digital assistant, an interactive wireless communications device, a handheld computer, an embedded computing device, or the like.

[0045] As can be appreciated by one of ordinary skill in the art, the computer system 120 may include various sub-routines, procedures, definitional statements, and macros. Each of the foregoing modules are typically separately compiled and linked into a single executable program. However, it is to be appreciated by one of ordinary skill in the art that the processes that are performed by selected ones of the modules may be arbitrarily redistributed to one of the other modules, combined together in a single module, made available in a shareable dynamic link library, or partitioned in any other logical way.

C. Computer System 130

[0046] In one embodiment, a third computer system 130 communicates with other computer systems 110, 120 via a network 102 as part of a computer cluster 100. In one embodiment, the computer system 130 is a personal computer, a workstation, a server, or a blade including one or more processors 132, a memory device 134, an optional storage device 136, as well as a network interface module (not shown) for communications with the network 102.

1. Processors 112a-b

[0047] In one embodiment, the computer system 130 includes a processor 132. The processor 132 can be a general purpose single-core or multi-core microprocessors such as a Pentium® processor, a Pentium® II processor, a Pentium® Pro processor, a Pentium® III processor, Pentium® 4 processor, a Core Duo® processor, a Core 2 Duo® processor, a Xeon® processor, an Itanium® processor, a Pentium® M processor, an x86 processor, an Athlon® processor, an 8051 processor, a MIPS® processor, a PowerPC® processor, or an ALPHA® processor. In addition, the processor 132 can be any special purpose microprocessor such as a digital signal processor. The total number of processing cores (for example, processing units capable of single-threaded execution) within processor 132 in the computer system 130 corresponds to the number of nodes available in the computer system 130. For example, if the processor 132 was a Core 2 Duo® processor having two processing cores, the computer system 130 would have two nodes. Each node can run one or more instances of a program module, such as a single-threaded kernel module.

2. Network Interface Module

[0048] The computer system 130 can also include a network interface module (not shown) that facilitates communication between the computer system 130 and other computer systems 110, 120 via the communications network 102.

[0049] The network interface module can use a variety of network protocols. In one embodiment, the network interface module includes TCP/IP. However, it is to be appreciated that other types of network communication protocols such as, for example, Point-to-Point Protocol ("PPP"), Server Message Block ("SMB"), Serial Line Internet Protocol ("SLIP"), tunneling PPP, AppleTalk, etc., may also be used.

3. Memory 134 and Storage 136

[0050] The computer system 130 can include memory 134. Memory 134 can include, for example, processor cache memory (such as processor core-specific or cache memory shared by multiple processor cores), dynamic random-access memory ("DRAM"), static random-access memory ("SRAM"), or any other type of memory device capable of storing computer data, instructions, or program code. The computer system 130 can also include optional storage 136. Storage 136 can include, for example, one or more hard disk drives, floppy disks, flash memory, magnetic storage media, CD-ROMs, DVDs, optical storage media, or any other type of storage device capable of storing computer data, instructions, and program code.

4. Computer System 130 Information

[0051] The computer system 130 may be used in connection with various operating systems such as: Microsoft® Windows® 3.X, Windows 95®, Windows 98®, Windows NT®, Windows 2000®, Windows XP®, Windows CE®, Palm Pilot OS, OS/2, Apple® MacOS®, MacOS X®, MacOS X Server®, Disk Operating System (DOS), UNIX, Linux®, VxWorks, or IBM® OS/2®, Sun OS, Solaris OS, IRIX OS operating systems, etc.

[0052] In one embodiment, the computer system 130 is a personal computer, a laptop computer, a Blackberry® device, a portable computing device, a server, a computer workstation, a local area network of individual computers, an interactive kiosk, a personal digital assistant, an interactive wireless communications device, a handheld computer, an embedded computing device, or the like.

[0053] As can be appreciated by one of ordinary skill in the art, the computer system 130 may include various sub-routines, procedures, definitional statements, and macros. Each of the foregoing modules are typically separately compiled and linked into a single executable program. However, it is to be appreciated by one of ordinary skill in the art that the processes that are performed by selected ones of the modules may be arbitrarily redistributed to one of the other modules, combined together in a single module, made available in a shareable dynamic link library, or partitioned in any other logical way.

E. Communications Network 102

[0054] In one embodiment, computer systems 110, 120, 130 are in communication with one another via a communications network 102.

[0055] The communications network 102 may include one or more of any type of electronically connected group of computers including, for instance, the following networks: a virtual private network, a public Internet, a private Internet, a secure Internet, a private network, a public network, a value-added network, a wired network, a wireless network, an intranet, etc. In addition, the connectivity to the network can be, for example, a modem, Ethernet (IEEE 802.3), Gigabit Ethernet, 10-Gigabit Ethernet, Token Ring (IEEE 802.5), Fiber Distributed Datalink Interface (FDDI), Frame Relay, InfiniBand, Myrinet, Asynchronous Transfer Mode (ATM), or another interface. The communications network 102 may connect to the computer systems 110, 120, 130, for example, by use of a modem or by use of a network interface card that resides in each of the systems.

[0056] In addition, the same or different communications networks 102 may be used to facilitate communication between the first computer system 110 and the second computer system 120, between the first computer system 110 and the third computer system 130, and between the second computer system 120 and the third computer system 130.

III. Software Modules

[0057] As shown in FIG.s 1 and 2, one embodiment of a cluster system 100 includes a user interface module 202 that is able to access a plurality of kernel modules 206a-e by communicating with a first cluster node module 204a. User interface module can be stored in a memory 114, 124, 134 while running, for example, and/or can be stored in a storage device 116, 126, 136. The first cluster node module 204a is in communication with each of the other cluster node modules 204b-e. The kernel modules 206a-e can reside in the memory of one or

more computer systems on which they run. For example, the memory 114 of the first computer system 110 can store instances of kernel modules 206a-b, the memory 124 of the second computer system 120 can store instances of kernel modules 206c-d, and the memory 134 of the third computer system 130 can store an instance of kernel module 206e. The kernel modules 206a-e, which include single-threaded program code, are each associated with one of the processors 112a, 112b, 122a, 122b, 132. A cluster configuration module stored on one or more of the computer systems 110, 120, 130 or on a remote computer system, for example, can establish communication with the cluster node modules 204a-e. In one embodiment, communication between the cluster configuration module 208 and the cluster node modules 204a-e initializes the cluster node modules 204a-e to provide cluster computing support for the computer cluster 100.

A. Cluster Node Module 204

[0058] In one embodiment, the cluster node modules 204a-e provide a way for many kernel modules 206a-e such as, for example, Mathematica kernels, running on a computer cluster 100 to communicate with one another. A cluster node module 204 can include at least a portion of an application programming interface ("API") known as the Message-Passing Interface ("MPI"), which is used in several supercomputer and cluster installations. A network of connections (for example, the arrows shown in FIG. 2) between the cluster node modules 204a-e can be implemented using a communications network 102, such as, for example, TCP/IP over Ethernet, but the connections could also occur over any other type of network or local computer bus.

[0059] A cluster node module 204 can use an application-specific toolkit or interface such as, for example, Mathematica's MathLink, Add-Ons, or packets, to interact with an application. Normally used to connect a Mathematica kernel to a user interface known as the Mathematica Front End or other Mathematica kernels, MathLink is a bidirectional protocol to sends "packets" containing messages, commands, or data between any of these entities. MathLink does not allow direct cluster computing-like simultaneous communication between Mathematica kernels during execution of a command or thread. MathLink is also not designed to perform multiple simultaneous network connections. In some embodiments, a cluster node module 204 can use an application-specific toolkit such as, for example, MathLink, for connections between entities on the same computer.

[0060] When speaking about procedures or actions on a cluster or other parallel computer, not all actions happen in sequential order, nor are they required to. For example, a parallel code, as opposed to a single-processor code of the classic "Turing machine" model, has multiple copies of the parallel code running across the cluster, typically one for each processor (or "processing element" or "core"). Such parallel code is written in such a way that different instances of the same code can communicate, collaborate, and coordinate work with each other. Multiple instances of these codes can run at the same time in parallel.

[0061] If the count of the code instances is an integer N, each instance of code execution can be labeled 0 through N-1. For example, a computer cluster can include N connected computers, each containing a processor. The first has cluster node module 0 connected with kernel module 0 running on processor 0. The next is cluster node module 1 and kernel module 1, on processor 1, and so forth for each of the N connected computers. Some steps of their procedure are collaborative, and some steps are independent. Even though these entities are not necessarily in lock-step, they do follow a pattern of initialization, main loop behavior (for example, cluster node module operation), and shut down.

[0062] In contrast, a parallel computing toolkit (PCT) that is provided as part of the gridMathematica software package does not provide a means for instances of the same code running on different nodes to communicate, collaborate, or coordinate work among the instances. The PCT provides commands that connect Mathematica kernels in a master-slave relationship rather than a peer-to-peer relationship as enabled by some embodiments disclosed herein. A computer cluster having peer-to-peer node architecture performs computations that can be more efficient, easier to design, and/or more reliable than similar computations performed on grid computers having master-slave node architecture. Moreover, the nature of some computations may not allow a programmer to harness multi-node processing power on systems that employ master-slave node architecture.

[0063] FIG. 3 shows one embodiment of a cluster node module 204 implementing MPI calls and advanced MPI functions. In the embodiment shown in FIG. 3, cluster node module 204 includes MPI module 302, advanced functions module 304, received message queue 306, and message receiving queue 308.

1. MPI module 302

[0064] In one embodiment, the cluster node module 204 includes an MPI module 302. The MPI module 302 can include program code for one or more of at least five kinds of MPI instructions or calls. Selected constants, instructions, and/or calls that can be implemented by the MPI module 302 are as follows:

MPI Constants

[0065] Node identifiers are used to send messages to nodes or receive messages from them. In MPI, this is accomplished by assigning each node a unique integer ($IdProc) starting with 0. This data, with a knowledge of the total count ($NProc), makes it possible to programmatically divide any measurable entity.

Constant	Description
$IdProc	The identification number of the current processor
$NProc	The number of processors in the current cluster
$mpiCommWorld	The communicator world of the entire cluster (see MPI Communicator routines, below)
mpiCommWorld	The default communicator world for the high-level routines.

Table A

Basic MPI Calls

[0066] In one embodiment, the MPI module 302 can include basic MPI calls such as, for example, relatively low-level routines that map MPI calls that are commonly used in other languages (such as C and Fortran), so that such calls can be available directly from the Mathematica user interface 204. In some embodiments, basic MPI calls include calls that send data, equations, formulas, and/or other expressions.

[0067] Simply sending expressions from one node to another is possible with these most basic MPI calls. One node can call to send an expression while the other calls a corresponding routine to receive the sent expression. Because it is possible that the receiver has not yet called mpiRecv even if the message has left the sending node, completion of mpiSend is not a confirmation that it has been received.

Call	Description
mpiSend[expr, target, comm, tag]	Sends an expression expr to a node with the ID target in the communicator would comm, waiting until that expression has left this kernel
mpiRecv [expr, target, comm, tag]	Receives an expression into expr from a node with the ID target in the communicator world comm, waiting until the expression has arrived
mpiSendRecv[sendexpr, dest, recvexpr, source, comm]	Simultaneously sends the expression sendexpr to the node with the ID target and receives an expression into recvexpr from the node with the ID source in the communicator world comm, waiting until both operations have returned.

Table B

Asynchronous MPI Calls

[0068] Asynchronous calls make it possible for the kernel to do work while communications are proceeding simultaneously. It is also possible that another node may not be able to send or receive data yet, allowing one kernel to continue working while waiting.

Call	Description
mpiISend[expr, target, comm, tag, req]	Sends an expression expr to a processor with the ID target in the communicator world comm, returning immediately. It can be balanced with calls to mpiTest[req] until mpiTest[req] returns True.
mpiIRecv[expr, target, comm, tag, req]	Receives an expression expr from a processor with the ID target in the communicator world comm, returning immediately. It can be balanced with calls to mpiTest[req] until mpiTest[req] returns True. The expr is not safe to access until mpiTest[req] returns True.
mpiTest[req]	Completes asynchronous behavior of mpiISend and mpiIRecv
mpiWait[req]	Calls mpiTest until it returns True.
mpiWaitall[reglist]	Calls mpiWait all on every element of reqlist
mpiWaitany[reqlist]	Calls mpiTest on each element of realist until one of them returns True

Table C

[0069] The mpiISend[] command can be called from within a kernel module 206 (for example, a Mathematica kernel). It creates a packet containing the Mathematica expression to be sent as payload and where the expression should be sent. The packet itself is destined only for its local cluster node module. Once received by its local cluster node module, this packet is decoded and its payload is forwarded on to the cluster node module specified in the packet.

[0070] The mpiIRecv[] command can also be called from within a kernel module 206. It creates a packet specifying where it expects to receive an expression and from which processor this expression is expected. Once received by its local cluster node module, this packet is decoded and its contents are stored in a message receiving queue (MRQ) 308 (FIG. 3).

[0071] The mpiTest[] command can be called from within a kernel module 206. It creates a packet specifying which message to test for completion, then waits for a reply expression to evaluate. Once received by the kernel module's associated cluster node module 204, this packet is decoded and its message specifier is used to search for any matching

expressions listed as completed in its received message queue (RMQ) 306. If such completed expressions are found, it is sent to its local kernel module as part of the reply in mpiTest[]. The kernel module receives this reply expression and evaluates it, which updates the kernel module's variables as needed.

[0072] Other MPI calls are built on the fundamental calls mpiISend, mpiIRecv, and mpiTest. For example, mpiBcast, a broadcast, creates instructions to send information from the broadcast processor to all the others, while the other processors perform a Recv. Similarly, high-level calls of the toolkit can be built on top of the collection of MPI calls.

Collective MPI Calls

[0073] In one embodiment, the MPI module 302 can include program code for implementing collective MPI calls (for example, calls that provide basic multi-node data movement across nodes). Collective MPI calls can include broadcasts, gathers, transpose, and other vector and matrix operations, for example. Collective calls can also provide commonly used mechanisms to send expressions between groups of nodes.

Call	Description
mpiBcast[expr, root, comm]	Performs a broadcast of expr from the root processor to all the others in the communicator world comm. An expression is expected to be supplied by the root processor, while all the others expect expr to be overwritten by the incoming expression.
mpiGather[sendexpr, recvexpr, root, comm]	All processors (including root) in the communicator comm send their expression in sendexpr to the root processor, which produces a list of these expressions, in the order according to comm, in recvexpr. On the processors that are not root, recvexpr is ignored.
mpiAllgather[sendexpr, recvexpr, comm]	All processors in the communicator comm send their expression in sendexpr, which are organized into a list of these expressions, in the order according to comm, in recvexpr on all processors in comm.
mpiScatter[sendexpr, recvexpr, root, comm]	Processor root partitions the list in sendexpr into equal parts (if possible) and places each piece in recvexpr on all the processors (including root) in the communicator world comm, according the order and size of comm.
mpiAlltoall[sendexpr, recvexpr, comm]	Each processor sends equal parts of the list in sendexpr to all other processors in the communicator world comm, which each collects from all other processors are organizes into the order according to comm.

Table D

In one embodiment, the MPI module 302 includes program code for implementing parallel sums and other reduction operations on data stored across many nodes. MPI module 302 can also include program code for implementing simple parallel input/output calls (for example, calls that allow cluster system 200 to load and store objects that are located on a plurality of nodes).

Call	Description
mpiReduce[sendexpr, recvexpr, operation, root, comm]	Performs a collective reduction operation between expressions on all processors in the communicator world comm for every element in the list in sendexpr returning the resulting list in recvexpr on the processor with the ID root.
mpiAllreduce[sendexpr, recvexpr, operation, comm]	Performs a collective reduction operation between expressions on all processors in the communicator world comm for every element in the list in sendexpr returning the resulting list in recvexpr on every processor.
mpiReduceScatter [sendexpr, recvexpr, operation, comm]	Performs a collective reduction operation between expressions on all processors in the communicator world comm for every element in the list in sendexpr, partitioning the resulting list into pieces for each processor's recvexpr.

Table E

[0074] These additional collective calls perform operations that reduce the data in parallel. The operation argument can be one of the constants below.

Constant	Description
mpiSum	Specifies that all the elements on different processors be added together in a reduction call
mpiMax	Specifies that the maximum of all the elements on different processors be chosen in a reduction call
mpiMin	Specifies that the minimum of all the elements on different processors be chosen in a reduction call

Table F

MPI Communicator Calls

[0075] In one embodiment, the MPI module 302 includes program code for implementing communicator world calls (for example, calls that would allow subsets of nodes to operate as if they were a sub-cluster). Communicators organize groups of nodes into user-defined subsets. The communicator values returned by mpiCommSplit[] can be used in other MPI calls instead of mpiCommWorld.

Call	Description
mpiCommSize[comm]	Returns the number of processors within the communicator comm
mpiCommRank[comm]	Returns the rank of this processor in the communicator comm
mpiCommDup[comm]	Returns a duplicate communicator of the communicator comm
mpiCommSplit[comm, color, key]	Creates a new communicator into several disjoint subsets each identified by color. The sort order within each subset is first by key, second according to the ordering in the previous communicator. Processors not meant to participate in any new communicator indicates this by passing the constant mpiUndefined. The corresponding communicator is returned to each calling processor.
mpiCommMap[comm] mpiCommMap[comm, target]	Returns the mapping of the communicator comm to the processor indexed according to $mpiCommWorld. Adding a second argument returns just the ID of the processor with the ID target in the communicator comm.
mpiCommFree[comm]	Frees the communicator comm

Table G

Other MPI Support Calls

[0076] Other calls that provide common functions include:

Call	Description
mpiWtime[]	Provides wall-dock time since some fixed time in the past. There is no guarantee that this time will read the same on all processors.
mpiWtick[]	Returns the time resolution of mpiWtime[]
MaxByElement[in]	For every nth element of each list of the list in, chooses the maximum according to Max[], and returns the result as one list. Used in the mpiMax reduction operation.
MinByElement[in]	For every nth element of each list of the list in, chooses the minimum according to Min[], and returns the result as one list. Used in the mpiMin reduction operation.

Table H

2. Advanced Functions Module 304

[0077] In one embodiment, the cluster node module 204 includes an advanced functions module 304. The advanced functions module 304 can include program code that provides a toolkit of functions inconvenient or impractical to do with MPI instructions and calls implemented by the MPI module 302. The advanced functions module 304 can rely at least partially on calls and instructions implemented by the MPI module 302 in the implementation of advanced functions. In one embodiment, the advanced functions module 304 includes a custom set of directives or functions. In an alternative embodiment, the advanced functions module 304 intercepts normal Mathematica language and converts it to one or more functions optimized for cluster execution. Such an embodiment can be easier for users familiar with Mathematica functions to use but can also complicate a program debugging process. Some functions implemented by the advanced functions module 304 can simplify operations difficult or complex to set up using parallel computing. Several examples of such functions that can be implemented by the advanced functions module 304 are shown below.

[0078] Built on the MPI calls, the calls that are described below provide commonly used communication patterns or parallel versions of Mathematica features. Unless otherwise specified, these are executed in the communicator mpiCommWorld, whose default is $mpiCommWorld, but can be changed to a valid communicator at run time.

Common Divide-and-Conquer Parallel Evaluation

[0079] In one embodiment, the advanced functions module 304 includes functions providing for basic parallelization such as, for example, routines that would perform the same operations on many data elements or inputs, stored on many nodes. These functions can be compared to parallelized for-loops and the like. The following calls address simple parallelization of common tasks. In the call descriptions, "expr" refers to an expression, and "loopspec" refers to a set of rules that determine how the expression is evaluated. In some embodiments, the advanced functions module 304 supports at least three forms of loopspec, including {var, count}, where the call iterates the variable *var* from 1 to the integer *count*; {var, start, stop}, where the call iterates the variable *var* every integer from *start* to *stop*; and {var, start, stop, increment}, where the call iterates the variable *var* from *start* adding *increment* for each iteration until *var* exceeds *stop*, allowing *var* to be a non-integer.

Call	Description
ParallelDo[expr, loopspec]	Like Do[] except that it evaluates expr across the cluster, rather than on just one processor. The rules for how expr is evaluated is specified in loopspec, like in Do[].
ParallelFunctionToList[f, count] ParallelFunctionToList[f, count, root]	Evaluates the function f[i] from 1 to count, but across the cluster, and returns these results in a list. The third argument has it gather this list into the processor whose ID is root.
ParallelTable[expr, loopspec] ParallelTable[expr, loopspec, root]	Like Table[] except that it evaluates expr across the cluster, rather than on just one processor, returning the locally evaluated portion. The third argument has it gather this table in to the processor whose ID is root.
ParallelFunction[f, inputs, root]	Like f[inputs] except that it evaluates f on a subset of inputs scattered across the cluster from processor root and gathered back to root.
ParallelNintegrate[expr, loopspec] ParallelNintegrate[expr, loopspec,digits]	Like Nintegrate[] except that it evaluates a numerical integration of expr over domains partitioned into the number of processors in the cluster, then returns the sum. The third argument has each numerical integration execute with at least that many digits of precision.

Table I

Guard-Cell Management

[0080] In one embodiment, the advanced functions module 304 includes functions providing for guard-cell operations such as, for example, routines that perform nearest-neighbor communications to maintain edges of local arrays in any number of dimensions (optimized for 1-, 2-, and/or 3-D). Typically the space of a problem is divided into partitions. Often, however, neighboring edges of each partition can interact, so a "guard cell" is inserted on both edges as a substitute for the neighboring data. Thus the space a processor sees is two elements wider than the actual space for which the processor is responsible. EdgeCell helps maintain these guard cells.

Call	Description
EdgeCell[list]	Copies the second element of list to the last element of the left processor and the second-to-last element of list to the first element of the right processor while simultaneously receiving the same from its neighbors.

Table J

Matrix and Vector Manipulation

[0081] The advanced functions module 304 can also include functions providing for linear algebra operations such as, for example, parallelized versions of basic linear algebra on structures partitioned on many nodes. Such linear algebra operations can reorganize data as needed to perform matrix and vector multiplication or other operations such as determinants, trace, and the like. Matrices are partitioned and stored in processors across the cluster. These calls manipulate these matrices in common ways.

Call	Description
ParallelTranspose[matrix]	Like Transpose[] except that it transposes matrix that is in fact represented across the cluster, rather than on just one processor. It returns the portion of the transposed matrix meant for that processor.
ParallelProduct[matrix, vector]	Evaluates the product of matrix and vector, as it would on one processor, except that matrix is represented across the cluster.
ParallelDimensions[matrix]	Like Dimensions[] except that matrix is represented across the cluster, rather than on just one processor. It returns a list of each dimension.
ParallelTr[matrix]	Like Tr[] except that the matrix is represented across the cluster, rather than on just one processor. It returns the trace of this matrix.
ParallelIdentity[rank]	Like Identity[], it generates a new identity matrix, except that the matrix is represented across the cluster, rather than on just one processor. It returns the portion of the new matrix for this processor.
ParallelOuter[f, vector1, vector2]	Like Outer[f, vectorl, vector2] except that the answer becomes a matrix represented across the cluster, rather than on just one processor. It returns the portion of the new matrix for this processor.
ParallelInverse[matrix]	Like Inverse[] except that the matrix is represented across the cluster, rather than on just one processor. It returns the inverse of the matrix.

Table K

Element Management

[0082] In one embodiment, the advanced functions module 304 includes element management operations. For example, a large bin of elements or particles cut up in space across the nodes may need to migrate from node to node based on rules or criteria (such as their spatial coordinate). Such operations would migrate the data from one node to another. Besides the

divide-and-conquer approach, a list of elements can also be partitioned in arbitrary ways. This is useful if elements need to be organized or sorted onto multiple processors. For example, particles of a system may drift out of the space of one processor into another, so their data would need to be redistributed periodically.

Call	Description
ElementManage[list, switch]	Selects which elements of list will be sent to which processors according to the function switch[] is evaluated on each element of list. If switch is a function, switch[] should return the ID of the processor that element should be sent. If switch is an integer, the call assumes that each elements is itself a list, whose first element is a number ranging from 0 to the passed argument. This call returns a list of the elements, from any processor, that is switch selected for this processor.
ElementManage[list]	Each element of list can be a list of two elements, the first being the ID of the processor where the element should be sent, while the second is arbitrary data to send. This call returns those list elements, from any and all processors, whose first element is this processors ID in a list. This call is used internally by the two-argument version of ElementManage[].

Table L

Fourier Transform

[0083] In one embodiment, the advanced functions module 304 includes program code for implementing large-scale parallel fast Fourier transforms ("FFTs"). For example, such functions can perform FFTs in one, two, and/or three dimensions on large amounts of data that are not stored on one node and that are instead stored on many nodes. Fourier transforms of very large arrays can be difficult to manage, not the least of which is the memory requirements. Parallelizing the Fourier transform makes it possible to make use of all the memory available

on the entire cluster, making it possible to manipulate problem sizes that no one processor could possibly do alone.

Call	Description
ParallelFourier[list]	Like Fourier[] except that list is a two- or three-dimensional list represented across the cluster, like for matrices, above. It returns the portion of the Fourier-transformed array meant for that processor.

Table M

Parallel Disk I/O

[0084] In one embodiment, the advanced functions module 304 includes parallel disk input and output calls. For example, data may need to be read in and out of the cluster in such a way that the data is distributed across the cluster evenly. The calls in the following table enable the saving data from one or more processors to storage and the retrieval data from storage.

Call	Description
ParallelPut[expr, filename] ParallelPut[expr, filename root] ParallelPut[expr, filename, root, comm]	Puts expr into the file with the name filename in order on processor 0. The third argument specifies that the file be written on the processor whose ID is root. The fourth uses the communicator world comm.
ParallelGet[filename] ParallelGet[filename, root] ParallelGet[filename, root,comm]	Reads and returns data from the file with the name filename on processor 0 partitioned into each processor on the cluster. The second argument specifies that the file is to be read on the processor whose ID is root. The third uses the communicator world comm.

Call	Description
ParallelBinaryPut[expr, type,filename] ParallelBinaryPut[expr, filename, root] ParallelBinaryPut[expr, filename, root, comm]	Puts expr into the file with the binary format type with the name filename in order on processor 0. The fourth argument specifies that the file be written on the processor whose ID is root. The fifth uses the communicator world comm.
ParallelBinaryGet[type, filename] ParallelBinaryGet[type, filename, root] ParallelBinaryGet[type, filename, root, comm]	Reads and returns data in the binary format type from the file with the name filename on processor 0 partitioned into each processor on the cluster. The third argument specifies that the file is to be read on the processor whose ID is root. The fourth uses the communicator world comm.
ParallelGetPerProcessor [expr, filename] ParallelGetPerProcessor [filename, root] ParallelGetPerProcessor [filename, root, comm]	Puts expr into the file with the name filename in order on processor 0, one line per processor. The third argument specifies that the file be written on the processor whose ID is root. The fourth uses the communicator world comm.
ParallelGetPerProcessor [filename] ParallelGetPerProcessor [filename, root] ParallelGetPerProcessor [filename, root, comm]	Reads and returns data from the file with the name filename on processor 0, one line for each processor. The second argument specifies that the file is to be read on the processor whose ID is root. The third uses the communicator world comm.

Table N

Automatic Load Balancing

[0085] Some function calls can take an inconsistent amount of processing time to complete. For example, in Mathematica, the call f[20] could in general take much longer to evaluate than f[19]. Moreover, if one or more processors within the cluster are of different

speeds (for example, if some operate at a core frequency of 2.6 GHz while other operate at less than one 1 GHz), one processor may finish a task sooner than another processor.

[0086] In some embodiments, the advanced functions module 304 includes a call that can improve the operation of the computer cluster 100 in such situations. In some embodiments, the root processor assigns a small subset of the possible calls for a function to each processor on the cluster 100. Whichever processor returns its results first is assigned a second small subset of the possible calls. The root processor will continue to assign small subsets of the possible calls as results are received until an evaluation is complete. The order in which the processors finish can vary every time an expression is evaluated, but the root processor will continue assigning additional work to processors as they become available.

[0087] In one illustrative example, there are 4 processors and f[1] to f[100] to evaluate. One could implement this by assigning f[1], f[2], f[3], f [4] to each of processors 0 (the root can assign to oneself) through 3. If the f[2] result came back first, then processor 1 would be assigned f[5]. If the f[4] result is returned next, f[6] would be assigned to processor 3. The assignments continue until all results are calculated. The results are organized for output back to the user.

[0088] In alternative embodiments, the subsets of possible calls can be assigned in any order, rather than sequentially, or in batches (for example, f[1], f[5], f[9] assigned to processor 1, etc.). Also, the subsets could be organized by delegation. For example, one processor node may not necessarily be in direct control of the other processors. Instead, a large subset could be assigned to a processor, which would in turn assign subsets of its work to other processors. The result would create a hierarchy of assignments like a vast army.

Call	Description
LoadBalanceFunctionToList[f, count] LoadBalanceFunctionToList[f, count, root]	Evaluates the function f[i] from 1 to count, but across the cluster using load-balancing techniques, and returns these results in a list. The third argument has it gather this list into the processor whose ID is root.

Table O

3. Received Message Queue 306

[0089] In one embodiment, the cluster node module 204 includes a received message queue 306. The received message queue 306 includes a data structure for storing

messages received from other cluster node modules. Related data pertaining to the messages received, such as whether an expression has been completed, may also be stored in the received message queue 306. The received message queue 306 may include a queue and/or another type of data structure such as, for example, a stack, a linked list, an array, a tree, etc.

4. Message Receiving Queue 308

[0090] In one embodiment, the cluster node module 204 includes a message receiving queue 308. The message receiving queue 308 includes a data structure for storing information about the location to which an expression is expected to be sent and the processor from which the expression is expected. The message receiving queue 308 may include a queue and/or another type of data structure such as, for example, a stack, a linked list, an array, a tree, etc.

B. Cluster Configuration Module 208

[0091] Cluster configuration module 208 includes program code for initializing a plurality of cluster node modules to add cluster computing support to computer systems 110, 120, 130. United States Patent No. 7,136,924, issued to Dauger (the "'924 patent"), the entirety of which is hereby incorporated by reference and made a part of this specification, discloses a method and system for parallel operation and control of computer clusters. One method generally includes obtaining one or more personal computers having an operating system with discoverable network services. In some embodiments, the method includes obtaining one or more processors or processor cores on which a kernel module can run. As described in the '924 patent, a cluster node control and interface (CNCI) group of software applications is copied to each node. When the CNCI applications are running on a node, the cluster configuration module 208 can permit a cluster node module 204, in combination with a kernel module 206, to use the node's processing resources to perform a parallel computation task as part of a computer cluster. The cluster configuration module 208 allows extensive automation of the cluster creation process in connection with the present disclosure.

C. User Interface Module 202

[0092] In some embodiments, computer cluster 100 includes a user interface module 202, such as, for example a Mathematica Front End or a command line interface, that includes program code for a kernel module 206 to provide graphical output, accept graphical input, and provide other methods of user communication that a graphical user interface or a

command-line interface provides. To support a user interface module 202, the behavior of a cluster node module 204a is altered in some embodiments. Rather than sending output to and accepting input from the user directly, the user interface module 202 activates the cluster node module 204a to which it is connected and specifies parameters to form a connection, such as a MathLink connection, between the cluster node module 204a and the user interface module 202. The user interface module's activation of the cluster node module 204a can initiate the execution of instructions to activate the remaining cluster node modules 204b-e on the cluster and to complete the sequence to start all kernel modules 206a-e on the cluster. Packets from the user interface module 202, normally intended for a kernel module 206a, are accepted by the cluster node module 204a as a user command. Output from the kernel module 206a associated with the cluster node module 204a can be forwarded back to the user interface module 202 for display to a user. Any of the cluster node modules 204a-e can be configured to communicate with a user interface module 202.

D. Kernel Module 206

[0093] A kernel module 206 typically includes program code for interpreting high-level code, commands, and/or instructions supplied by a user or a script into low-level code, such as, for example, machine language or assembly language. In one embodiment, each cluster node module 204a-e is connected to all other cluster node modules, while each kernel module 206a-e is allocated and connected only to one cluster node module 204. In one embodiment, there is one cluster node module-kernel module pair per processor. For example, in an embodiment of a computer cluster 100 including single-processor computer systems, each cluster node module-kernel module pair could reside on a single-processor computer. If a computer contains multiple processors or processing cores, it may contain multiple cluster node module-kernel module pairs, but the pairs can still communicate over the cluster node module's network connections.

IV. Cluster Computing Methods

[0094] In one embodiment, the computer cluster 100 includes a cluster initialization process, a method of cluster node module operation, and a cluster shut down process.

A. Cluster Initialization Process

[0095] In one embodiment, a cluster configuration module 202 initializes one or more cluster node modules 204 in order to provide cluster computing support to one or more kernel modules 206, as shown in FIG. 4.

[0096] At 402, cluster node modules are launched on the computer cluster 100. In one embodiment, the cluster node module 204a running on a first processor 112a (for example, where the user is located) accesses the other processors 112b, 122a-b, 132 on the computer cluster 100 via the cluster configuration module 208 to launch cluster node modules 204b-e onto the entire cluster. In an alternative embodiment, the cluster configuration module 208 searches for processors 112a-b, 122a-b, 132 connected to one another via communications network 102 and launches cluster node modules 204a-e on each of the processors 112a-b, 122a-b, 132.

[0097] The cluster node modules 204a-e establish communication with one another at 404. In one embodiment, each of the cluster node modules 204a-e establish direct connections using the MPI_Init command with other cluster node modules 204a-e launched on the computer cluster 100 by the cluster configuration module 208.

[0098] At 406, each cluster node module 204 attempts to connect to a kernel module 206. In one embodiment, each instance of the cluster node modules 204a-e locates, launches, and connects with a local kernel module via MathLink connections and/or similar connection tools, for example, built into the kernel module 206.

[0099] At 408, the cluster node modules 204 that are unconnected to a kernel module 206 are shut down. In one embodiment, each cluster node module 204 determines whether the local kernel module cannot be found or connected to. In one embodiment, each cluster node module 204 reports the failure to connect to a kernel module 206 to the other cluster node modules on computer cluster 100 and quits.

[0100] Processor identification numbers are assigned to the remaining cluster node modules 204 at 410. In one embodiment, each remaining cluster node module 204 calculates the total number of active processors (N) and determines identification numbers describing the remaining subset of active cluster node modules 204a-e and kernel modules 206a-e. This new set of cluster node module-kernel module pairs may be numbered 0 through N-1, for example.

[0101] Message passing support is initialized on the kernel modules 206a-e at 412. In one embodiment, each cluster node module 204 supplies initialization code (for example, Mathematica initialization code) to the local kernel module 206 to support message passing.

[0102] Finally, at 414, the cluster node modules 204a-e enter a loop to accept user entry. In one embodiment, a main loop (for example, a cluster operation loop) begins execution after the cluster node module 204a on the first processor 112a returns to user control while each of the other cluster node modules 204 waits for messages from all other cluster node modules 204a-e connected to the network 102.

[0103] The initialization process creates a structure enabling a way for the kernel modules 206a-e to send messages to one another. In some embodiments, any kernel module can send data to and receive data from any other kernel module within the cluster when initialization is complete. The cluster node module creates an illusion that a kernel module is communicating directly with the other kernel modules. The initialization process can create a relationship among kernel modules on a computer cluster 100 such as the one shown by way of example in FIG. 2.

B. Cluster Node Module Operation

[0104] In one embodiment, a cluster node module 204 implements cluster computing support for a kernel module 206 during a main loop, as shown in FIG. 5.

[0105] At 502, cluster node modules 204 wait for user commands or messages from other cluster node modules. In one embodiment, the cluster node module 204a connected to the user interface module 202 waits for a user command, while the other cluster node modules 204b-e continue checking for messages.

[0106] Once a command or message is received, the method proceeds to 504. At 504, the cluster node module 204a determines whether the message received is a quit command. If a quit command is received, the cluster node module 204a exits the loop and proceeds to a cluster node module shut down process at 505. If the message received is not a quit command, the process continues to 506.

[0107] At 506, received commands are communicated to all cluster node modules 204a-e on the computer cluster 100. In one embodiment, when a user enters a command in the user interface module 202, the cluster node module 204a connected to the user interface module 202 submits the user command to all other cluster node modules 204b-e in the

computer cluster 100. The user commands can be simple (for example, "1+1"), but can also be entire subroutines and sequences of code (such as, for example, Mathematica code), including calls to MPI from within the user interface module 202 (for example, the Mathematica Front End) to perform message passing between kernel modules 206a-e (for example, Mathematica kernels). These include the fundamental MPI calls, which are implemented using specially identified messages between a cluster node module 204 and its local kernel module 206.

[0108] The message (or user command) is communicated to the kernel modules 206a-e at 508. In one embodiment, the cluster node module 204a connected to the user interface module 202 submits the user command to the kernel module 206a to which it is connected. Each of the other cluster node modules 204b-e, after receiving the message, submits the command to the respective kernel module 206b-e to which it is connected.

[0109] At 510, a cluster node module 204 receives a result from a kernel module 206. In one embodiment, once the kernel module 206 completes its evaluation, it returns the kernel module's output to the cluster node module 204 to which it is connected. Depending on the nature of the result from the kernel module, the cluster node module 204 can report the result to a local computer system or pass the result as a message to another cluster node module 204. For example, the cluster node module 204a running on the first processor 112a reports the output on its local computer system 110. For example, on the first processor 112a, cluster node module 204a only directly reports the output of kernel module 206a.

[0110] Messages from other cluster node modules 204 are responded to at 512. In one embodiment, each cluster node module (for example, the cluster node module 204a) checks for and responds to messages from other cluster node modules 204b-e and from the kernel module 206a repeatedly until those are exhausted. In one embodiment, output messages from the kernel module 206 are forwarded to output on the local computer system. Messages from other cluster node modules 204 are forwarded to a received message queue 306 ("RMQ"). Data from each entry in the message receiving queue 308 ("MRQ") is matched with entries in the RMQ 306 (see, for example, description of the mpiIRecv[] call, above). If found, data from the MRQ 308 are combined into those in the RMQ 306 and marked as "completed" (see, for example, description of the mpiTest[] call, above). This process provides the peer-to-peer behavior of the cluster node modules 204a-e. Via this mechanism, code running within multiple, simultaneously running kernel modules (for example, Mathematica kernels) can

interact on a pair-wise or collective basis, performing calculations, processing, or other work on a scale larger and/or faster than one kernel could have done alone. In this manner, user-entered instructions and data specifying what work will be done via user commands can be executed more quickly and/or reliably. Once responding to messages has completed, the process returns to 502.

[0111] In some embodiments, a computer system includes software, such as an operating system, that divides memory and/or other system resources into a user space, a kernel space, an application space (for example, a portion of the user space allocated to an application program), and/or an operating system space (for example, a portion of the user space allocated to an operating system). In some embodiments, some or all of the cluster node modules 204a-e are implemented in the application space of a computer system. In further embodiments, at least some of the cluster node modules 204a-e are implemented in the operating system space of a computer system. For example, some cluster node modules in a computer cluster may operate in the application space while others operate in the operating system space.

[0112] In some embodiments, some or all of the functionality of the cluster node modules 204a-e is incorporated into or integrated with the operating system. The operating system can add cluster computing functionality to application programs, for example, by implementing at least some of the methods, modules, data structures, commands, functions, and processes discussed herein. Other suitable variations of the techniques described herein can be employed, as would be recognized by one skilled in the art.

[0113] In some embodiments, the operating system or components of the operating system can identify and launch the front end 202 and the kernels 206. The operating system or its components can connect the front end 202 and kernels 206 to one another in the same manner as a cluster node module 204 would or by a variation of one of the techniques described previously. The operating system can also be responsible for maintaining the communications network 102 that connects the modules to one another. In some embodiments, the operating system implements at least some MPI-style calls, such as, for example, collective MPI-style calls. In some embodiments, the operating system includes an application programming interface (API) library of cluster subroutine calls that is exposed to application programs. Applications programs can use the API library to assist with launching and operating the computer cluster.

C. Cluster Shut Down Process

[0114] In one embodiment, a computer cluster 100 includes a procedure to shut down the system. If the operation process (or main loop) on the cluster node module 204a connected to the user interface module 202 detects a "Quit" or "Exit" command or otherwise receives a message from the user indicating a shut down, the sequence to shut down the cluster node modules 204a-e and the kernel modules 206a-e is activated. In one embodiment, the cluster node module 204a connected to the user interface module 202 sends a quit message to all other cluster node modules 204b-e. Each cluster node module 204 forwards the quit command to its local kernel module 206. Once its Mathematica kernel has quit, each cluster node module 204 proceeds to tear down its communication network with other cluster node modules (for example, see description of the MPI_Finalize command, above). At the conclusion of the process, each cluster node module 204 exits execution.

V. Example Operation

[0115] For purposes of illustration, sample scenarios are discussed in which the computer cluster system is used in operation. In these sample scenarios, examples of Mathematica code are given, and descriptions of how the code would be executed by a cluster system are provided.

Basic MPI

[0116] Fundamental data available to each node includes the node's identification number and total processor count.

```
In[1]:= {$IdProc, $NProc}
Out[1]:= {0, 2}
```

[0117] The first element should be unique for each processor, while the second is generally the same for all. Processor 0 can see what other values are using a collective (see below) communications call such as mpiGather[].

```
In[2]:= mpiGather[{$IdProc, $NProc},list,0]; list
Out[2]:= {{0, 2}, {1, 2}}
```

Peer-to-Peer MPI

[0118] The mpiSend and mpiRecv commands make possible basic message passing, but one needs to define which processor to target. The following defines a new variable, targetProc, so that each pair of processors will point to each other.

```
In[3]:= targetProc=If[1==Mod[$IdProc, 2],$IdProc-1,$IdProc+1]
```

```
Out[3]:= 1
```

[0119] In this example, the even processors target its "right" processor, while the odd ones point its "left." For example, if the processors were lined up in a row and numbered in order, every even-numbered processor would pair with the processor following it in the line, and every odd-numbered processor would pair with the processor preceding it. Then a message can be sent:

```
In[4]:= If [ 1==Mod[ $IdProc , 2],mpiSend[N[Pi,22],targetProc,
     mpiCommWorld,d], mpiRecv[a,targetProc,mpiCommWorld,d]]
```

[0120] The If [] statement causes the processors to evaluate different code: the odd processor sends 22 digits of Pi, while the even receives that message. Note that these MPI calls return nothing. The received message is in the variable *a*:

```
In[5]:= a
Out[5]:= 3.1415926535897932384626
In[6]:= Clear[a]
```

[0121] The variable *a* on the odd processors would have no definition. Moreover, if $NProc is 8, processor 3 sent Pi to processor 2, processor 5 sent Pi to processor 4, and so on. These messages were not sent through processor 0, but they communicated on their own.

[0122] The mpiISend and mpiIRecv commands have a letter "I" to indicate asynchronous behavior, making it possible to do other work while messages are being sent and received, or if the other processor is busy. So, the above example could be done asynchronously:

```
In[7]:= If[1==Mod[$IdProc, 2],mpiISend[N[Pi,22],targetProc,
     mpiCommWorld,d,e],
     mpiIRecv[a,targetProc,mpiCommWorld,d,e]]
```

[0123] The variable *e* has important data identifying the message, and mpiTest[*e*] can return True before the expressions are to be accessed. At this point, many other evaluations can be performed. Then, one can check using mpiTest when the data is needed:

```
In[29]:= mpiTest[e]
Out[29]:= True
In[30]:= a
Out[30]:= 3.1415926535897932384626
In[31]:= Clear[a,e]
```

[0124] The mpiWait[*e*] command could have also have been used, which does not return until mpiTest[*e*] returns True. The power of using these peer-to-peer calls is that it becomes possible to construct any message-passing pattern for any problem.

Collective MPI

[0125] In some cases, such explicit control is not required and a commonly used communication pattern is sufficient. Suppose processor 0 has an expression in *b* that all processors are meant to have. A broadcast MPI call would do:

```
In[8]:= mpiBcast[b, 0, mpiCommWorld]
```

[0126] The second argument specifies which processor is the "root" of this broadcast; all others have their *b* overwritten. To collect values from all processors, use mpiGatherD:

```
In[9]:= mpiGather[b, c, 0, mpiCommWorld]
```

[0127] The variable *c* of processor 0 is written with a list of all the *b* of all the processors in mpiCommWorld. The temporal opposite is mpiScatter:

```
In[10]:= Clear[b]; a = {2, 4, 5, 6}; mpiScatter[a, b, 0,
     mpiCommWorld]; b
Out[10]:= {2, 4}
```

[0128] The mpiScatter command cuts up the variable *a* into even pieces (when possible) and scatters them to the processors. This is the result if $NProc = 2, but if $NProc = 4, *b* would only have {2}.

[0129] MPI provides reduction operations to perform simple computations mixed with messaging. Consider the following:

```
In[11]:= a = {{2 + $IdProc, 45[],3,{1 + $IdProc,$NProc[][];
     mpiReduce [a,d,mpiSum, 0,mpiCommWorld ]
In[12]:= d
Out[12]:= {{5, 90}, 6, {3, 4}}
```

[0130] The mpiSum constant indicates that variable *a* of every processor will be summed. In this case, $NProc is 2, so those elements that were not identical result in odd sums, while those that were the same are even.

[0131] Most of these calls have default values if not all are specified. For example each of the following calls will have the equivalent effect as the above mpiGather[] call:

```
mpiGather[b, c, 0]
```

```
mpiGather[b, c]
c = mpiGather[b]
```

High-Level Calls

[0132] High-level calls can include convenient parallel versions of commonly used application program calls (for example, Mathematica calls). For example, ParallelTable[] is like Table[], except that the evaluations are automatically performed in a distributed manner:

```
In[13]:= ParallelTable[i,{i,100},0]
Out[13]:= {1,2,3,4,5, ••• ,99,100}
```

[0133] The third argument specifies that the answers are collated back to processor 0. This is a useful, simple way to parallelize many calls to a complex function. One could define a complicated function and evaluate it over a large range of inputs:

```
In[14]:= g[x_] := Gamma[2 + 0.5*(x-1)];
      ParallelTable[g[i],{i,100},0]
Out[14]:= {1, 1.32934, 2., 3.32335, 6., 11.6317, 24., 52.3428,
      120., 287.885, 720}
```

[0134] ParallelFunctionToList[] also provides a simplified way to perform this form of parallelism.

Operations with Non-Trivial Communication

Matrix Operations

[0135] In some embodiments, one or more functions can help solve matrix calculations in parallel:

```
In[15]:= a = Table[i+ 3* $IdProc + 2 j, {i, 2}, {j,4}]
Out[15]:= {{3, 5, 7, 9}, {4, 6, 8, 10}}
In[16]:= t = ParallelTranspose[a]
Out[16]:= {{3, 4, 6, 7}, {5, 6, 8, 9}}
```

Fourier Transforms

[0136] A Fourier transform of a large array can be solved faster in parallel, or made possible on a cluster because it can all be held in memory. A two-dimensional Fourier transform of the above example follows:

```
In[17]:= f = ParallelFourier[a]
Out[17]:= {{32. + 0. I, -4. - 4. I, -4., -4. + 4. I}, {-3. -
      3. I, 0. + 0. I, 0., 0. + 0. I}}
```

Edge Cell Management

[0137] Many problems require interactions between partitions, but only on the edge elements. Maintaining these edges can be performed using EdgeCell[].

```
In[18]:= a = {2, 4, 5, 6, 7}+8*$IdProc
Out[18]:= {2, 4, 5, 6, 7}
In[19]:= EdgeCell[a]; a
Out[19]:= {14, 4, 5, 6, 12}
```

Element Management

[0138] In particle-based problems, items can drift through space, sometimes outside the partition of a particular processor. This can be solved with ElementManage[l:

```
In[20]:= list={{0,4},{1,3},{1,4},{0,5}}; fcn[x_]:=x[[1]]
In[21]:= ElementManage[list, fcn]
Out[21]:= {{0, 4}, {0, 5}, {0, 4}, {0, 5}}
In[21]:= ElementManage[list, 2]
Out[21]:= {{0, 4}, {0, 5}, {0, 4}, {0, 5}}
```

[0139] The second argument of ElementManage describes how to test elements of a list. The *fcn* identifier returns which processor is the "home" of that element. Passing an integer assumes that each element is itself a list, whose first element is a number ranging from 0 to the passed argument.

[0140] While the examples above involve Mathematica software and specific embodiments of MPI calls and cluster commands, it is recognized that these embodiments are used only to illustrate features of various embodiments of the systems and methods.

VI. Additional Embodiments

[0141] Although cluster computing techniques, modules, calls, and functions are disclosed with reference to certain embodiments, the disclosure is not intended to be limited thereby. Rather, a skilled artisan will recognize from the disclosure herein a wide number of alternatives for the exact selection of cluster calls, functions, and management systems. For example, single-node kernels can be managed using a variety of management tools and/or can be managed manually by a user, as described herein. As another example, a cluster node module can contain additional calls and procedures, including calls and procedures unrelated to cluster computing, that are not disclosed herein.

[0142] Other embodiments will be apparent to those of ordinary skill in the art from the disclosure herein. Moreover, the described embodiments have been presented by way of example only, and are not intended to limit the scope of the disclosure. Indeed, the novel methods and systems described herein can be embodied in a variety of other forms without departing from the spirit thereof. Accordingly, other combinations, omissions, substitutions and modifications will be apparent to the skilled artisan in view of the disclosure herein. Thus, the present disclosure is not intended to be limited by the disclosed embodiments, but is to be defined by reference to the appended claims. The accompanying claims and their equivalents are intended to cover forms or modifications as would fall within the scope and spirit of the inventions.

WHAT IS CLAIMED IS:

1. A computer cluster comprising:

a first processor;

a second processor;

a third processor;

at least one computer-readable medium in communication at least one of the first processor, the second processor, or the third processor;

a first kernel residing in the at least one computer-readable medium, said first kernel configured to translate commands into code for execution on the first processor;

a first cluster node module residing in the at least one computer-readable medium, said first cluster node module configured to send commands to the first kernel and receives commands from a user interface;

a second kernel residing in the at least one computer-readable medium, said second kernel configured to translate commands into code for execution on the second processor;

a second cluster node module residing in the at least one computer-readable medium, said second cluster node module configured to send commands to the second kernel and communicates with the first cluster node module;

a third kernel residing in the at least one computer-readable medium, said third kernel configured to translate commands into code for execution on the third processor; and

a third cluster node module residing in the at least one computer-readable medium, said third cluster node module configured to send commands to the third kernel and configured to communicate with the first cluster node module and the second cluster node module;

wherein the first cluster node module comprises a data structure in which messages originating from the second and third cluster node modules are stored.

ABSTRACT

In some embodiments, a computer cluster system comprises a plurality of nodes and a software package comprising a user interface and a kernel for interpreting program code instructions. In certain embodiments, a cluster node module is configured to communicate with the kernel and other cluster node modules. The cluster node module can accept instructions from the user interface and can interpret at least some of the instructions such that several cluster node modules in communication with one another and with a kernel can act as a computer cluster.

58256571

PTO/AIA/14 (01-22)
Approved for use through 05/31/2024. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	ZTANN.002P1C9
	Application Number	
Title of Invention	CLUSTER COMPUTING	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Zvi		Tannenbaum	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Palo Alto	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	3513 Waverley St.		
Address 2			
City	Palo Alto	State/Province	CA
Postal Code	94306-3537	Country	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Dean	E.	Dauger	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Huntington Beach	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	P.O. Box 3074		
Address 2			
City	Huntington Beach	State/Province	CA
Postal Code	92605	Country	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

PTO/AIA/14 (01-22)
Approved for use through 05/31/2024. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	ZTANN.002P1C9
	Application Number	
Title of Invention	CLUSTER COMPUTING	

☐ **An Address is being provided for the correspondence Information of this application.**			
Customer Number	20995		
Email Address	efiling@knobbe.com	Add Email	Remove Email

Application Information:

Title of the Invention	CLUSTER COMPUTING		
Attorney Docket Number	ZTANN.002P1C9	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	5	**Suggested Figure for Publication (if any)**	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	20995		

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	ZTANN.002P1C9
	Application Number	
Title of Invention	CLUSTER COMPUTING	

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	18/158283	2023-01-23

Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
18/158283	Continuation of	17/374864	2021-07-13	11563621	2023-01-24

Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
17/374864	Continuation of	16/449084	2019-06-21	11128519	2021-09-21

Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
18/158283	Continuation of	17/374789	2021-07-13	11570034	2023-01-31

Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
17/374789	Continuation of	16/449084	2019-06-21	11128519	2021-09-21

Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16/449084	Continuation of	14/181112	2014-02-14	10333768	2019-06-25

Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14/181112	Continuation of	13/423063	2012-03-16	8676877	2014-03-18

Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13/423063	Continuation of	12/040519	2008-02-29	8140612	2012-03-20

Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
12/040519	Continuation of	11/744461	2007-05-04	8082289	2011-12-20

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	ZTANN.002P1C9
	Application Number	
Title of Invention	CLUSTER COMPUTING	

Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
11/744461	Claims benefit of provisional	60/813738	2006-06-13
Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
11/744461	Claims benefit of provisional	60/850908	2006-10-11
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.			Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

			Remove
Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)
Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.			Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

PTO/AIA/14 (01-22)
Approved for use through 05/31/2024. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	ZTANN.002P1C9
	Application Number	
Title of Invention	CLUSTER COMPUTING	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

PTO/AIA/14 (01-22)
Approved for use through 05/31/2024. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	ZTANN.002P1C9
	Application Number	
Title of Invention	CLUSTER COMPUTING	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

(•) Assignee	( ) Legal Representative under 35 U.S.C. 117	( ) Joint Inventor
( ) Person to whom the inventor is obligated to assign.	( ) Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. [X]

Organization Name	Advanced Cluster Systems, Inc.		
Mailing Address Information For Applicant:			
Address 1	220 Newport Center Drive, #11-202		
Address 2			
City	Newport Beach	**State/Province**	CA
Country	US	Postal Code	92660
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

PTO/AIA/14 (01-22)
Approved for use through 05/31/2024. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	ZTANN.002P1C9
	Application Number	
Title of Invention	CLUSTER COMPUTING	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Jordan M. Cox/			Date (YYYY-MM-DD)	2023-09-28
First Name	Jordan M.	Last Name	Cox	Registration Number	70,875

Additional Signature may be generated within this form by selecting the Add button. Add

PTO/AIA/14 (01-22)
Approved for use through 05/31/2024. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	ZTANN.002P1C9
	Application Number	
Title of Invention	CLUSTER COMPUTING	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

DocCode - SCORE

SCORE Placeholder Sheet for IFW Content

Application Number: 18479720 Document Date: 10/02/2023

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

- Drawing

At the time of document entry (noted above):

- USPTO employees may access SCORE content via DAV or via the SCORE web page.
- External customers may access SCORE content via PAIR using the Supplemental Content tab.

Form Revision Date: March 1, 2019