

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTEL CORPORATION,
Petitioner,

v.

ADVANCED CLUSTER SYSTEMS, INC.,
Patent Owner.

IPR2025-00795
U.S. Patent No. 10,333,768

**PETITIONER'S RESPONSE TO PATENT OWNER'S
REPLY IN SUPPORT OF DISCRETIONARY DENIAL**

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I. The '768 Patent is Not Patentably Distinct from a Patent Found 'Likely Unpatentable' and is from a Family of 'Likely Unpatentable' Patents.

The '768 patent comes from a family of "likely unpatentable" patents. Paper 10 ("Opposition") at 5-8. Patent Owner alleges "the claims of the '768 Patent differ materially from those of the cited family members." Paper 11 at 3. This is incorrect. For example, the '768 patent's parent (US8,676,877 ("877 patent")) was found likely unpatentable. *See* IPR2021-00108. And, during prosecution of the '768 patent, Patent Owner filed a terminal disclaimer over the '877 patent, which "is **a strong clue that** a patent examiner and, by concession, the applicant, thought **the claims ... lacked a patentable distinction.**" *See SimpleAir, Inc. v. Google LLC*, 884 F.3d 1160, 1168 (Fed. Cir. 2018); Ex.1002, 105-106. The '768 patent, by virtue of Patent Owner's terminal disclaimer, is not patentably distinct from the likely unpatentable '877 patent.

Additionally, Patent Owner alleges that Petitioner ignored the Board's denial of institution of prior IPRs. Paper 11 at 2. This is incorrect. Petitioner's Opposition explained how the "claim limitations determined to be missing from the earlier filed IPRs are specifically taught by the prior art in this Petition." Paper 10 at 8-11.

Especially notable here is that Patent Owner's technical arguments do not use the claim limitations considered to be relevant in the prior IPRs to distinguish over the prior art in this proceeding. *See generally* Papers 8, 9, and 11. In the prior IPRs, the Board determined that the prior art did not teach claim limitations that

required “a precise order of operation” where a “third node will receive a result from the second node, perform a second mathematical evaluation and communicate the result of the second mathematical evaluation to the first node.” Ex.1041, 26. However, in each of its Discretionary Denial Brief (Paper 8), Patent Owner Preliminary Response (Paper 9), and Reply in Support of Discretionary Denial (Paper 11), **Patent Owner never uses these claim limitations to overcome the prior art in this IPR**. Nor could it—the noted precise order of operations is directly taught by the prior art relied on in the Petition. Paper 3 at 12 and 53-56; Ex.1003, ¶¶194-201; Paper 10 at 8-11.

II. The '768 Patent Was Less Than Six Years Old at the Time the Petition Was Filed and There Are No Settled Expectations.

The '768 patent issued on June 25, 2019, **less than six years** before the filing date (March 28, 2025) of the Petition. Accordingly, when Petitioner filed its petition, the '768 patent had not been in force long enough to create settled expectations. Paper 10 at 17.

Patent Owner attempts to distinguish “the facts surrounding the '768 Patent ... from the 2019 patents at issue in *Cambridge*” because “the *Cambridge* patents [] had not previously been asserted in district court.” Paper 11 at 6. This is not accurate. One of the 2019 patents, US10,379,301B2, **was previously asserted** in district court (*Applied Optoelectronics, Inc., vs. Molex, LLC*, No. 3:23-cv-04787, Dkt. no. 8 (N.D.Cal.)), against a party that was different than the petitioner

(Cambridge Industries). That is the same fact pattern as this IPR, where the '768 patent was previously asserted against a party different than this Petitioner. Just as in *Cambridge*, the '768 patent was less than six years old at the time of filing of the Petition and there are no settled expectations.

III. There are Compelling Economic And National Security Interests and Patent Owner Asks the Director to Ignore Them.

Patent Owner asserts there is “no authority suggesting that commercial importance shields a patent challenge from discretionary denial.” Paper 11 at 4. This is incorrect. The Director’s Memorandum specifically notes that “compelling economic ... or national security interests” are important when considering discretionary denial. Ex.1077, 2.

As detailed in Petitioner’s Opposition, Patent Owner’s infringement allegations implicate and imperil a broad swath of U.S. economic interests, from millions of jobs to billions in economic activity. Paper 10 at 11-15. Patent Owner responds by arguing that “the Board has routinely denied institution in cases involving high-profile, widely used technologies,” such as “Apple’s watches.” Paper 11 at 4. Patent Owner, however, confuses marketplace popularity with national economic impact. High profile or widely used consumer retail products, such as watches, pose a different question than Intel’s Xeon processors, which power data centers throughout the country and are used heavily in national defense. Paper 10 at 13-17.

Patent Owner is effectively arguing that the Director should not consider economic interests or national security when determining whether a review of the '768 patent is worth the resources of the Patent Office. Here, the '768 patent is being used to **seek an injunction** against semiconductors that power billions of dollars of economic growth throughout the country, where “California, Texas, Florida, New York, Georgia, Illinois, Washington, Pennsylvania, Virginia and New Jersey have emerged as leading beneficiaries.” Ex.1047, 28. Here, the '768 patent is being used to seek an injunction against semiconductors used by the NSA, Air Force, Department of Energy, and Department of Defense and that are “essential to the nation.” Paper 10 at 16-17 (citing Ex.1054, 2). Patent Owner is wielding the over-broad claims of the '768 patent to cast a pall on these economic and national security interests—a review of the '768 patent is worth the resources of the Patent Office.

Patent Owner's argument about the U.S. being shielded from liability under 28 U.S.C. § 1498 misses the point. The question is whether the '768 patent implicates national security sufficiently to justify the resources of the Patent Office. Under Patent Owner's theory, the Director's national security factor should be treated as moot and have no bearing on discretionary denial. Petitioner respectfully submits that the Director's national security factor is relevant and should be considered.

Response to Patent Owner's Reply in Support of Discretionary Denial
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Respectfully submitted,

Date: July 30, 2025

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PETITIONER'S EXHIBIT LIST

Ex.1001	U.S. Patent No. 10,333,768
Ex.1002	Prosecution History of U.S. Patent No. 10,333,768
Ex.1003	Declaration of Dr. Chandrajit L. Bajaj under 37 C.F.R. § 1.68
Ex.1004	<i>Curriculum Vitae</i> of Dr. Chandrajit L. Bajaj
Ex.1005	"MultiMATLAB: Integrating MATLAB with High-Performance Parallel Computing," Menon et al., SC '97: Proceedings of the 1997 ACM/IEEE Conference on Supercomputing 1997
Ex.1006	"MultiMATLAB: MATLAB on Multiple Processors," Trefethen et al., 1996 Computer Science Technical Report, Cornell University 1996
Ex.1007	"RS/6000 SP: Planning Vol. 1, Hardware and Physical Environment," IBM 2001
Ex.1008	"Operation and Use, Volume 1, Using the Parallel Operating Environment," IBM 2001
Ex.1009	"Single program multiple data" in Dictionary of Algorithms and Data Structures, P. E. Black, (accessible at https://www.nist.gov/dads/HTML/singleprogrm.html) December 2004
Ex.1010	The RS/6000 SP Inside Out" to Barrios et al., IBM 1999
Ex.1011	"High Performance Cluster Computing: Programming and Applications," Rajkumar Buyya, Vol. 2, 1999
Ex.1012	"Analysis of 100Mb/s Ethernet for the Whitney Commodity Computing Testbed," Fineberg et al., NAS Technical Report NAS-97-025 1997
Ex.1013	"A Parallel Linear Algebra Server for Matlab-like Environments," G. Morrow et al., SC '98: Proceedings of the 1998 ACM/IEEE Conference on Supercomputing 1998

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Ex.1014	"Parallel MATLAB: Doing It Right," R. Choy et al., Proceedings of the IEEE, Vol. 93, No. 2, 2005
Ex.1015	"Mathematica Parallel Computing Toolkit - Unleash the Power of Parallel Computing," R. Maeder, 2005
Ex.1016	"Mastering MATLAB® 5 – A Comprehensive Tutorial and Reference," D. Hanselman et al., 1998
Ex.1017	"MPI: A Message-Passing Interface Standard," Message Passing Interface Forum, 1994
Ex.1018	"Modern Operating Systems," A.S. Tanenbaum, 2001
Ex.1019	September 26, 2024 Complaint in Western District of Texas against Intel
Ex.1020	Order Granting Joint Motion for Entry of Amended Scheduling Order for <i>Advanced Cluster Systems, Inc. v. Intel Corporation</i> , 7:24-CV-00245 (W.D.TX.)
Ex.1021	Federal Court Statistics
Ex.1022	Advanced Cluster Systems, Inc.'s Preliminary Infringement Contentions, January 22, 2005, <i>Advanced Cluster Systems, Inc. v. Intel Corporation</i> , 7:24-cv-00245 (WDTX)
Ex.1023	Cornell Websites
Ex.1024	"pyMPI–An introduction to parallel Python using MPI," P. Miller 2002
Ex.1025	Amended Joint Claim Construction Chart for <i>Advanced Cluster Systems, Inc. v. NVIDIA Corporation</i> , 1:19-cv-02032 (DDE)
Ex.1026	SC97: High Performance Networking and Computing Conference Website
Ex.1027	Declaration of IEEE
Ex.1028	ACM Digital Library - Citations to Menon

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Ex.1029	Affidavit of Archive.org
Ex.1030	HPC Wire Article about the SC97 High Performance Computing Conference
Ex.1031	Flyer about the SC97 High Performance Computing Conference
Ex.1032	IEEE Xplore Website
Ex.1033	Article about Cornell Theory Center
Ex.1034	ACM Digital Library
Ex.1035	ACM Digital Library - Citations to Menon
Ex.1036	A Beginner's Guide to the IBM SP
Ex.1037	ACM Digital Library - Citations to MPIref
Ex.1038	IBM Website for RS6000
Ex.1039	IBM Website for POE
Ex.1040	ACS Preliminary Response, IPR2021-00019
Ex.1041	Decision Denying Institution, IPR2021-00019
Ex.1042	Sotera Stipulation, <i>Advanced Cluster Systems, Inc. v. Intel Corporation</i> , 7:24-cv-00245 (WDTX)
Ex.1043	U.S. Patent No. 8,082,289
Ex.1044	U.S. Patent No. 8,140,612
Ex.1045	U.S. Patent No. 8,676,877
Ex.1046	"X86 vs. ARM: A Deep Dive into the Architecture," Semicon Electronics, October 28, 2024
Ex.1047	"Intel battles AMD with new data center chips," Cherney et al, Reuters, June 4, 2024
Ex.1048	"Economic Contributions of Data Centers in the United States,

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	2017-2023,” PWC, Feb. 2025
Ex.1049	“Back & Forth 2: Intel and the Semiconductor Industry,” S. Shivakumar et al., Center for Strategic & International Studies, Jan. 13, 2025
Ex.1050	“DoD Extends Contract for ORAN-based Private 5G Networks through 2025,” Echostar, March 18, 2024
Ex.1051	“HPE selected to deliver supercomputers for DoD computing modernization program,” M. Iriarte, Military Embedded Systems, February 20, 2018
Ex.1052	“ZMicro to Provide Rugged Computers for US Sky Warden Aircraft,” R. Manuel, The Defense Post, Oct. 6, 2022
Ex.1053	“Argonne National Laboratory’s Aurora 2+ ExaFLOPS System Will Enable New Science and Engineering,” Intel
Ex.1054	“What milestone advancements in computer chips mean for the military,” Breaking Defense
Ex.1055	Amended Order Assigning the Business of the Court (Judge Moses, Jan. 31, 2025)
Ex.1056	LexMachina docket report
Ex.1057	LexMachina docket report
Ex.1058	USPTO Notice rescinding the June 21, 2022, memorandum entitled “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation.”
Ex.1059	Notice of Filing Date Accorded to Petition, IPR2025-00915
Ex.1060	Notice of Filing Date Accorded to Petition, IPR2025-00914
Ex.1061	Notice of Filing Date Accorded to Petition, IPR2025-00916
Ex.1062	Notice of Filing Date Accorded to Petition, IPR2025-00913
Ex.1063	Claim Construction Order and Memorandum in Support Thereof, <i>ParkerVision, Inc. v. MediaTek Inc. et al.</i> , 6:22-cv-01163 (WDTX)
Ex.1064	Claim Construction Order, <i>TOT Power Control, S.L. v. AT&T, Inc. et al.</i> , 6:21-cv-00107 (WDTX)

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Ex.1065	Claim Construction Order, <i>AlmondNet, Inc. v. Amazon.com, Inc., et al.</i> , No. 6:21-cv-00898-ADA (WDTX)
Ex.1066	Petition for a Writ of Mandamus, <i>In re Sap America, Inc.</i> , 25-118 (Fed. Cir.)
Ex.1067	Decision Granting Institution of <i>Inter Partes</i> Review, IPR2020-01608
Ex.1068	Decision Granting Institution of <i>Inter Partes</i> Review, IPR2021-00075
Ex.1069	Decision Granting Institution of <i>Inter Partes</i> Review, IPR2021-00108
Ex.1070	“FAQs for Interim Processes for PTAB Workload Management” (USPTO)
Ex.1071	September 26, 2024 Complaint in Western District of Texas against AMD
Ex.1072	Termination Due to Settlement After Institution of Trial, IPR2020-01608
Ex.1073	Termination Due to Settlement After Institution of Trial, IPR2021-00075
Ex.1074	Termination Due to Settlement After Institution of Trial, IPR2021-00108
Ex.1075	IPR petition, IPR2025-00795
Ex.1076	Declaration of Pamela Keyl, IPR2023-00042
Ex.1077	March 26, 2025 Memorandum titled “Interim Processes for PTAB Workload Management” (Acting Director Stewart)
Ex.1078	March 24, 2025 Memorandum titled “Guidance on USPTO’s rescission of ‘Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation’” (Chief Administrative Patent Judge Boalick)
Ex.1079	Reserved
Ex.1080	Senate hearing on “Winning the AI Race: Strengthening U.S. Capabilities in Computing and Innovation,” May 8, 2025
Ex.1081	“2024 Annual Report,” AMD

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Ex.1082	"Frontier supercomputer hits new highs in third year of exascale," Oak Ridge National Laboratory, Nov. 18, 2024
Ex.1083	"AMD flags \$800 million hit from new US curbs on chip exports to China," Reuters, Apr. 16, 2025
Ex.1084	ACS Preliminary Response, IPR2021-00020
Ex.1085	Trial Institution Document, IPR2021-00020

CERTIFICATE OF SERVICE

The undersigned certifies, under 37 C.F.R. § 42.6, that service was made on the Patent Owner as detailed below.

Date of service July 30, 2025

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Documents served **PETITIONER'S RESPONSE TO PATENT OWNER'S
REPLY IN SUPPORT OF DISCRETIONARY
DENIAL**

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