

8558392



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

January 06, 2025

**THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE
RECORDS OF THIS OFFICE OF THE FILE WRAPPER AND CONTENTS
OF:**

APPLICATION NUMBER: 17/887,922
FILING DATE: *August 15, 2022*
PATENT NUMBER: 11582343
ISSUE DATE: *February 14, 2023*



Certified by

David A. Brent

Acting Under Secretary of Commerce
for Intellectual Property
and Acting Director of the United States
Patent and Trademark Office

**CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION
UNDER 37 CFR 1.102(e) (Page 1 of 1)**

First Named Inventor:	ERIC DELANGIS	Nonprovisional Application Number (if known):	
Title of Invention:	DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

1. The processing fee set forth in 37 CFR 1.17(i)(1) and the prioritized examination fee set forth in 37 CFR 1.17(c) have been filed with the request. The publication fee requirement is met because that fee, set forth in 37 CFR 1.18(d), is currently \$0. The basic filing fee, search fee, and examination fee are filed with the request or have been already been paid. I understand that any required excess claims fees or application size fee must be paid for the application.
2. I understand that the application may not contain, or be amended to contain, more than four independent claims, more than thirty total claims, or any multiple dependent claims, and that any request for an extension of time will cause an outstanding Track I request to be dismissed.
3. The applicable box is checked below:

I. ☒ Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)

- i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.
---OR---
(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.
- ii. An executed inventor's oath or declaration under 37 CFR 1.63 or 37 CFR 1.64 for each inventor, or the application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) is filed with the application.

II. ☐ Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)

- i. A request for continued examination has been filed with, or prior to, this form.
- ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
- iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
- iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
- v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature <u>/H C McGurk IV/</u>	Date <u>August 12, 2022</u>
Name (Print/Typed) <u>Harold C McGurk IV</u>	Practitioner Registration Number <u>34964</u>

Note: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required.*

☐ *Total of _____ forms are submitted.

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 disclosure of these records is required by the Freedom of Information Act.
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 Cooperation Treaty.
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 inspection 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.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	
	Filing Date	
	First Named Inventor	ERIC DELANGIS
	Art Unit	
	Examiner Name	
	Attorney Docket Number	ED 7000

U.S.PATENTS							Remove	
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear		
	1	7315900		2008-01-01	Ofelt et. al			
If you wish to add additional U.S. Patent citation information please click the Add button.							Add	
U.S.PATENT APPLICATION PUBLICATIONS							Remove	
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear		
	1							
If you wish to add additional U.S. Published Application citation information please click the Add button.							Add	
FOREIGN PATENT DOCUMENTS							Remove	
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² i	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							
If you wish to add additional Foreign Patent Document citation information please click the Add button							Add	
NON-PATENT LITERATURE DOCUMENTS							Remove	
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, pages(s), volume-issue number(s), publisher, city and/or country where published.						T ⁵

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		
Filing Date		
First Named Inventor	ERIC DELANGIS	
Art Unit		
Examiner Name		
Attorney Docket Number	ED 7000	

1	
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If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

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

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	
Filing Date	
First Named Inventor	ERIC DELANGIS
Art Unit	
Examiner Name	
Attorney Docket Number	ED 7000

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	
Name/Print		Registration Number	

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 Cooperation Treaty.
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.

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
OR
REVOCATION OF POWER OF ATTORNEY
WITH A NEW POWER OF ATTORNEY
AND
CHANGE OF CORRESPONDENCE ADDRESS**

Application Number	
Filing Date	8-15-2022
First Named Inventor	ERIC DELANGIS
Title	Devices and Methods for Multipath Communications
Art Unit	
Examiner Name	
Attorney Docket Number	ED 7000

I hereby revoke all previous powers of attorney given in the above-identified application.

☐ A Power of Attorney is submitted herewith.**OR**☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

64828

OR☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Practitioner(s) Name	Registration Number

Please recognize or change the correspondence address for the above-identified application to:

☒ 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/Inventor.**OR**☒ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) (Form PTO/SB/96) submitted herewith or filed on _____.**SIGNATURE of Applicant or Assignee of Record**

Signature	/Eric Delangis/	Date	August 15, 2022
Name	Eric Delangis	Telephone	
Title and Company	CEO, Competitive Access Systems, Inc.		

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31, 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.

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		Devices and Methods for Multipath Communications		
First Named Inventor/Applicant Name:		Eric Delangis		
Filer:		Harold C. McGurk		
Attorney Docket Number:		ED 7000		
Filed as Small Entity				
Filing Fees for Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY FILING FEE (ELECTRONIC FILING)	4011	1	80	80
UTILITY SEARCH FEE	2111	1	350	350
UTILITY EXAMINATION FEE	2311	1	400	400
REQUEST FOR PRIORITIZED EXAMINATION	2817	1	2100	2100
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				2930

Electronic Acknowledgement Receipt

EFS ID:	46412517
Application Number:	17887922
International Application Number:	
Confirmation Number:	8336
Title of Invention:	Devices and Methods for Multipath Communications
First Named Inventor/Applicant Name:	Eric Delangis
Customer Number:	64828
Filer:	Harold C. McGurk
Filer Authorized By:	
Attorney Docket Number:	ED 7000
Receipt Date:	15-AUG-2022
Filing Date:	
Time Stamp:	15:42:19
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 2930
RAM confirmation Number	E20228EF44273609
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	ED_7000_ADS_SB14.pdf	1024023	no	5
			15872987e05c423077a744e52dc608357fe06631		
Warnings:					
Information:					
2	Specification	ED_7000_Specification_FINAL.pdf	260785	no	24
			ef7da597f52c85965c1c395bab5191a27149cfb5		
Warnings:					
Information:					
3	Drawings-only black and white line drawings	ED_7000_Drawings_1-9.PDF	2620724	no	9
			5f2c2bc1b63f197728e97df396e6f7ff589f976b		
Warnings:					
Information:					
4	Oath or Declaration filed	ED_7000_Declaration.pdf	77446	no	1
			55b170ee5b2481ffab2960c3f951ea0457090d29		
Warnings:					
Information:					
5	Abstract	ED_7000_Abstract.pdf	107752	no	1
			e91eb554278755d20a54d05c41303b01e3a5875e		
Warnings:					
Information:					
6	Claims	ED_7000_Claims.pdf	66662	no	4
			86e124d2f2f8f00e9c61894d65151c322668d819		
Warnings:					
Information:					

7	Track One Request	ED_7000_TRACKONE.pdf	183295 c9ed180e8183c7331f4af8480e0e917e57c274b1	no	2
Warnings:					
Information:					
8	Information Disclosure Statement (IDS) Form (SB08)	ED_7000_IDS.pdf	612233 56b9bf9394d764e6a8de5d77f0fb73d182576ae7	no	4
Warnings:					
Information:					
9	Power of Attorney	ED_7000_Power_Attorney.pdf	101238 f6a3651ad98b03b61889b52fee752afba3e17cf2	no	1
Warnings:					
Information:					
10	Fee Worksheet (SB06)	fee-info.pdf	46647 4d1158da6725a199fb30b36ec442d8de5aed9c04	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			5100805		
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. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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.					

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	ED 7000
		Application Number	
Title of Invention	DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS		
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.)

Applicant Information:

Applicant 1				Remove	
Applicant Authority • Inventor		Legal Representative under 35 U.S.C. 117		Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	ERIC	M.	DELANGIS		
Residence Information (Select One) • US Residency Non US Residency Active US Military Service					
City	Wylie	State/Province	TX	Country of Residence	US
Citizenship under 37 CFR 1.41(b)		US			
Mailing Address of Applicant:					
Address 1		3019 Charles Drive			
Address 2					
City	Wylie	State/Province	TX		
Postal Code	75098	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).			
☐ An Address is being provided for the correspondence Information of this application.			
Customer Number	64828		
Email Address	claymcgurk@gmail.com	Add Email	Remove Email

Application Information:

Title of the Invention	DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS		
Attorney Docket Number	ED 7000	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	9	Suggested Figure for Publication (if any)	7

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	ED 7000
		Application Number	
Title of Invention	DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS		

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).

Enter either 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	64828		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this 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(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
	Continuation of	17120549	2020-12-14	11418641	2022-08-16
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
17120549	Continuation of	15161787	2016-05-23	10868908	2020-12-15
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15161787	Continuation of	14512414	2014-10-11	9350649	2016-05-24
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14512414	Continuation of	13531294	2012-06-22	8861349	2014-10-14
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13531294	Continuation of	12581852	2009-10-19	8228801	2012-07-24

Application Data Sheet 37 CFR 1.76		Attorney Docket Number		ED 7000	
		Application Number			
Title of Invention		DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS			
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
12581852	Continuation of	10686375	2003-10-14	7606156	2009-10-20
Prior Application Status		Expired		Remove	
Application Number		Continuity Type		Prior Application Number	Filing Date (YYYY-MM-DD)
10686375		non provisional of		60418521	2002-10-15
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Signature	/H C McGurk, Reg. 34964/		Date (YYYY-MM-DD)	2022-08-12
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	ED 7000
		Application Number	
Title of Invention	DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS		

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DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS

RELATED APPLICATIONS

[0001] This application is a continuation of U.S. Patent Application Serial No. 17/120,549 filed on December 14, 2020, soon to be patented as U.S. Patent 11,418,641, which is a continuation of U.S. Patent Application Serial No. 15/161,787 filed May 23, 2016, now patented as U.S. Patent 10,868,908, which is a continuation of U.S. Patent Application Serial No. 14/512,414 filed October 11, 2014, now patented as U.S. Patent 9,350,649, which is a continuation of U.S. Patent Application Serial No. 13/531,294 filed June 12, 2012, now patented as U.S. Patent 8,861,349, which is a continuation of U.S. Patent Application Serial No. 12/581,852 filed October 19, 2009, now patented as U.S. Patent 8,228,801, which is a continuation of U.S. Patent Application Serial No. 10/686,375 filed October 14, 2003, now patented as U.S. Patent 7,606,156, which claims priority to U.S. Provisional Application Serial No. 60/418,521, filed October 15, 2002, all of which are incorporated by reference herein.

BACKGROUND OF INVENTION

[0002] The primary function of the RCG is to provide a platform for Competitive Local Exchange Companies (CLECs) to compete with the Local Exchange Companies (LECs) for residential voice and data services. The LECs have a strangle hold on the “last mile” of copper over which almost all residential customers receive their communications services. Today, most CLECs resell the existing services that are offered by the LECs. CLECs make their money by purchasing these services from the LECs at a discount and marking them up to the customer. Since these services are regulated and controlled by the Public Utilities Commission (PUC) the pricing for these services to the CLECs is set. The monthly CLEC discount is approximately \$5 to \$6 per line per month for basic rate services. This means, in practicality, that a CLEC can only charge an additional \$5 or \$6 to the residential customer for basic rate services otherwise they would be more expensive than the LEC, and no one would buy the services from them; telephone customers would simply stay with the LEC.

[0003] To be competitive then, CLECs try to sell additional services such as call waiting, caller ID, etc. where they have as much as a 50% margin. Some CLECs also bundle long

distance services with their packages as additional incentive to get residential customers to buy local telephone service from them. Since long distance fees are as low as pennies per minute to the customer, there is little profit in long distance for the CLECs. As it is, the pricing structure is such that the LECs will stay in control of the residential market, and the CLECs are nothing more than a marketing arm of the LEC. This structure also keeps the CLECs at an equal competitive advantage, or disadvantage, with respect to each other. The only thing that one CLEC could do to gain more customers is to be a better marketier. Since the CLECs are unable to discount their services because their margins are too slim as it is, the net effect is that the consumer loses by not really getting competition in the residential markets, and prices are kept artificially high.

[0004] For the CLECs to be truly competitive in the local telecommunications markets, they must be able to do more than simply resell the LECs services. CLECs must be able to offer many more features or services than those that the LEC provides, and they must be able to do this at a lower cost, in order to attract new customers.

[0005] So, what new services can the CLECs offer? As things stand today there are none, with the exception of DSL or Cable services which require tremendous infrastructure costs on behalf of the CLEC. However, by deploying an RCG in a residence, CLECs can offer advanced new calling features and services over the existing POTS line. Their costs for the POTS line from the LEC remains the same, but they can now charge for high bandwidth data services as well as additional calling and messaging features that the LECs cannot offer. This is their competitive advantage.

Competition:

[0006] Many companies are currently trying to provide VoIP services to residential customers over high-speed or broadband backbones such as DSL and cable modems, over Internet connections via a computer. The high-speed services require expensive infrastructure enhancements to the local telephone companies' facilities and cable plants, as well as expensive modems at the customer's end. These services are also difficult to deploy and too complicated for the average user. Internet based VoIP services suffer from Internet delays caused by a lack of true Quality of Service (QOS) capabilities across the Internet. Existing VoIP services also require access to a computer and a technical knowledge to be able to make it work. Because of

these problems, VoIP services are primarily targeted at the corporate market place where private IP networks that can carry VoIP services with a true guaranteed QOS exist, or can be controlled.

[0007] The only available alternatives for the residential user for high speed services are DSL and cable modems. DSL and Cable based communications reach only a small segment of the population, and growth has failed to live up to initial expectations. The recent collapse of the internet boom has led to the failure of many DSL service providers and has effectively eliminated DSL as a potential service for most POTS users for the immediate future.

SUMMARY OF THE INVENTION

[0008] The RCG combines the capabilities and features of IP routers, Class 5 circuit switches and wireless LANs in a small stand-alone external modem like device. Additional capabilities for a hands-free speakerphone device with a large touch display are also detailed. The RCG can employ a large display with sufficient resolution to provide a functional user interface to access all of the advanced features offered by the RCG, but also to be able to provide video telephone services.

[0009] The device is placed in a residence and connected to the primary POTS line coming from the LEC. Up to three standard telephones or FAX machines (or any combination) are typically connected into the RCG. It also has a Universal Serial Bus (USB) and/or a 10-100 Ethernet interface for connection to a computer or a Local Area Network (LAN). In addition, it has an 802.11b/g wireless interface for wireless home networking as well as broadband-to-the-home services.

[0010] The system is installed in a customer's home by simply plugging it into the existing incoming telephone line that provides POTS services from the LEC. One or more standard telephones are then plugged into its three line-output jacks. This is the simplest and most basic usage. In this implementation, the user only is interested in gaining additional telephone lines into the household. No computer connection is required in order to use the system. However, if data communications are desired, then there are three additional interfaces for computer connectivity. Typically either an Ethernet port, USB port or firewire (IEEE 1394) port is used to connect to a PC or LAN. The 802.11b/g interface is for wireless communications between the

RCG and PCs, other RCGs as well as any other types of compatible wireless devices. A version of the RCG includes a speakerphone and video camera to provided for video telephone services.

Services provided by the RCG:

[0011] The following discussion refers to figure 1. The RCG has a main system processor that is responsible for all house keeping and traffic routing tasks. The Main CPU 19 routes data to and from the Ethernet Port 11, USB Port 12, Modem/DAA 41, DSP Engine 33, 802.11b/g Module 36 and the Display and Keypad 10.

[0012] The RCG provides a total telecommunications communications services package for residential and small business customers. With the RCG, a CLEC can offer its customers dialtone for up to three separate telephone numbers per residence (the limit of three telephone numbers is an arbitrary number based upon typical residential usage and is not a limit imposed by the system), all local and long distance services, 24/7 always-on Internet access, a host of custom messaging and calling features, as well as Broadband access and lifeline service. All of these services can be offered over a customer's existing POTS line, and it doesn't require any network infrastructure build out like DSL and Cable services. Because there is no expensive network equipment required, it can be readily deployed throughout the country to expand the CLECs customer base quickly.

[0013] The RCG is designed to enhance, not replace, the existing telephone line, enabling it to provide new combined packetized voice and data services. Meanwhile, all existing telecommunications infrastructure and equipment will continue to work seamlessly with the RCG. Aside from simply installing the low cost RCG device in the home telephone wiring, no other equipment needs to be purchased by either the home owner or telephone companies. This eliminates the tremendously expensive infrastructure costs for communications companies that are trying to provide voice services using DSL or cable modems.

The RCG VIP Home Gateway features:

[0014] Up to three telephone lines i.e. numbers, over a single POTS line and/or wireless connection.

[0015] Ethernet, USB and IEEE 1394 computer interfaces.

[0016] Full G1, G2 and G3 FAX support.

- [0017]** Full support for all CLASS services.
- [0018]** Broadband networking for home computers and appliances as well as wide area networking using a combination of a plurality POTS lines connected to a plurality of RCGs and/or a direct wireless connection to a wireless access point. (These interfaces allow smart devices to communicate to other devices within the home, or over the Internet through the RCG.)
- [0019]** Automated, remote upgradability and configuration. (Requires the customer to do nothing.)
- [0020]** Transparent user operation. (User doesn't have to know that any new technology is being employed)
- [0021]** 100% compatible with existing public telephone system.
- [0022]** Video Telephone capabilities.
- [0023]** No local or long distance usage charges.
- [0024]** No Internet access fees.
- [0025]** Lower monthly communication costs.
- [0026]** Multiple telephone calls at the same time.
- [0027]** Voice messaging, follow me features, call forwarding, automatic call back, conferencing, custom call routing. Home networking capabilities, all CLASS calling features, high speed broadband networking, continuous 24/7 internet access. and many others.
- [0028]** All of these features are available even while connected to the Internet.
- [0029]** Very low cost of entry into the market, especially as compared to broadband alternatives.
- [0030]** New calling features that are not currently available to home users.

BRIEF DESCRIPTION OF THE DRAWINGS

- [0031]** Figure 1 shows the RCG functional block diagram with the preferred embodiment of an 802.11 wireless connection.
- [0032]** Figure 2 shows the network topology for native RCG to RCG communications.
- [0033]** Figure 3 shows the network topology for an RCG to PSTN call.
- [0034]** Figure 4 shows the RCG top view with associated functions.

- [0035]** Figure 5 shows the RCG rear view and associated connections.
- [0036]** Figure 6 shows a typical application with peripheral equipment connections.
- [0037]** Figure 7 shows an ad-hoc wireless LAN configuration with ppp multilink data distribution and wireless connectivity.
- [0038]** Figure 8 shows an ad-hoc wireless LAN configuration with ppp multilink data distribution and wireless connectivity with connection to a broadband neighborhood access point (Wi-Fi hot spot).
- [0039]** Figure 9 shows an ad-hoc wireless LAN configuration with ppp multilink data distribution and wireless connectivity with wireless data hopping with POTS connections through numerous different Class 5 offices.

DETAILED DESCRIPTION OF THE INVENTION

[0040] The preferred embodiment is detailed herein using the ubiquitous 802.11 wireless protocol. It is by no means insinuated that this is the only wireless scheme that can be used by this device; rather, it is intended that any wireless transmission scheme can be used for wireless communications between this device and other wireless devices as various applications may dictate.

System Initialization

[0041] Refer to figures 1, 2 and 3 for the following discussion. When the RCG is first plugged into an AC power outlet the Main CPU 19, performs a Power-on Self Test (POST) routine. Once the POST completes and the RCG is connected to an active POTS line, connected to the LEC, by means of the Incoming POTS Port 40, the RCG automatically initiates a modem connection via the Modem/DAA 41, to a registration service via a toll free 800 telephone number. The registration service connects directly to the service provider's sales or customer service offices via a VoIP connection. An operator or an automated service answers the call and sets up a new account for the customer. Once the account is set up, the service provider's network automatically sends control information to the device to store the required routing and feature/service information in its non-volatile memory of its Main CPU 19. As part of this

information, a local dialup telephone number is sent to the device that it will use for local network access in the same fashion as a standard ISP connection is made from a home computer. The URL of the Softswitch/SIP Proxy Server and Registrar 51 that will be controlling this particular device is also stored at this time. During the service activation and configuration process, the customer service operator can send test requests to the device, as well as call into it on another telephone number (assuming an additional telephone number is part of the users class of service) or the speakerphone to verify that it is configured and working properly. The final step of the configuration and initialization process is to register the device with the appropriate Softswitch/SIP Proxy Server and Registrar 51 so that the Softswitch/SIP Proxy Server and Registrar 51 knows that it is the controlling SIP Proxy for this RCG. Also configured at this time is the username/password verification server (this is a standard network device and is not shown) that is used to allow the RCG's modem to make a connection onto the service provider's network. Once the RCG configuration is completed, it disconnects the call by hanging up the Modem/DAA 41, then dials the new local network access number that had been sent during the configuration process and establishes a constant local network connection. This connection is maintained continuously on a 24/7 basis, and is immediately reestablished whenever it drops. Should the RCG become unable to reestablish this connection after several tries, it will switch over to failsafe mode and inform the user via the Display and Keypad 10. The RCG will try to reestablish the connection every few minutes until it finally succeeds.

[0042] By default, the first telephone port, POTS 1 Port 30, is assigned as the termination port for the existing POTS service that is connected to Incoming POTS Port 40. This is the existing telephone service that the user already has as his primary telephone service from his LEC. POTS 1 Port 30, typically has connected to it a standard telephone set that does not require any power (other than that derived over the POTS interface) to operate properly. POTS 1 Port 30 is the Lifeline telephone port for the user. In the case that all power is lost to the RCG, POTS 1 Port 30 will fail to a direct connection to the Incoming POTS Port 40 telephone line that comes into the RCG from the LEC to provide uninterrupted telephone services to the user. In this state, however, none of the enhanced VoIP services of the RCG are available to the user since the user simply has a stand POTS telephone service to the LEC.

[0043] Two additional and unique telephone numbers can be assigned to the other two telephone ports, POTS 2 Port 29 and POTS 3 Port 28, by the service provider at any time. These

numbers are drawn from a pool of available telephone numbers assigned to the service provider. POTS 2 Port 29 and POTS 3 Port 28 must to have standard telephone numbers assigned to them so that the PSTN is able to route calls from its network to these ports. For calls originating from IP based telephones, these numbers are not necessarily needed since POTS 1 Port 30, POTS 2 Port 29 and POTS 3 Port 28 are uniquely identifiable to IP networks via their IP addresses assigned through the Dynamic Host Configuration Protocol (DHCP) at the time that the RCG establishes a connection to the service provider's network. Since POTS 2 Port 29 and POTS 3 Port 28 must have a telephone number assigned to them, it is a matter of convenience to use the assigned telephone numbers as part of their SIP address for IP routing of their data. In this way, all three user POTS ports, POTS 1 Port 30, POTS 2 Port 29 and POTS 3 Port 28 are all addressed the same manor.

[0044] At this point, the user is able to take advantage of all of the RCG's features that have been activated according to his service agreement. The user can at any time connect additional telephones, a computer or a computer network to the RCG. The user will only be able to use those telephone ports (POTS 1 Port 30, POTS 2 Port 29 or POTS 3 Port 28) that have been activated, and assigned unique telephone numbers by the service provider. Any type of standard telephone can be connected to the three POTS ports, POTS 1 Port 30, POTS 2 Port 29 and POTS 3 Port 28. In the event that a cordless telephone or a telephone that derives its power from an AC outlet is connected to POTS 1 Port 30, the lifeline functionality of this port will be ineffective since the telephone itself will not operate once power is lost.

[0045] The speaker phone feature of the RCG, comprised of Speakerphone Drivers 22, Microphone 24, Speaker 25 and DSP Engine 33, can be used on any of the activated telephone numbers and is by default enabled to operate on POTS 1 Port 30. Once either of the other two telephone ports, POTS 2 Port 29 or POTS 3 Port 28, is activated, the speakerphone function is activated for those lines as well. To use the speakerphone for any assigned telephone number, the user simply presses either the Line Select Button 79-81 for Line 1, Line2 or Line 3 on the face of the RCG, and the speakerphone function is activated on that line. This is convenient for answering any call directly at the RCG. The RCG may or may not have a number keypad for originating calls. This feature may be added or removed based upon the target market price points.

[0046] The determination as to which Inter Exchange Carrier (IXC) the RCG will route its data through is determined by any of a number of criteria including, but not limited to, whether the RCG is a private labeled product, or which carrier has the lowest cost routing, or if a specific carrier is specified by the customer, or and number of other considerations. The RCG can be programmed to change its routing path to any IXC at any time by the service provider. Complicated routing algorithms can be programmed into the RCG to control which IXC it will use at any time.

Failsafe Mode

[0047] During any time that the RCG is in failsafe mode i.e. Lifeline failsafe logic 39 is activated, the RCG will only be able to receive or initiate telephone calls via the telephone connected to its primary telephone port, POTS 1 Port 30 or through its speakerphone feature. In this condition, all activated telephone numbers are ported via the PSTN to the primary (first) telephone number for delivery to the user's telephone that is connected to POTS 1 Port 30. While in failsafe mode, the modem is not activated, and the RCG appears to the local Class 5 office as a standard telephone, and the PSTN will route all incoming calls to the RCG as it normally would to any standard telephone.

Call Flow 1:

[0048] Dialed call origination from a telephone connected to an RCG POTS port and terminating at another user's RCG POTS port:

[0049] When a user picks up a telephone connected to any of the three POTS ports, POTS 1 Port 30, POTS 2 Port 29 and POTS 3 Port 28, an off hook condition is detected by the SLIC/CODEC Interface 27 that is connected to the DSP Engine 33 by way of the DSP Audio Interface 31. The DSP Engine 33 responds by sending digitally generated dialtone to the appropriate POTS interface over the DSP Audio Interface 31. (Note: all BORSCHT telephony functions are performed by the DSP Engine 33 and the SLIC/CODEC Interface 27.) Upon hearing the dialtone, the user enters the desired telephone number on his telephone keypad. The Dual Tone Multi-Frequency (DTMF) digits that the user dials are decoded within the DSP Engine 33. The dialed digits are transferred to the Main CPU 19 via the CPU/DSP

Communications Path 34. The Main CPU 19 polls the DSP Engine 33 approximately every two milliseconds looking for data. The Main CPU 19 polling rate varies according to the process that is being performed. The CPU/DSP Communications path 34 also can generate an interrupt to force data transfer between it and the Main CPU 19.

[0050] The Main CPU 19 generates a SIP Invite IP packet using the dialed digits as the called destination address and the URL of its local controlling SIP Proxy Server which was programmed into the RCG during the configuration process. The Main CPU 19 passes this SIP packet off to the Modem/DAA 41 for transmission over the network. The RCG Modem/DAA 41 is connected to and communicating with a modem in a modem bank located in the Inter Exchange Carrier's (IXCs) facility. This facility may actually be located in the LEC's physical plant or it may be physically located at another location.

[0051] Referring to Figure 2, User A RCG 44 is connected via its modem to the LEC's local Class 5 Office A 47. In this example, the service provider's connections to the IXC A Modem Bank & Router 48 are through IXC A Inter-Office Trunks 46. The service provider may or may not be the IXC. If the service provider does not have its own network, then it will purchase capacity from an IXC and route its traffic to that IXC's facilities. The SIP Invite IP Packet that is sent from User A RCG 44 transits the LEC's Class 5 Office A 47 facilities and is routed to the IXC A Modem Bank/Router 48 via the IXC A Inter-Office Trunks 46. It is the job of the router to take the IP packet and route it on to its intended destination, in this case the appropriate SIP proxy server 51. The router uses the URL for the Softswitch/SIP Proxy Server and Registrar 51 contained in the SIP Invite to know where to route the packet. (Note: The Softswitch, SIP Proxy Server and Registrar are logical devices that may reside in a single computer system, or may be implemented as completely separate devices. In this example, the Softswitch, SIP Proxy Server and Registrar are all shown as a single physical device running these three separate processes.) The IXC A Modem Bank/Router 48 sends the SIP Invite IP packet on to Softswitch/SIP Proxy Server and Registrar 51 via an IP based network route 52.

[0052] The SIP Proxy Server process running on Softswitch/SIP Proxy Server and Registrar 51 performs a look up to determine the termination destination for the call using the dialed digits passed along in the SIP Invite IP packet. In this example, the terminating device for User B RCG 56 is via IXC B's Modem Bank/Router 49 then through Class 5 Office B 50 and over User B POTS line 55 and finally to User B RCG 56. Not covered in detail here is the SIP message

handling since it is completely covered in IETF RFC2543. This example shows that both the originating and terminating ends of this call are controlled by the same Softswitch/SIP Proxy Server and Registrar 51 device. Where the originating and terminating ends of a call are controlled by different Softswitch/SIP Proxy Server and Registrar devices, an additional level of SIP messaging is used between the two SIP Proxy Server processes of each of the Softswitch/SIP Proxy Server and Registrar devices to locate and control the terminating location of the call. Again, that information is covered in IETF RFC2543 and is repeated here.

[0053] After the call routing is setup using SIP, and User B answers the call, the Softswitch/SIP Proxy Server and Registrar 51 device sends IP address of the originating User A RCG 44 to the User B RCG 56 and the IP address of User B RCG 56 to User A RCG 44. Once both RCG's have the other's IP address, they then communicate directly to each other using Real Time Protocol (RTP), and the Softswitch/SIP Proxy Server and Registrar 51 device is no longer part of the connection. This direct communication is shown as IP based RTP Stream 57 between IXC A Modem Bank/Router 48 and IXC B Modem Bank/Router 49.

[0054] On the receiving end of the call, referring back to Figure 2, User B RCG 56 receives the SIP Invite data stream through its Modem/DAA 41 and passes it on to the Main CPU 19. The Main CPU 19 reassembles the SIP IP packet and interrogates the header information to determine which POTS port, POTS 1 Port 30, POTS 2 Port 29 and POTS 3 Port 28 the call is destined for based upon the dialed number contained in the SIP Invite message. The Main CPU 19 commands the DSP Engine 33 to control the SLIC/CODEC Interface 27 to apply ringing voltage to the selected POTS port to ring the phone. A corresponding SIP 180 (ringing) message is sent back to User A RCG 44 in the reverse direction. When the phone attached to the selected POTS port is answered, the off hook condition detected by the SLIC/CODEC Interface 27 is sent through the DSP Engine 33 to the Main CPU 19 that sends the SIP 200 OK message back to User A RCG 44 to let the RCG know that the call was answered by User B RCG 56 and to turn off the audible ringing tone for User B. Once the call is established, User A RCG 44 sends and ACK F12 SIP message to User B RCG 56 indicating that User A RCG 44 understands that the call setup has been completed.

[0055] The two RCGs now exchange SIP messages that include the type of voice encoding that will be used such as G.729, G.723.1, G.711 etc to configure their RTP streams so that they can reliably transfer the user information between them. At this point the call (voice data) is sent

between both RCGs and a normal telephone conversation takes place between the user A and user B.

[0056] Call teardown is accomplished by either user hanging up their telephone. The RCG of the terminating end (the end that hangs up the phone first) detects the on-hook condition and sends a SIP Bye message to the other end. The other end upon receiving the SIP Bye message responds with an OK 200 SIP message and disables the appropriate POTS port that the user was using.

[0057] The Speakerphone interface can be used for either end of a telephone conversation in exactly the same way as described above except that the corresponding POTS port that the call was intended for is disabled if the call is answered via the speakerphone.

Call Flow 2:

[0058] Calls between an RCG device and a PSTN telephone:

[0059] Refer to figure 3 for the following discussion.

[0060] In the previous call example, the PSTN network had nothing to do since the call was over a previously established modem connection between two RCGs. In the cases where a call originates or terminates to a standard telephone serviced by a Class 5 office, the process is a bit more complicated.

[0061] When a call originates from a user via an RCG, such as User A RCG 44, the call handling practices are exactly the same up to the point that the SIP Proxy Server process in the Softswitch, SIP Proxy Server and Registrar 51 performs a lookup to determine how to route the call. In this case, the SIP Proxy Server process determines that the call terminates at a standard PSTN telephone attached to the Class 5 Office B 50. Since the call originates as a native VoIP service, it must be converted to a standard switched circuit based service to be able to be delivered to User B's telephone 61. The conversion is performed by the IXC's Media Gateway 60 device. In this example, the SIP Proxy Server process routes the call via the IXC's Media Gateway 60 device instead of through the IXC B Modem Bank/Router 49 as before. The SIP Proxy Server process sends a SIP Invite to the IXC's Media Gateway 60 device, as well as other control information, to direct the Media Gateway 60 device to terminate the call and to apply the appropriate voice compression algorithm to the media stream to convert it between switched circuit PCM format and the selected VoIP protocol. At the same time, the Softswitch process of

the Softswitch, SIP Proxy Server and Registrar 51 device sends commands to the Media Gateway 60 device to cause it to route the call's PCM data to a specific channel on the IXC B Interoffice Trunk 54. The Softswitch process then generates an SS7 ISUP message that is sent over the PSTN SS7 signaling network to the Class 5 Office B informing it of the incoming call and on which circuit the call has been placed. It is up to the PSTN at this point to ring the User B telephone 61 and process the call between the IXC's Media Gateway and the User B Telephone 61. The Softswitch process handles the signaling conversion between the PSTN's SS7 network and the IXC's SIP messaging, as well as any other proprietary signaling schemes utilized by the IXC to control its network. The standard SS7 call control messages, such as ringing, busy, ring back etc., all have a comparable SIP call flow control messages. The Softswitch simply maps the SS7 messages into SIP messages and visa-versa while routing the messages to the appropriate network equipment.

[0062] As in the case of a call between two RCGs, the RTP media stream (the actual call data) is routed directly by the IXC A Modem Bank/Router 48 and the IXC's Media Gateway 60 via an IP based RTP Stream 57.

[0063] Again, call teardown is accomplished by either user hanging up their telephone. Depending which end hangs up the phone first, the associated network will generate the appropriate messages which will eventually make it back to the Softswitch process. The Softswitch process will relay the appropriate call control messages between the PSTN and the IXC's SIP based control system.

[0064] A telephone call originating from a PSTN telephone is configured and setup in the same fashion as the above description except that the originating messaging begins within the PSTN network instead of the IXC's network.

Personal Computer based communications:

[0065] Where the RCG is connected to a Personal Computer (PC) through either its USB Port 11 or Ethernet Port 12, the RCG operates exactly as a cable or DSL type modem device. The RCG is simply a pass through for the computer's data. The RCG receives the IP packets (of whatever type) from the computer and sends the information unchanged to the Modem/DAA 41 interface for transmission over the Internet. Received information from the Internet is processed in the reverse way.

Dynamic Bandwidth Allocation:

[0066] When a modem connection is established between the RCG and the “Network”, the total available bandwidth of this connection is used in a shared/prioritized fashion. Voice services (calls) take precedence over data services. Therefore, when no calls are in progress all of the available bandwidth is used by data type services such as surfing the Internet or uploading/downloading files. However, when a call is to be passed through the RCG, the required bandwidth for the call is deallocated from the data services and prioritized for the telephone call. This necessary because the Quality Of Service (QOS) is important for effective communications over electronic networks. Since the voice data is carried over a “data centric” network topology (an IP based network), call quality can suffer greatly. Every effort must be taken to eliminate or reduce the packet delay through every network element to be able to provide the best call quality. For data applications such as surfing the Internet or downloading files packet delay is acceptable and expected, and it does not affect the “quality” of the data.

[0067] Since all voice and data is transmitted as packets, there are no “time slots” or other type of “channelization” associated with the transmission of this data over either the POTS line or the wireless interface. Channelization of the voice data does occur within the SLIC/Codec Interface – 27 but is converted into IP packets by the DSP engine – 33 and is handled as packets from that point on.

[0068] Regardless of whether the call is originating or terminating at the RCG, the bandwidth allocation process is the same. When the SIP call setup messages are processed, the type of voice compression that will be used is defined. The RCG Main CPU 19 handles the IP packet flow between the DSP Engine 33, USB Port 12, Ethernet Port 11, 802.11b/g Module 36 and the Modem/DAA 41 devices giving priority to the voice packets to and from the DSP Engine 33 and the Modem/DAA 41 interfaces. Voice compression algorithms create IP packets at a specified number of packets per second. These packets are handled by a timed process in the RCG. This process is started during call setup so that the packets are handled at the correct rate based upon the compression algorithm’s packet generation rate. There is no priority assigned between the voice packets of each of the three different POTS Ports 28-30. When more than one voice call is in progress, they are handled in a round robin fashion based upon the packet rate for the compression algorithm used. If, for example, two calls are using a compression scheme that

generates packets every 2 milliseconds, and the third generates packets every 4 milliseconds, then the calls utilizing the faster packet rate will be polled at twice the rate as the call using a slower packet rate but they are not given priority “over” the other call. Only when there are no voice packets ready for transmission to the Modem/DAA 41, i.e. during the approximately 2 to 4 millisecond packetization period between packets, will any pending data packets received from the USB Port 12, Ethernet Port 11 or the 802.11b/g Module 36 be sent to the Modem/DAA 41 for transmission over the network.

[0069] Thus, the POTS bandwidth is allocated on a per packet basis, not on a “time slot” or “channelization” or even a “frequency” basis as it the case with T-Carrier, DSL or channelized DSL systems. The same is true for the wireless interface, whether it is carrying pure data or voice.

[0070] Security is currently a big concern in today’s networks, and especially with wireless 802.11 transmissions. For this reason, the RCG defaults to route voice data over the users POTS connection via Incoming POTS Port 40. As security concerns regarding wireless communications transmissions are addressed and alleviated, voice call data can, and will, be routed over the wireless interface via the 802.11 b/g Module 36.

FAX Transmission:

[0071] Group I, 2 and 3 fax transmission is completely supported by the RCG. Fax transmission has the same priority as other voice communications. That is to say that FAX transmission is treated the same as a voice call and takes precedence over native IP data traffic.

Broadband Over POTS:

[0072] One of the primary functions of the RCG is to be able to transfer large files such as video files over the POTS lines to a residence. The ability to do this is limited by the maximum of 56Kbps due to the design of the digital Class 5 office linecards and network transmission schemes based upon T carriers. Typical Class 5 linecard design samples the POTS lines at a rate of 8,000 samples per second. Typically, each sample is digitized into 12 to 16 bits by a codec device. The digitized sample is then companded to an 8 bit sample (1 byte) which makes up the PCM data stream that is transferred over the PSTN. Therefore, each POTS line is sampled at an effective rate of 64Kbps. Since legacy T1 transmission equipment uses robbed-bit signaling, the

maximum guaranteed transmission rate for the PSTN as a whole is 56Kbps. Because of this limitation, standard POTS lines can only guarantee a maximum of 56Kbps transfer rate under the best conditions. DSL equipment gets around this problem by installing DSL Access Multiplexing (DSLAM) equipment at the Class 5 office end of the POTS line. By routing around the linecard, as well as routing the data directly over the Internet or other private IP based networks, and therefore the 64Kbps sampling rate, DSL is not bandwidth limited like PSTN traffic is. DSL, however, suffers from the very high costs associated with the purchase, installation, maintenance, floor lease costs, etc. DSL also suffers from very high deployment costs resulting from the labor intensive process to turn up each line. Each DSL “POTS” line must be inspected, conditioned and all load coils removed.

[0073] The RCG gets around the 56Kbps POTS limitation as well as the DSL problems by using the standard POTS lines as they are, and not requiring any additional equipment to be installed at the Class 5 end of the POTS line. This technique simplifies deployment and drastically cuts costs.

Multilink PPP connections:

[0074] Referring to figure 7, the RCG implements broadband over POTS by employing an 802.11 b/g wireless interface to configure a multilink PPP bundle – 87 (per RFC 1990) comprised of the POTS lines connected to up to 32 RCGs. The limitation of 32 RCGs in a multilink PPP bundle is an arbitrary number and can be scaled up or down as required to support changes in network equipment capabilities. An 802.11b/g interface – 87 is shown as the preferred embodiment, since its 11/54 Mbps interface is considered sufficient bandwidth at this time also, its transmission distances are sufficient for implementation of this device, as opposed to other shorter ranged wireless transmission schemes. However as time goes on, some other wireless interface may be more desirable. There is nothing special or specific to the 802.11 wireless interface that makes it particularly suited to this application. Any wireless interface scheme can be used to implement this device.

[0075] The 802.11b/g interface – 88 on an individual RCG is also used to provide a peer-to-peer wireless home networking environment to other 802.11 compatible wireless component within the residence (such as a hand-held computer device) while acting as an always on dialup Internet gateway over the POTS line – 40 for the other wireless devices. An RCG that is

transferring a very large file can request the services of 31 (in this embodiment) other RCGs to assist in the file transfer using their respective POTS lines. A single RCG can therefore gain the combined bandwidth of up to 32 POTS lines transferring data at as much as 56Kbps each to transfer information. This is roughly equivalent to a transfer rate of 1.79Mbps in the inbound direction (towards the RCG) and approximately 1.075Mbps in the outbound direction (towards the PSTN).

[0076] The multilink PPP connection – 87 is initiated by an RCG when it determines that the file (or streaming service) that it is to download (receive) is of sufficient size or requires a minimum amount of bandwidth to justify the use of a multilink PPP connection. This determination can be made on many different criteria such as the file size, type of data being transmitted, the type of compression if any, a Quality-of-Service requirement or any other pertinent information. (Since a certain amount of overhead is required to set up a Multilink PPP connection, it doesn't make sense to use it for small or low data rate transfers.)

Multilink PPP bandwidth allocation and initialization:

[0077] Referring to figure 7, an RCG – 85 that decides to initiate a multilink PPP session with a remote computer i.e. internet URL, requests a multilink PPP session with that URL resource via Link Control Protocol (LCP) session management. The initiating RCG - 85 and the remote server computer (not shown) will negotiate the pertinent multilink parameters such as compression, packet size, sync/async, link quality monitoring, bit stuffing etc. As part of a successful multilink PPP session setup, the initiating RCG – 85 receives a multilink PPP session ID, or “magic number”, which is used to identify this particular multilink PPP session and is also used for adding or removing links from the multilink bundle – 87. Once the multilink bundle is setup, the initiating RCG – 85 begins data transfer across its POTS interface – 90 with the far end computer system. The initiating RCG – 85 then looks up the addresses of up to 31 (in this embodiment) other RCGs in its router tables to use for the multilink PPP transfer. (If a Neighborhood Access Point is available the RCG could request service through it instead of setting up a Multilink PPP connection – see figure 8.) The initiating RCG - 85 determines the number of remote RCGs - 86 that it wants to use to get the desired bandwidth for the transfer and sends multilink PPP service requests via the 802.11 b/g wireless connections – 88 to the selected remote RCGs - 86. The selected remote RCGs - 86 respond back to the initiating RCG with

either an acceptance or denial of multilink PPP service request. This decision is made based upon the remote RCG's currently available POTS bandwidth and the current local demands for that bandwidth. The remote RCG – 86 makes a decision to participate in a multilink PPP service for an initiating RCG if its POTS line – 91 has a current average bandwidth utilization of less than some arbitrary limit such as 8Kbps to 16 Kbps. This 8Kbps to 16Kbps bandwidth utilization represents about two concurrent voice conversations using standard voice compression techniques, or some small amount of data transmission occurring on the remote RCG's POTS interface – 91 or a combination thereof. Assuming that the remote RCG – 86 has a modem connection speed somewhere between 33Kbps to 56Kbps, this would leave approximately 17Kbps to 40Kbps of POTS bandwidth that the remote RCG – 86 could offer to the initiating RCG – 85 for use in its multilink PPP bundle - 87. Of course, if there is no activity on the remote RCG – 86 POTS line, then the entire bandwidth will be used for the multilink transfer. If the remote RCG – 86 accepts the multilink PPP service request from the initiating RCG -85 it also sends its currently available bandwidth on its POTS line - 91 that the initiating RCG –85 will have available to it for the multilink PPP transfers. The initiating RCG then selects which of the responding remote RCGs - 86 it will use for the multilink PPP bundle - 87 and sends them a multilink initialization packet containing the URL of the destination as well as the multilink PPP session ID (magic number) and any other pertinent information required for the remote RCG to join in the existing multilink PPP bundle - 87. Each remote RCG POTS interface – 91 participating in a multilink PPP bundle, represents a logical “link” in the initiating RCG's multilink PPP bundle - 87. The remote RCGs – 86 then send a multilink PPP packet (over their respective POTS lines - 91) to the destination URL with the multilink PPP session ID and request to be added to that multilink PPP bundle - 87. The destination URL accepts the request of each of the remote RCGs - 86 and begins sending data packets to each over their respective POTS lines - 91. When the remote RCGs –86 receive data packets sent over their respective POTS lines – 91, that are destined for the multilink PPP bundle - 87, they simply relay the data packets over their 802.11b/g interface - 88 to the initiating RCG -85. It is the responsibility of the initiating RCG – 85 to perform all housekeeping tasks associated with the multilink transfer such as detection of lost packets and data packet reassembly, if those functions are required. Typically, lost packet detection and retransmission and reassembly are performed at higher OSI layers by the requesting software such as a browser. The remote RCGs – 86 are

simply data transport nodes and do not perform any data processing on data received over a multilink PPP bundle destined for another RCG.

[0078] The initiating RCG- 85 of the multilink PPP bundle -87 continually monitors the bandwidth of each remote RCG's -86 multilink link which together comprise its multilink bundle - 87. When the available bandwidth for the multilink PPP link of an individual remote RCG -86 falls below an arbitrary minimum set by the initiating RCG - 85, the initiating RCG - 85 instructs the offending remote RCG, via its 802.11b/g wireless interface - 88, to remove itself from the multilink bundle. The remote RCG - 86 will then notify the remote computer (URL) to be removed as a link in the current multilink bundle on which it is participating. Alternatively, a remote RCG - 86 can inform the initiating RCG - 85 of local demands on its POTS bandwidth, and request that the initiating RCG - 85 remove it (the remote RCG - 86) from the participation in the initiating RCG's multilink bundle - 87. The remote RCG - 86 will not unilaterally remove itself from participation in a multilink bundle without prior notification to the Initiating RCG - 85. The remote RCG - 86 must get authorization from the initiating RCG - 85 to remove itself from the bundle, since the initiating RCG - 85 will have no way of knowing if the loss of data from that remote RCG is due to some sort of failure or from the remote RCG simply removing itself from participation in the multilink bundle - 87. Also, for services that require a minimum Quality of Service (QOS) such as streaming video, the initiating RCG - 85 needs to control the multilink bundle - 87 bandwidth, and it can not do that if remote RCGs - 86 drop out of the multilink bundle - 87 at will. When a remote RCG - 86 requests to be removed from participation in a multilink bundle - 87, the initiating RCG - 85 must immediately grant the request. If the initiating RCG - 85 were to not grant the request, then the remote RCG - 86 could, in worst case, delay or drop incoming multilink packets destined for the initiating RCG - 85. If this were to happen, the initiating RCG - 85 will have missing packets and could over run its reassembly buffer (if reassembly is being performed by the RCG) causing catastrophic data loss and potentially have to restart the entire transmission. In the least case, the initiating RCG - 85 would have to initiate retransmission of potentially many packets which it assumes to be lost, but may simply be delayed by the remote RCG - 86. Once a remote RCG - 86 has been removed from participating in a multilink bundle - 87, the initiating RCG - 85 will then look up another remote RCG in its router tables that can be used to participate in the multilink PPP bundle - 87, and request that the new remote RCG -86 to join the existing multilink bundle - 87.

This is necessary to maintain a minimum Quality of Service. Since RCGs prioritize their bandwidth requirements based upon their own “local” service requirements, their participation in any multilink PPP service is available only to bandwidth that is not required for its own current local demands. Therefore, a remote RCG’s – 86 bandwidth that is available for multilink services can change at any time. The dynamic reassignment of remote RCGs that participate in a multilink bundle is also required to prevent a remote RCG – 86 from receiving packets so slowly that the originating RCG – 85 interprets this delay as lost packets. When the initiating RCG – 85 determines that a packet has been lost, and it is performing packet reassembly, it will, itself, request that the remote computer retransmit the lost packet. The initiating RCG will not ask any remote RCG – 86 to perform retransmissions or any other kind of data computations or manipulations.

[0079] Refer to figure 8 for the following discussion. In areas where there are existing 802.11 network equipment such as Neighborhood Access Point - 93, or where there is sufficient bandwidth requirements from an installed base of RCGs to warrant the deployment of a Neighborhood Access Point - 93, the RCGs will automatically detect the presence of the compatible neighborhood access points and register with that equipment for transport services. In this case, an RCG has an alternative broadband service route in addition to the multilink option. An RCG can communicate directly with a local 802.11 Network Access Point - 93 that is connected to the PSTN or another carrier’s network via some sort of high bandwidth backbone such as a T-Carrier or optical carrier connection (T1, T3, OC3, OC12 etc.). The RCGs can communicate directly with neighborhood access points at their full 11/54 Mbps data rates to provide up to that full bandwidth to the user. This functionality is, of course, subject to the Network Access Point – 93 allowing access to its resources to the RCG according to the 802.11 wireless protocol.

[0080] This architecture is important since it provides an avenue to relieve the local class 5 offices of congestion that can be caused by a wide spread deployment of RCGs within the class 5 service area. Since each RCG requires a constant 24/7 modem connection, this ties up the class 5 switch in a fashion that it was not designed for. This could lead to wholesale class 5 office expansions which would be extremely expensive, and potentially prohibitive for the Local Exchange Carriers (LECs). By deploying neighborhood access points that operate at 54Mbps (802.11a/g), in areas where the RCG concentration starts placing too high of a demand on the

local class 5 office, the bandwidth from the RCGs can be aggregated by the neighborhood access points into large capacity backbones to relieve the switch congestion. In this case, the RCG POTS interface – 40 can be used solely as a lifeline connection, or when the 802.11 wireless LAN in which the RCG resides is congested. With this implementation, voice calls will be carried over the wireless interface as opposed to the POTS interface on which they would normally be carried. Also, the RCG modem - 41 connected to the POTS interface – 40 would not need to maintain a constant always on connection, it could be a dialed on demand connection and thereby relieving the local class 5 office switch.

Bouncing or Hopping traffic:

[0081] Refer to figure 9. In areas where the density of RCGs is less than the arbitrary number of 32 RCGs within its transmission radius for multilink connections, the RCGs can bounce, or relay, the data traffic between each other to reach other RCGs located farther than the RCGs wireless transmission area. Since the POTS data rate of 56Kbps is miniscule as compared to the 11/54 Mbps 802.11b/g transfer rate, the overhead associated with bouncing data traffic is not a concern. This will allow for the fastest possible data transfer across POTS lines for every RCG user.

[0082] RCGs can also communicate directly with an 802.11a Neighborhood Access Point - 93 device (such as that used in WI-FI networks) that is connected to a data network connection such as a DS3 or OC3 service via a Metro Access Point. Where an RCG has access to a broadband device such as an 802.11a type device, either directly or via a bounced signal across several RCGs, a direct high speed data connection can be used to transfer large files. When an RCG is communicating directly with an 802.11a device, data transfer speeds up to the full 11/54 Mbps can be achieved to speed video transfers for such applications as video on demand.

RCG Router Tables:

[0083] The RCG continually monitors its 802.11b/g wireless interface for transmissions from other RCGs or 802.11a Access Points as well as other 802.11b/g wireless devices within the residence. The RCG provides a means to identify and store the addresses of other RCGs and Neighborhood Access Points within its local area. The RCG creates routing tables, much like an IP router device, so that it knows which RCGs are local to itself, and how many hops will be

needed to reach the maximum of 32 POTS lines or a Neighborhood Access Point. The RCG can then determine how to route its data transfers to gain the most efficient routing and network efficiencies.

[0084] The router tables in each RCG are continually updated by monitoring the 802.11 frames received from other RCGs or Network Access Points. The number of entries in the router tables can be limited to an arbitrary number of other RCGs but contains room for at least 32 entries. For each RCG listed in the router tables, certain information is kept such as signal strength, if the other device is another RCG or some other 802.11 compatible device, if the other RCG is reachable directly, or if it is accessed via another RCGs by hopping. In the case there RCG hopping is used, the address of each RCG that is hopped is stored in the routing table. When an RCG is first powered up, it monitors its 802.11 interface for a period of time to identify other RCGs or Neighborhood Access Point devices, or other Wi-Fi devices within its transmission area. When first deployed, the RCG will not have any entries in its routing tables. This condition can persist for some time, until another RCG or other 802.11 device is deployed within the former RCGs transmission range. In this state, the RCG can be used for wireless networking within the residence, connecting the local computer to the RCGs always on Internet connection as well as to other wireless devices within the home. When an 802.11 frame is received by an RCG that contains the address of an RCG whose address does not exist in the receiving RCG's router table (as is the case when a new RCG is first installed), the receiving RCG polls the transmitting RCG for its router table information. The received router information is reviewed for other RCG's or other 802.11 compatible devices that are not listed in its own router tables. A decision is made to use some, all, or none of the new route information in its router tables. There is no real limitation on the number of RCGs that can be "hopped" in order to build a complete router table or to reach many more RCGs, Neighborhood Access Points or Metro Access Points.

Equipment and Services Priorities:

[0085] Just as voice has priority over data transfers within a single RCG, local RCG traffic (both voice and data) has priority over remote transfer requests by other RCGs. If an RCG is currently using all of its available POTS bandwidth for its own purposes, it will deny any remote RCG's request for access to its POTS line. Only when there is available POTS bandwidth

available will an RCG allow other RCGs access to its POTS line. It will, however, bounce the traffic to other RCGs within its transmission area if requested by the originating RCG. In this case, available wireless bandwidth of any RCG (that amount of the 11/54 Mbps not currently used for its own traffic) can be used to relay traffic between other RCGs that do have available POTS bandwidth. In the same fashion, excess wireless bandwidth of any RCG can be by other RCGs to access high speed backbones via Neighborhood or Metro Access Points.

[0086] RCGs can also access other 802.11 wireless networks (Wi-Fi for example) that happen to be deployed within their service areas. In this case, access agreements between the RCG service provider and the wireless network operator must be put into place. By remaining compatible with the 802.11 standards, the RCGs capabilities will benefit by the growing WI-FI network infrastructure, an the WI-FI network will benefit by the RCG network.

Voice Over POTS and Data Over Wireless:

[0087] Normally, all communications from an RCG will be transmitted over the local POTS line, or a multilink bundle made up of many remote RCG POTS lines. By default, all voice calls will be carried over the “local” POTS line – 40 to alleviate security/privacy concerns and only “data” will be transmitted via multilink bundles. Generally, since voice “data” is compressed locally by the RCG, the required bandwidth for a voice call is so small that it does not make for a good choice to route it over a multilink connection. However, it is possible to route voice calls entirely over another RCGs POTS line. It is also possible for an RCG to transmit voice data over POTS lines connected to other RCGs via multilink bundles or directly over its 802.11 wireless interface, and since the 802.11 specification does support the Wired Equivalent Privacy (WEP) specification, a secured connection can be made in this fashion.

Remote Upgradability

[0088] The RCG is designed with the capability for unassisted remote upgradability. The remote upgradability feature is not the same as the storing of operational parameters during the configuration process. This feature allows the system operator to add new features as they are developed, or to correct bugs remotely and without the users knowledge or involvement. This feature can also be used to install a complete new operating system (OS).

[0089] Key to the successful implementation of the Remote upgradability feature is that a completely fail-safe routine be implemented that can recover from any failure during the upgrade process and to re-initiate and monitor the upgrade process until it has successfully completed. This process is carried out by loading a boot loader program that is stored in non-volatile memory. The boot loader program provides the minimum capabilities to start up the RCG and connect into the system operator's diagnostics network to download fixes or a new OS. The boot loader program is technically part of the OS, but it cannot be over written by any upgrade process. It is responsible for detecting failure of the RCG and initiating a connection to the diagnostics network. Once connected with the diagnostics network, the boot loader will provide diagnostics support to help correct the RCG's operation and reconfigure the OS.

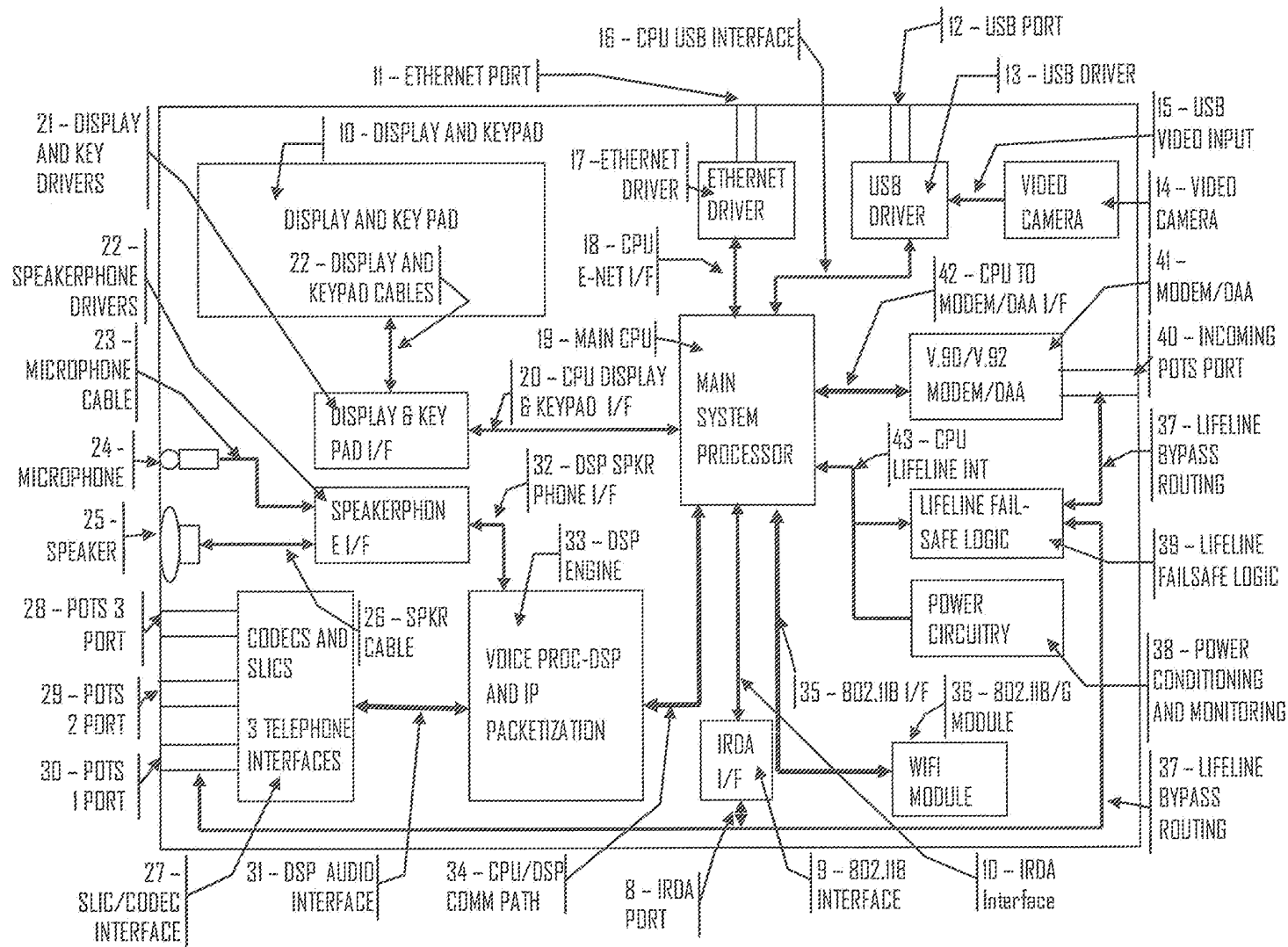


FIG. 1

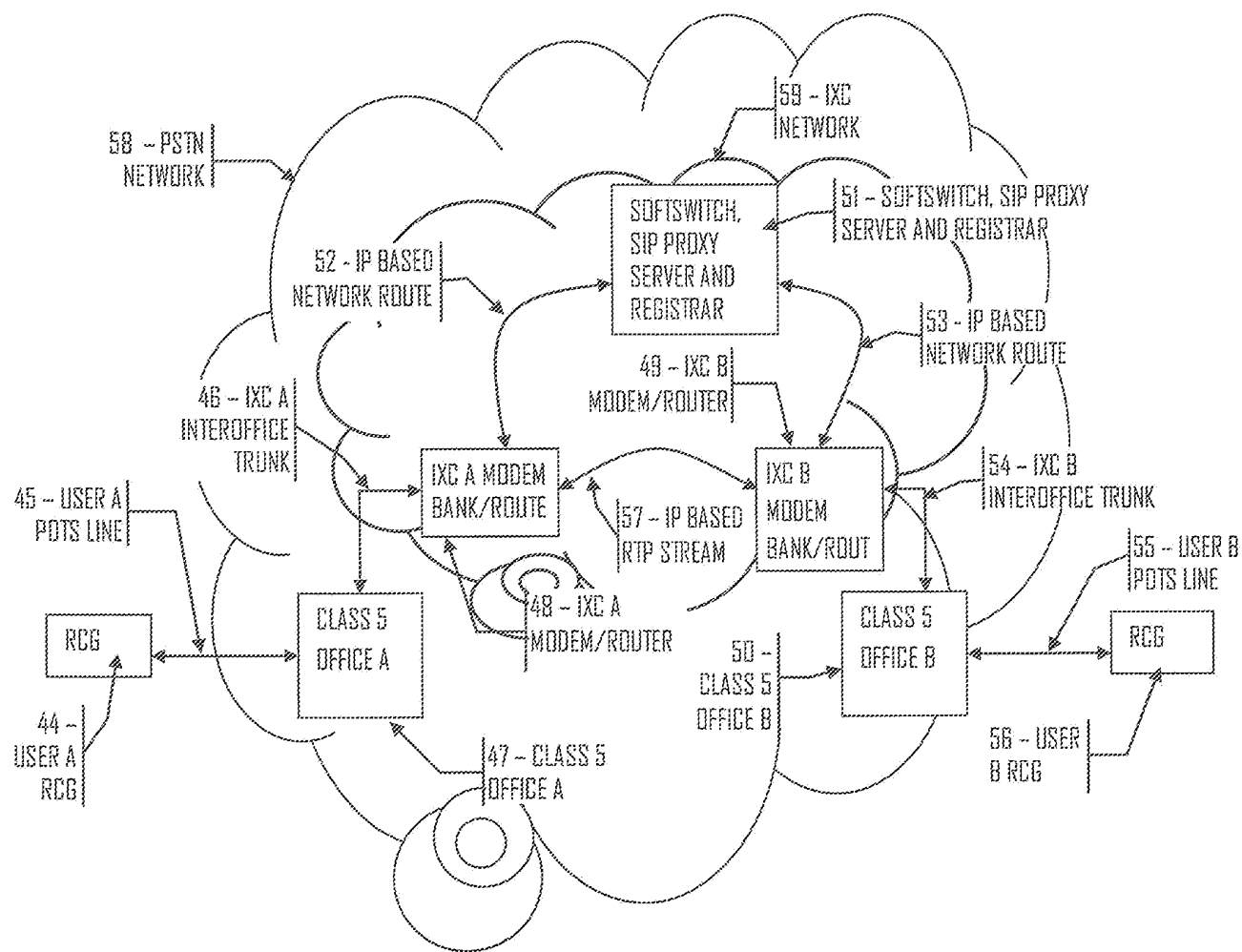


FIG. 2

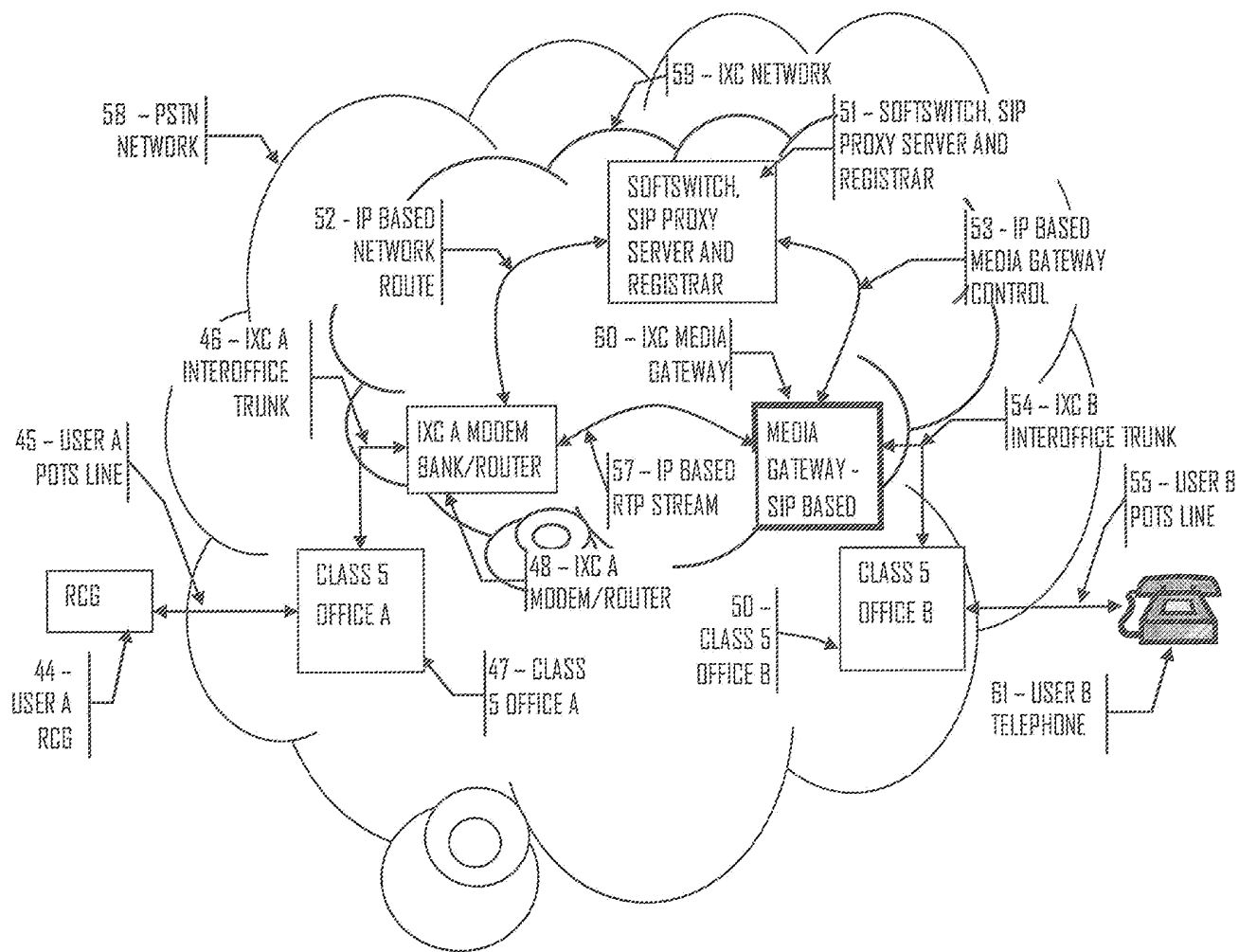


FIG. 3

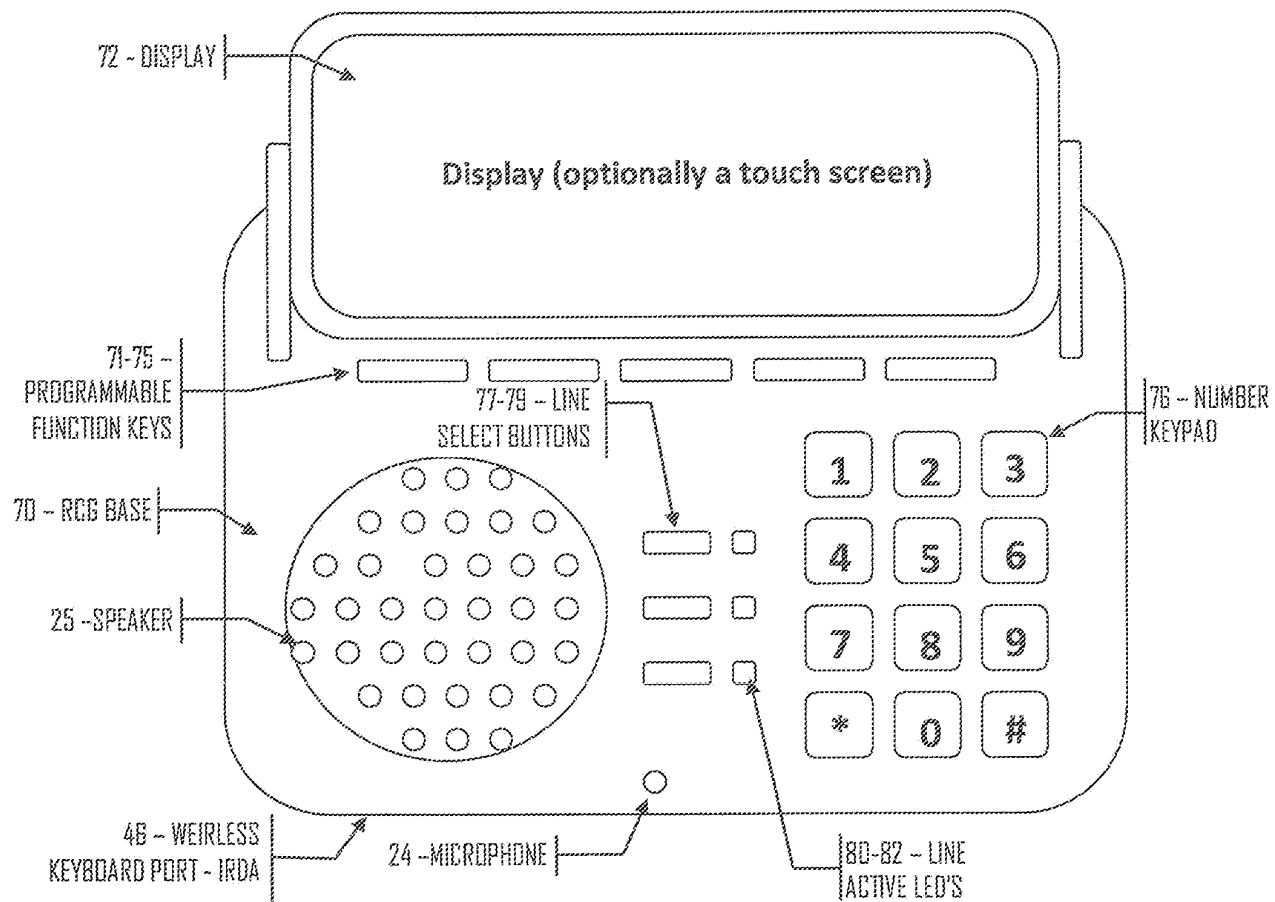


FIG. 4

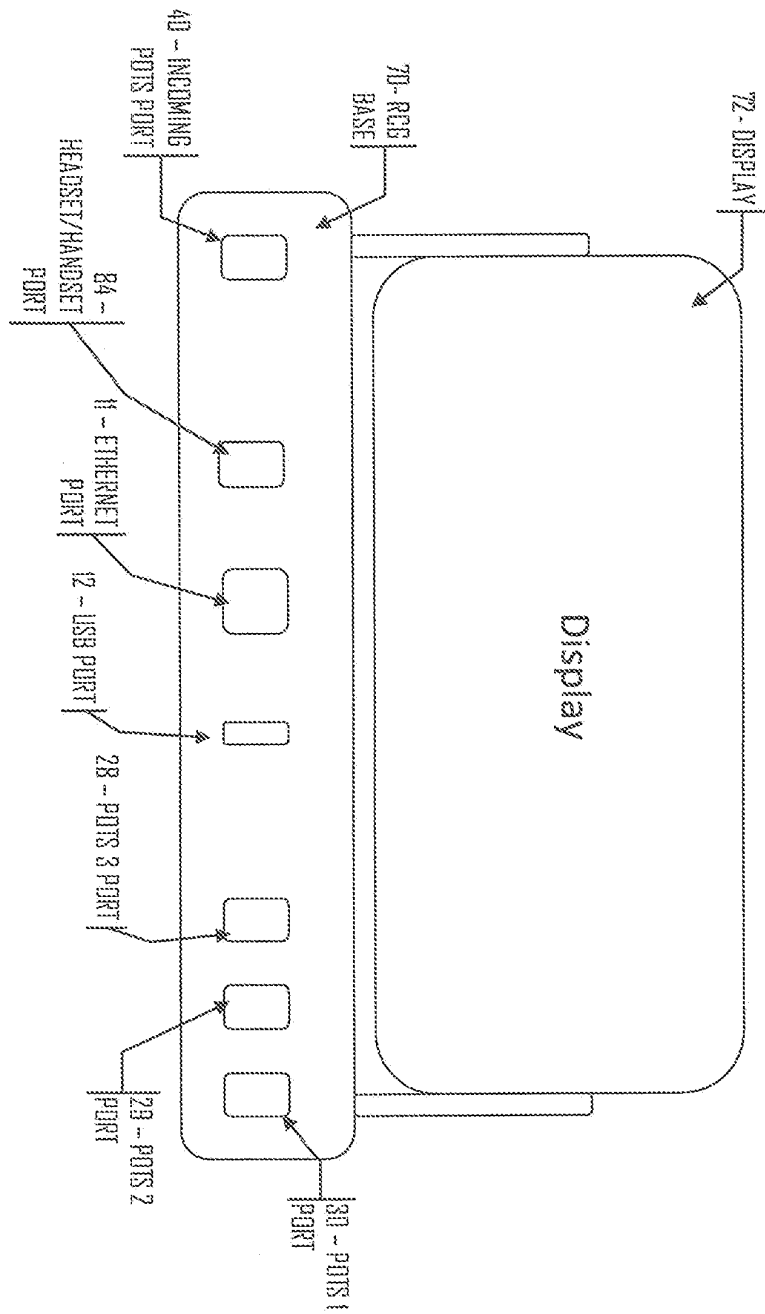


FIG. 5

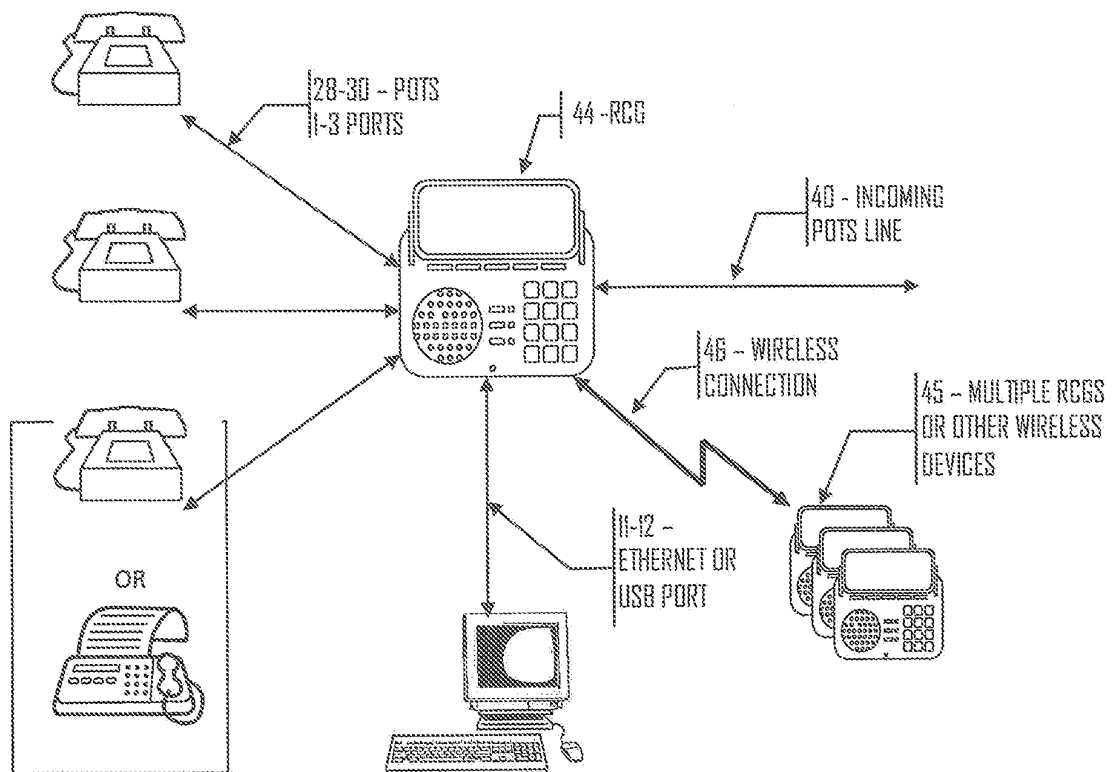


FIG. 6

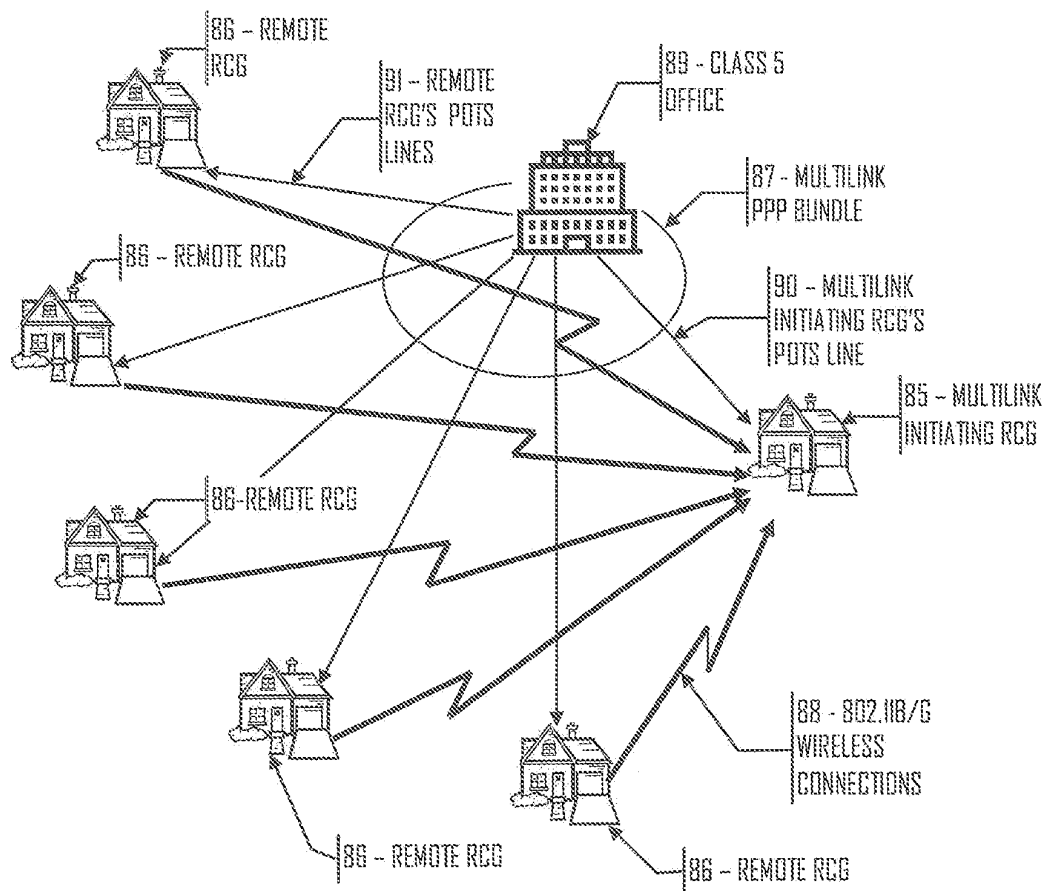


FIG. 7

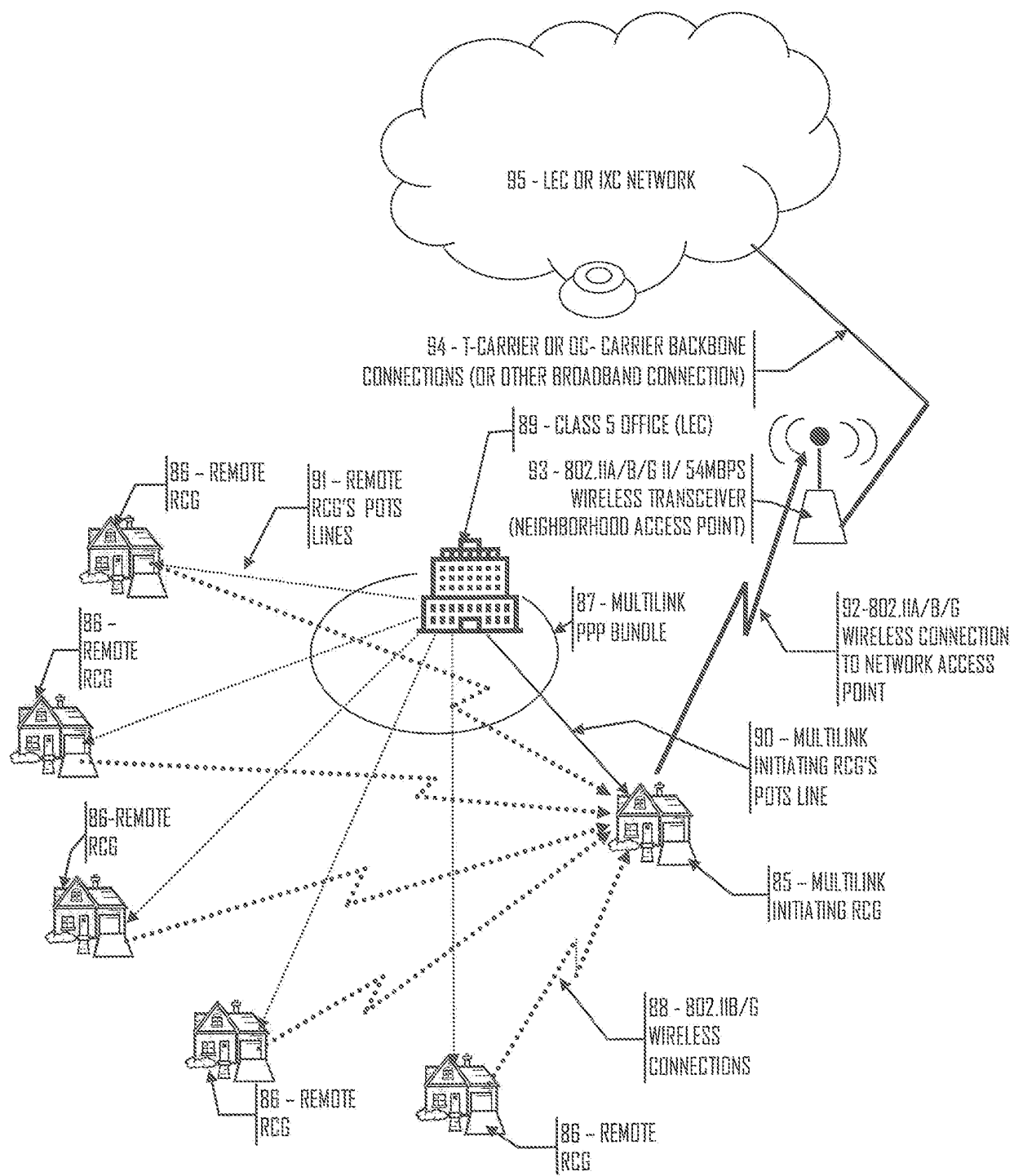


FIG. 8

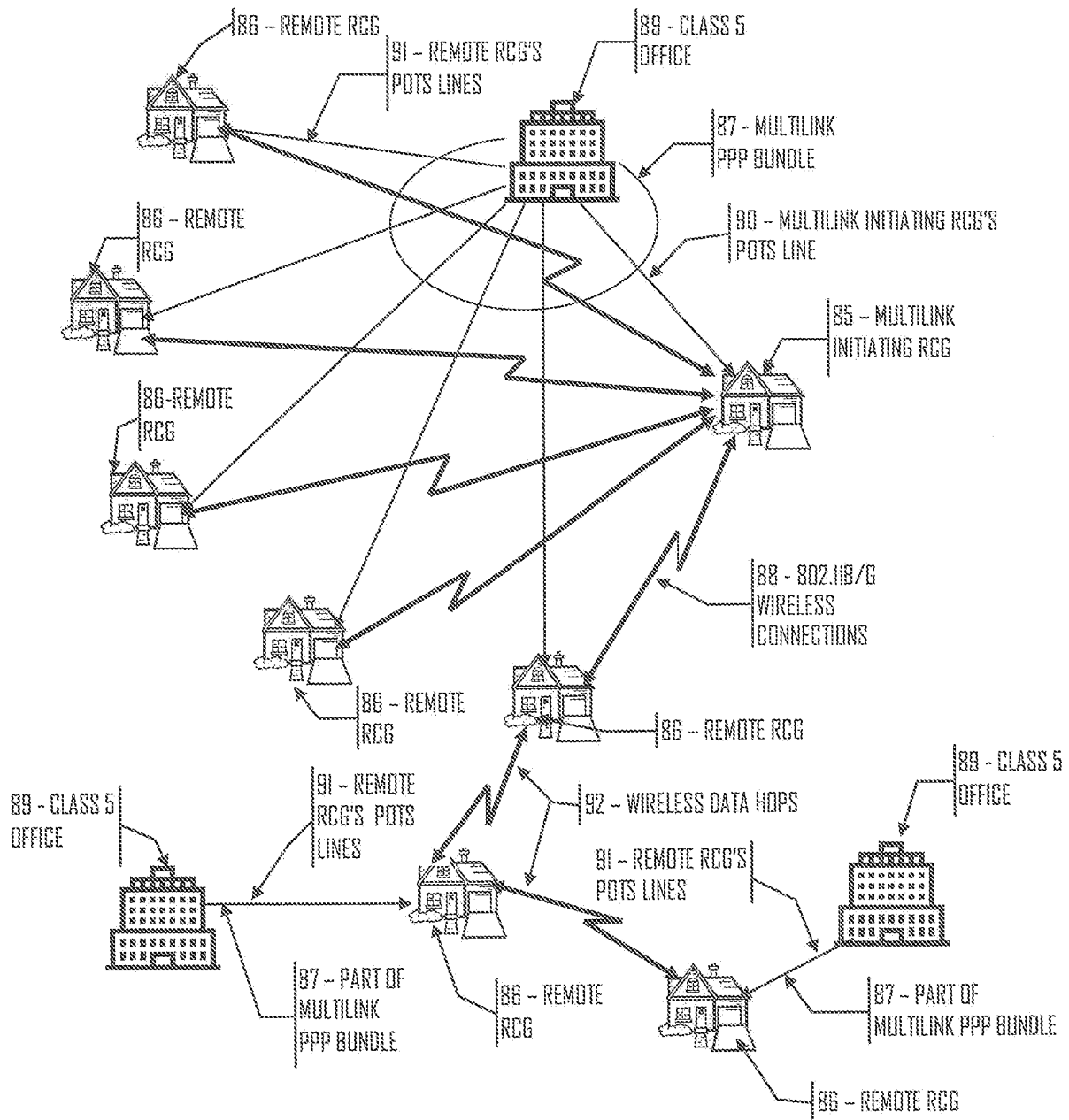


FIG. 9

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

**Title of
Invention**

Devices and Methods for Multipath Communicaiiaions

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 _____
filed on _____.

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: Eric Delangis Date (Optional) : August 15, 2022

Signature: /Eric Delangis/

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.**

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DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS**ABSTRACT**

Broadband communications devices and methods operate with at least two separate communication paths between the devices and the network, such as the Internet. The broadband devices and methods receive data concurrently over the communication paths or separately. The bandwidth is increased when the separate communication paths are combined. The broadband devices employ packetized data with Voice over Internet Protocol (VoIP) technologies combined with RF communications technologies.

CLAIMS**WHAT IS CLAIMED IS:**

1. A computer-implemented method for a first device to communicate via a wide area network, comprising the steps of:

connecting the first device to a first network having a first bandwidth via a second device;

connecting the first device to a second network having a second bandwidth via a third device;

establishing a connection through which data may be transferred between the first device and a fourth device by concurrently using a first portion of the first bandwidth and a second portion of the second bandwidth, the connection having an effective bandwidth including the first portion of the first bandwidth and the second portion of the second bandwidth; and

receiving by the first device a data set from the fourth device via the connection, wherein a portion of the data set is received through the first network and a portion of the data is received through the second network.

2. The computer-implemented method of claim 1, wherein the second network comprises at least one wireless network.

3. The computer-implemented method of claim 2, wherein the wireless network comprises a cellular network.

4. The computer-implemented method of claim 1, wherein the first network is selected from the group consisting of a public wired network, a private wired network, a public wireless network, and a private wireless network.

5. The computer-implemented method of claim 1, wherein the second device is selected from the group consisting of a residential communications gateway, a cable modem, a digital subscriber line modem, a wireless device, a neighborhood access point device, and a cellular modem.

6. The computer-implemented method of claim 1, wherein the third device is selected from the group consisting of a residential communications gateway, a cable modem, a digital subscriber line modem, a wireless device, a neighborhood access point device, and a cellular modem.

7. The computer-implemented method of claim 1, wherein the second network comprises the Internet.

8. The computer-implemented method of claim 1, wherein the first network comprises a private network.

9. The computer-implemented method of claim 1, wherein the first portion of the first bandwidth comprises substantially all the first bandwidth.

10. The computer-implemented method of claim 1, wherein the step of connecting the first device to a first network having a first bandwidth via a second device includes the first network having current available bandwidth equal to or in excess of a minimum bandwidth.

11. The computer-implemented method of claim 1, further comprising the step of assigning a session identifier to the connection.

12. A communication device capable of providing broadband communications services comprising:

a first connection via a first device to a first network having a first bandwidth including an allocated first portion of the first bandwidth;

a second connection via a second device to a second network having a second bandwidth including an allocated second portion of the second bandwidth; and

a third connection to a remote device via the first network and the second network, the third connection having an effective bandwidth including the allocated first portion of the first bandwidth and the allocated second portion of the second bandwidth;

wherein, in response to transmitting a request to the remote device via the third connection, the communication device receives a response from the remote device wherein a portion of the response is received via the first network and a portion of the response is received via the second network.

13. The communication device of claim 12, wherein the second network comprises at least one wireless network.

14. The communication device of claim 12, wherein the wireless network comprises a cellular network.

15. The communication device of claim 12, wherein the first network is selected from the group consisting of a public wired network, a private wired network, a public wireless network, and a private wireless network.

16. The communication device of claim 12, wherein the first connection is made to a first connection device selected from the group consisting of a residential communications gateway, a cable modem, a digital subscriber line modem, a wireless device, a neighborhood access point device, and a cellular modem and the second connection is made to a second connection device selected from the group consisting of a residential communications gateway, a cable modem, a digital subscriber line modem, a wireless device, a neighborhood access point device, and a cellular modem.

17. The communication device of claim 12, wherein the first network comprises a private network and the second network comprises the Internet.

18. The communication device of claim 12, wherein the first portion of the first bandwidth comprises substantially all the first bandwidth.

19. The communication device of claim 12, wherein the allocated first portion of the first bandwidth meets or exceeds a minimum bandwidth.

20. The communication device of claim 12, wherein the third connection includes an assigned session identifier.



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY DOCKET NO	TOT CLAIMS	IND CLAIMS
17/887,922	08/15/2022	2652	830	ED 7000	20	2

CONFIRMATION NO. 8336

FILING RECEIPT



CC00000136087282

64828
Harold McGurk
The Law Office of Clay McGurk
P.O. BOX 1488
Orange, CA 92856

Date Mailed: 08/31/2022

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)

ERIC M. DELANGIS, Wylie, TX;

Applicant(s)

ERIC M. DELANGIS, Wylie, TX;

Assignment For Published Patent Application

Competitive Access Systems, Inc., Wylie, TX

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 17/120,549 12/14/2020 PAT 11418641
which is a CON of 15/161,787 05/23/2016 PAT 10868908
which is a CON of 14/512,414 10/11/2014 PAT 9350649
which is a CON of 13/531,294 06/22/2012 PAT 8861349
which is a CON of 12/581,852 10/19/2009 PAT 8228801
which is a CON of 10/686,375 10/14/2003 PAT 7606156
which claims benefit of 60/418,521 10/15/2002

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: No

Permission to Access Search Results: No

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: 08/26/2022

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 17/887,922**

Projected Publication Date: 12/08/2022

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS

Preliminary Class

379

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

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 17/887,922			
APPLICATION AS FILED - PART I									
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY			
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)		
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	80		N/A			
SEARCH FEE (37 CFR 1.16(k), (j), or (m))	N/A	N/A	N/A	350		N/A			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	400		N/A			
TOTAL CLAIMS (37 CFR 1.16(i))	20	minus 20 = *	x 50 =	0.00	OR				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2	minus 3 = *	x 240 =	0.00					
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).			0.00					
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL		TOTAL			
				830					
APPLICATION AS AMENDED - PART II									
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	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))					OR			
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR			
				TOTAL ADD'L FEE		TOTAL ADD'L FEE			
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	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))					OR			
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR			
				TOTAL ADD'L FEE		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.									



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/887,922	08/15/2022	ERIC M. DELANGIS	ED 7000

64828

Harold McGurk

The Law Office of Clay McGurk

P.O. BOX 1488

Orange, CA 92856

CONFIRMATION NO. 8336

IMPROPER CPOA LETTER



OC000000136087356

Date Mailed: 08/31/2022

NOTICE REGARDING POWER OF ATTORNEY

This is in response to the power of attorney filed 08/15/2022. The power of attorney in this application is not accepted for the reason(s) listed below:

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/smaliem/

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From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
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Aug 31, 2022 03:19:13 AM

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Application	Document	Mailroom Date	Attorney Docket No.
17887922	APP.FILE.REC	08/31/2022	ED 7000
	N572	08/31/2022	ED 7000

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**POWER OF ATTORNEY
OR
REVOCATION OF POWER OF ATTORNEY
WITH A NEW POWER OF ATTORNEY
AND
CHANGE OF CORRESPONDENCE ADDRESS**

Application Number	17887922
Filing Date	August 15, 2022
First Named Inventor	ERIC DELANGIS
Title	Devices and Methods for Multipath Communications
Art Unit	
Examiner Name	
Attorney Docket Number	ED 7000

I hereby revoke all previous powers of attorney given in the above-identified application.

☐ A Power of Attorney is submitted herewith.**OR**☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:**64828****OR**☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Practitioner(s) Name	Registration Number

Please recognize or change the correspondence address for the above-identified application to:

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Address

City

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I am the:

☒ Applicant/Inventor.**OR**☐ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) (Form PTO/SB/96) submitted herewith or filed on _____.**SIGNATURE of Applicant or Assignee of Record**

Signature	/Eric Delangis/	Date	Sept. 12, 2022
Name	Eric Delangis	Telephone	
Title and Company			

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.☐ *Total of _____ forms are submitted.

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Electronic Acknowledgement Receipt

EFS ID:	46596083
Application Number:	17887922
International Application Number:	
Confirmation Number:	8336
Title of Invention:	DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS
First Named Inventor/Applicant Name:	ERIC M. DELANGIS
Customer Number:	64828
Filer:	Harold C. McGurk
Filer Authorized By:	
Attorney Docket Number:	ED 7000
Receipt Date:	12-SEP-2022
Filing Date:	15-AUG-2022
Time Stamp:	14:17:46
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	ED_7000_Power_Attorney.pdf	176153	no	2
			bc6691a108bacf90a5ee77725dc68f5583834571		

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/887,922	08/15/2022	ERIC M. DELANGIS	ED 7000

CONFIRMATION NO. 8336

POA ACCEPTANCE LETTER



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Orange, CA 92856

Date Mailed: 09/20/2022

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 09/12/2022.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

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.

/ytdemisse/

To: CLAYMCGURK@GMAIL.COM,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 64828

Sep 20, 2022 03:19:06 AM

Dear PAIR Customer:

Harold McGurk
The Law Office of Clay McGurk
P.O. BOX 1488
Orange, CA 92856
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 64828 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:

The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
17887922	N570	09/20/2022	ED 7000

To view your correspondence online or update your email addresses, please visit us anytime at <https://sportal.uspto.gov/secure/myportal/privatepair>.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM



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.
17/887,922	08/15/2022	ERIC M. DELANGIS	ED 7000	8336
64828	7590	10/06/2022	EXAMINER	
Harold McGurk			CENTRAL, DOCKET	
The Law Office of Clay McGurk				
P.O. BOX 1488			ART UNIT	
Orange, CA 92856			PAPER NUMBER	
			OPAP	
			NOTIFICATION DATE	
			DELIVERY MODE	
			10/06/2022	
			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):

CLAYMCGURK@GMAIL.COM

<i>Decision Dismissing Request for Prioritized Examination (Track I)</i>	Application No. 17/887,922	Applicant(s) DELANGIS, ERIC M.	
	Examiner FIKIRTE A GEREMEW	Art Unit OMBL	AIA (FITF) Status No

1. THE REQUEST FILED 15 August 2022 IS **DISMISSED** BECAUSE:

A. ☐ The application is not a utility application under 35 U.S.C. 111(a) filed by Patent Electronic System or a plant application under 35 U.S.C. 111(a):

i. ☐ The application is a utility application that was not filed by Patent Electronic System.

ii. ☐ The application is neither a utility application nor a plant application, but rather is a _____, which is excluded from the Track I program.

B. ☐ The request was not filed with the application or on the same date of the application.

C. ☒ One or more of the following fees were not filed with the application:

i. ☐ Basic filing fee, as set forth in 37 CFR 1.16(a), or for a plant application, 37 CFR 1.16(c).

ii. ☐ Search fee, as set forth in 37 CFR 1.16(k), or for a plant application, 37 CFR 1.16(m).

iii. ☐ Examination fee, as set forth in 37 CFR 1.16(o), or for a plant application, 37 CFR 1.16(q).

iv. ☐ Publication fee, as set forth in 37 CFR 1.18(d).

v. ☒ Track I processing fee, as set forth in 37 CFR 1.17(i).

vi. ☐ Track I prioritized examination fee, as set forth in 37 CFR 1.17(c).

vii. ☐ Application size fee, due because the specification and drawings exceed 100 sheets of paper, as set forth in 37 CFR 1.16(s).

viii. ☐ Excess independent claim fee, due because the number of independent claims exceeds three, as set forth in 37 CFR 1.16(h).

ix. ☐ Excess claim fee, due because the number of claims exceeds twenty, as set forth in 37 CFR 1.16(i).

D. ☐ The executed inventor's oath or declaration, or an application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) was not filed with the application or on the same date the application was filed.

E. ☐ The application contains or has been amended to contain:

i. ☐ More than four independent claims.

ii. ☐ More than thirty total claims.

iii. ☐ One or more multiple dependent claims.

F. ☐ The Track I program has exceeded its limit of 15,000 requests for the current fiscal year.

G. ☐ Other: _____

2. CONCLUSION

☐ **ALL of the above defect(s) consist only of one or more of items E (i-iii). Applicant is hereby accorded a non-extendable ONE MONTH time period from the mailing date of this Decision to (1) correct the subject defect(s) and (2) file a petition under 37 CFR 1.181 requesting reconsideration of prioritized examination. If no such petition is timely filed, the application will not undergo prioritized examination.**

- OR -

☒ **The application will not undergo prioritized examination, because the request was not accompanied by all of the required items.**

Telephone inquiries with regard to this decision should be directed to FIKIRTE A GEREMEW at (703) 756-1930. In his/her absence, calls may be directed to Petition Help Desk at (571) 272-3282.

/FIKIRTE A GEREMEW/ PROGRAM SUPPORT ASSISTANT, OMBL	
--	--

To: CLAYMCGURK@GMAIL.COM,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 64828

Oct 07, 2022 03:34:48 AM

Dear PAIR Customer:

Harold McGurk
The Law Office of Clay McGurk
P.O. BOX 1488
Orange, CA 92856
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 64828 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

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Application	Document	Mailroom Date	Attorney Docket No.
17887922	TRACK1.DENY	10/06/2022	ED 7000

To view your correspondence online or update your email addresses, please visit us anytime at <https://sportal.uspto.gov/secure/myportal/privatepair>.

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Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.: **17/887,922**

EXAMINER:

INVENTOR: Eric M. Delangis

GROUP ART UNIT: 2652

FILED: AUGUST 15, 2022

CONFIRMATION No.: 8336

TITLE: Multipath Communication Devices and Methods

ATTORNEY No: ED 7000

PETITION

This Petition is being submitted under 37 C.F.R. § 1.182 Question not specifically provided for. The Petition fee of \$210 is being submitted via EFS-Web.

Applicant humbly requests that the USPTO accept the Track One processing fee of \$70 for this application so this application can be reinstated as a Track One Application.

STATEMENT OF FACTS

On August 15, 2022, the current application was filed, all the documents were filed and all fees were paid except a processing fee of \$70 (small entity) for a Track One application.

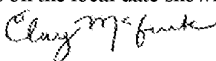
On August 31, 2022, the Filing Receipt was received as provided in **Exhibit 1**. The Filing Receipt included a notice of an improper Power of Attorney. On September 9, 2022, a new power of attorney form was submitted and subsequently accepted.

On October 6, 2022, a notice was received dismissing the Track One application because the processing fee of \$70 had not been received. The notice is attached as **Exhibit 2**.

CERTIFICATE OF ELECTRONIC (EFS-WEB) TRANSMISSION

I hereby certify that this correspondence is being transmitted via the U.S. Patent Office's electronic filing system in accordance with 37 C.F.R. § 1.8(a)(1) from the **Pacific Time Zone** of the United States on the local date shown below.

Dated: October 11, 2022

By: 
Clay McGurk

Five days after the notice, on October 11, 2022, this Petition is being filed and the fees of \$210 (petition fee) and \$70 (missing processing fee for Track One) are being paid via EFS-Web.

ARGUMENT

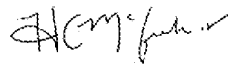
This application was filed as a Track One application. As shown on the second page of **Exhibit 2**, when the application was filed as a Track One application, the only missing item was the processing fee of \$70. All Track One documents were filed, and all other fees were paid including the Track One fee. This non-payment was an unintentional clerical error. Although all other fees were paid via EFS-Web, this fee was not paid.

When the filing receipt was received (**Exhibit 1**), there was no reference to any Track One missing fees. If there would have been a simple statement such as, "The Track One application fee has been paid but the processing fee was not paid. Please submit the processing fee immediately", Applicant would have paid the fee that day.

Applicant humbly requests that this Petition be granted for an unintentional clerical error where the processing fee of \$70 would be accepted and that the application would be reinstated for Track One processing.

Date: October 11, 2022

Respectfully Submitted,



H C McGurk IV, Reg. No. 34,964
Attorney for Applicant

THE LAW OFFICE OF CLAY MCGURK
PO Box 1488
Orange, CA 92706

Phone: 949.395.3942

Email: claymcgurk@gmail.com

EXHIBIT 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	GRP ART UNIT	FIL FEE REC'D	ATTY DOCKET NO	TOT CLAIMS	IND CLAIMS
17/887,922	08/15/2022	2652	830	ED 7000	20	2

CONFIRMATION NO. 8336

64828

Harold McGurk

The Law Office of Clay McGurk

P.O. BOX 1488

Orange, CA 92856

FILING RECEIPT



CC00000136087282

Date Mailed: 08/31/2022

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)

ERIC M. DELANGIS, Wylie, TX;

Applicant(s)

ERIC M. DELANGIS, Wylie, TX;

Assignment For Published Patent Application

Competitive Access Systems, Inc., Wylie, TX

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 17/120,549 12/14/2020 PAT 11418641
which is a CON of 15/161,787 05/23/2016 PAT 10868908
which is a CON of 14/512,414 10/11/2014 PAT 9350649
which is a CON of 13/531,294 06/22/2012 PAT 8861349
which is a CON of 12/581,852 10/19/2009 PAT 8228801
which is a CON of 10/686,375 10/14/2003 PAT 7606156
which claims benefit of 60/418,521 10/15/2002

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: No

Permission to Access Search Results: No

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: 08/26/2022

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 17/887,922**

Projected Publication Date: 12/08/2022

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS

Preliminary Class

379

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 Assets Control, 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 17/887,922				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	80		N/A				
SEARCH FEE (37 CFR 1.16(k), (j), or (m))	N/A	N/A	N/A	350		N/A				
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	400		N/A				
TOTAL CLAIMS (37 CFR 1.16(i))	20	minus 20 = *	x 50 =	0.00	OR					
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2	minus 3 = *	x 240 =	0.00						
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).			0.00						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00						
				TOTAL		TOTAL				
* If the difference in column 1 is less than zero, enter "0" in column 2.				830						
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	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))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	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))							OR		
	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
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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
17/887,922	08/15/2022	ERIC M. DELANGIS	ED 7000

64828
Harold McGurk
The Law Office of Clay McGurk
P.O. BOX 1488
Orange, CA 92856

CONFIRMATION NO. 8336
IMPROPER CPOA LETTER



Date Mailed: 08/31/2022

NOTICE REGARDING POWER OF ATTORNEY

This is in response to the power of attorney filed 08/15/2022. The power of attorney in this application is not accepted for the reason(s) listed below:

- The power of attorney has not been accepted because the party who is giving power has not been identified. Power of attorney may only be signed by the applicant for patent (37 CFR 1.42) or the patent owner. A party who is not the applicant must become the applicant in accordance with 37 CFR 1.46(c) and appoint any power of attorney in compliance with 37 CFR 3.71 and 3.73. For a reissue application, reexamination proceeding, or supplemental examination proceeding, a patent owner who was not the applicant under 37 CFR 1.46 must appoint any power of attorney in compliance with 37 CFR 3.71 and 3.73. See 37 CFR 1.32(b)(4).

/smaliem/

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



EXHIBIT 2



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
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/887,922	08/15/2022	ERIC M. DELANGIS	ED 7000	8336
64828	7590	10/06/2022	EXAMINER	
Harold McGurk			CENTRAL, DOCKET	
The Law Office of Clay McGurk				
P.O. BOX 1488			ART UNIT	
Orange, CA 92856			PAPER NUMBER	
			OPAP	
			NOTIFICATION DATE	
			DELIVERY MODE	
			10/06/2022	
			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):

CLAYMCGURK@GMAIL.COM

<i>Decision Dismissing Request for Prioritized Examination (Track I)</i>	Application No. 17/887,922	Applicant(s) DELANGIS, ERIC M.	
	Examiner FIKIRTE A GEREMEW	Art Unit OMBL	AIA (FITF) Status No

1. THE REQUEST FILED 15 August 2022 IS **DISMISSED** BECAUSE:

A. ☐ The application is not a utility application under 35 U.S.C. 111(a) filed by Patent Electronic System or a plant application under 35 U.S.C. 111(a):

i. ☐ The application is a utility application that was not filed by Patent Electronic System.

ii. ☐ The application is neither a utility application nor a plant application, but rather is a _____, which is excluded from the Track I program.

B. ☐ The request was not filed with the application or on the same date of the application.

C. ☒ One or more of the following fees were not filed with the application:

i. ☐ Basic filing fee, as set forth in 37 CFR 1.16(a), or for a plant application, 37 CFR 1.16(c).

ii. ☐ Search fee, as set forth in 37 CFR 1.16(k), or for a plant application, 37 CFR 1.16(m).

iii. ☐ Examination fee, as set forth in 37 CFR 1.16(o), or for a plant application, 37 CFR 1.16(q).

iv. ☐ Publication fee, as set forth in 37 CFR 1.18(d).

v. ☒ Track I processing fee, as set forth in 37 CFR 1.17(i).

vi. ☐ Track I prioritized examination fee, as set forth in 37 CFR 1.17(c).

vii. ☐ Application size fee, due because the specification and drawings exceed 100 sheets of paper, as set forth in 37 CFR 1.16(s).

viii. ☐ Excess independent claim fee, due because the number of independent claims exceeds three, as set forth in 37 CFR 1.16(h).

ix. ☐ Excess claim fee, due because the number of claims exceeds twenty, as set forth in 37 CFR 1.16(i).

D. ☐ The executed inventor's oath or declaration, or an application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) was not filed with the application or on the same date the application was filed.

E. ☐ The application contains or has been amended to contain:

i. ☐ More than four independent claims.

ii. ☐ More than thirty total claims.

iii. ☐ One or more multiple dependent claims.

F. ☐ The Track I program has exceeded its limit of 15,000 requests for the current fiscal year.

G. ☐ Other: _____

2. CONCLUSION

☐ **ALL of the above defect(s) consist only of one or more of items E (i-iii). Applicant is hereby accorded a non-extendable ONE MONTH time period from the mailing date of this Decision to (1) correct the subject defect(s) and (2) file a petition under 37 CFR 1.181 requesting reconsideration of prioritized examination. If no such petition is timely filed, the application will not undergo prioritized examination.**

- OR -

☒ **The application will not undergo prioritized examination, because the request was not accompanied by all of the required items.**

Telephone inquiries with regard to this decision should be directed to FIKIRTE A GEREMEW at (703) 756-1930. In his/her absence, calls may be directed to Petition Help Desk at (571) 272-3282.

/FIKIRTE A GEREMEW/ PROGRAM SUPPORT ASSISTANT, OMBL	
--	--

Electronic Patent Application Fee Transmittal				
Application Number:		17887922		
Filing Date:		15-Aug-2022		
Title of Invention:		DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS		
First Named Inventor/Applicant Name:		ERIC M. DELANGIS		
Filer:		Harold C. McGurk		
Attorney Docket Number:		ED 7000		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
PROCESSING FEE, EXCEPT PROV. APPLS.	2830	1	70	70
Petition:				
PETITION FEE - 37 CFR 1.17(F)(GROUP I)	2462	1	210	210
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				280

Electronic Acknowledgement Receipt

EFS ID:	46794652
Application Number:	17887922
International Application Number:	
Confirmation Number:	8336
Title of Invention:	DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS
First Named Inventor/Applicant Name:	ERIC M. DELANGIS
Customer Number:	64828
Filer:	Harold C. McGurk
Filer Authorized By:	
Attorney Docket Number:	ED 7000
Receipt Date:	11-OCT-2022
Filing Date:	15-AUG-2022
Time Stamp:	15:16:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$280
RAM confirmation Number	E20220AF19081785
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Petition for review by the Office of Petitions	17887922_Petition_10-11-2022.pdf	594404	no	14
			a7b8494a891fc9690c90f88ddcca4ab5d86489c7		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	40462	no	2
			b559f36a279a084386854971335c7d8cdf19c53c		
Warnings:					
Information:					
Total Files Size (in bytes):			634866		
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. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/887,922	08/15/2022	ERIC M. DELANGIS	ED 7000	8336
64828	7590	11/04/2022	EXAMINER	
Harold McGurk			CENTRAL, DOCKET	
The Law Office of Clay McGurk				
P.O. BOX 1488			ART UNIT	
Orange, CA 92856			PAPER NUMBER	
			OPAP	
			NOTIFICATION DATE	
			DELIVERY MODE	
			11/04/2022	
			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):

CLAYMCGURK@GMAIL.COM



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

Doc Code: TRACK1.GRANT

Decision Granting Request for Prioritized Examination (Track I or After RCE)	Application No.:17/887,922
The petition, being treated as filed under 37 CFR 1.181, filed October 11, 2022, is GRANTED. In view of the specific circumstances surrounding this application and, in particular, the filing of the Track 1 Request requirements including irregularities with EFS-Web involving payment of the processing fee, the Office, in this specific instance, hereby waives, sua sponte, the processing fee date requirement of the Prioritized Examination, Track 1, program to the extent necessary to render the processing fee as timely paid and sufficient to fulfill such requirement. Petitioner's attention is drawn to the first sentence of Item 1 of the signed Certification and Request for Prioritized Examination, filed August 15, 2022, which specifically identifies the processing fee. Petitioner should note that because of the specific circumstances of this application, and in this specific instance, the processing fee was accepted as timely, HOWEVER, IN ANY FUTURE REQUESTS FOR PRIORITIZED EXAMINATION, TRACK 1, ALL OF THE REQUIREMENTS, INCLUDING PAYMENT OF THE PROCESSING FEE, AS REQUIRED BY 37 CFR 1.102(E), MUST BE TIMELY SATISFIED FOR AN APPLICATION TO BE ACCEPTED INTO THE PRIORITIZED EXAMINATION, TRACK 1, PROGRAM. 1. THE REQUEST FILED <u>August 15, 2022</u> IS GRANTED. The above-identified application has met the requirements for prioritized examination A. ☒ for an original nonprovisional application (Track I). B. ☐ for an application undergoing continued examination (RCE). 2. The above-identified application will undergo prioritized examination. The application will be accorded special status throughout its entire course of prosecution until one of the following occurs: A. filing a <u>petition for extension of time</u> to extend the time period for filing a reply; B. filing an <u>amendment to amend the application to contain more than four independent claims, more than thirty total claims</u>, or a multiple dependent claim; C. filing a <u>request for continued examination</u>; D. filing a notice of appeal; E. filing a request for suspension of action; F. mailing of a notice of allowance; G. mailing of a final Office action; H. completion of examination as defined in 37 CFR 41.102; or I. abandonment of the application.	

Telephone inquiries with regard to this decision should be directed to Vanitha Elgart at 571-272-7395.

/VANITHA M ELGART/
Petitions Examiner, OPET

U.S. Patent and Trademark Office
PTO-2298 (Rev. 02-2012)

To: CLAYMCGURK@GMAIL.COM,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 64828

Nov 05, 2022 09:34:56 AM

Dear PAIR Customer:

Harold McGurk
The Law Office of Clay McGurk
P.O. BOX 1488
Orange, CA 92856
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 64828 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:

The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
17887922	TRACK1.GRANT	11/04/2022	ED 7000

To view your correspondence online or update your email addresses, please visit us anytime at <https://sportal.uspto.gov/secure/myportal/privatepair>.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

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PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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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
17/887,922	08/15/2022	ERIC M. DELANGIS	ED 7000

CONFIRMATION NO. 8336

64828

Harold McGurk

The Law Office of Clay McGurk

P.O. BOX 1488

Orange, CA 92856

PUBLICATION NOTICE



0000000137001691

Title:DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS

Publication No.US-2022-0394124-A1

Publication Date:12/08/2022

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 accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

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 the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <https://portal.uspto.gov/pair/PublicPair>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

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

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

To: CLAYMCGURK@GMAIL.COM,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 64828

Dec 09, 2022 03:34:22 AM

Dear PAIR Customer:

Harold McGurk
The Law Office of Clay McGurk
P.O. BOX 1488
Orange, CA 92856
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 64828 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:

The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
17887922	NTC.PUB	12/08/2022	ED 7000

To view your correspondence online or update your email addresses, please visit us anytime at <https://sportal.uspto.gov/secure/myportal/privatepair>.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM



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UNITED STATES DEPARTMENT OF COMMERCE
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NOTICE OF ALLOWANCE AND FEE(S) DUE

64828 7590 12/15/2022
Harold McGurk
The Law Office of Clay McGurk
P.O. BOX 1488
Orange, CA 92856

EXAMINER	
CHO, HONG SOL	
ART UNIT	PAPER NUMBER
2467	

DATE MAILED: 12/15/2022

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/887,922	08/15/2022	ERIC M. DELANGIS	ED 7000	8336

TITLE OF INVENTION: DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	03/15/2023

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 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity 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.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

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 including the Patent, advance orders and notification of maintenance fees 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.

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

64828 7590 12/15/2022
Harold McGurk
The Law Office of Clay McGurk
P.O. BOX 1488
Orange, CA 92856

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 EFS-Web 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.
17/887,922	08/15/2022	ERIC M. DELANGIS	ED 7000	8336

TITLE OF INVENTION: DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	03/15/2023

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHO, HONG SOL	2467	370-235000

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) ☐ Advance Order - # of Copies _____

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

☐ Electronic Payment via EFS-Web ☐ 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

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

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. **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.

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. _____



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/887,922	08/15/2022	ERIC M. DELANGIS	ED 7000	8336
64828	7590	12/15/2022	EXAMINER	
Harold McGurk The Law Office of Clay McGurk P.O. BOX 1488 Orange, CA 92856			CHO, HONG SOL	
			ART UNIT	PAPER NUMBER
			2467	
DATE MAILED: 12/15/2022				

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.

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. 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 disclosure of these records is required by the Freedom of Information Act.
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 Cooperation Treaty.
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 inspection 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.

Notice of Allowability	Application No. 17/887,922	Applicant(s) DELANGIS, ERIC M.	
	Examiner Hong S Cho	Art Unit 2467	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 08/15/2022.
☐ 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 1-20. 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)	5. ☐ Examiner's Amendment/Comment
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.	6. ☒ Examiner's Statement of Reasons for Allowance
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.	7. ☐ Other _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.	

/HONG S CHO/ Primary Examiner, Art Unit 2467	
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Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

Allowable Subject Matter

2. Claims 1-20 are allowed.

The following is an examiner's statement for reasons for allowance.

3. Claim 1 is allowable over the prior art of record since the cited references taken individually or in combination fail to particularly teach or fairly suggest establishing a connection between a first device and a fourth device by concurrently using a first portion of a first bandwidth and a second portion of a second bandwidth, and receiving a portion of the data set through a first network and a portion of the data through a second network.
4. Claim 12 is allowable over the prior art of record since the cited references taken individually or in combination fail to particularly teach or fairly suggest receiving a portion of a response via a first network and a second network in response to transmitting a request to a remote device via the third connection, the third connection to the remote device via the first network and the second network having an effective bandwidth including the allocated first portion of the first bandwidth and the allocated second portion of the second bandwidth.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong S Cho whose telephone number is 571-272-3087. The examiner can normally be reached on Monday -Friday 6:30am -4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Phillips can be reached on 571-272-3940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/HONG S CHO/

Primary Examiner, Art Unit 2467

<i>Notice of References Cited</i>	Application/Control No. 17/887,922		Applicant(s)/Patent Under Reexamination DELANGIS, ERIC M.	
	Examiner Hong S Cho		Art Unit 2467	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-6496477-B1	12-2002	Perkins; Stephen J.	H04L47/2416	370/228
*	B	US-20010007557-A1	07-2001	Yamada, Kenshin	H04L45/00	370/389
*	C	US-20030016664-A1	01-2003	MeLampy, Patrick J.	H04L61/2557	370/389
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	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 MM-YYYY format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office
PTO-892 (Rev. 01-2001)

Notice of References Cited

Part of Paper No. 20221123

Search Notes 	Application/Control No. 17/887,922	Applicant(s)/Patent Under Reexamination DELANGIS, ERIC M.
	Examiner Hong S Cho	Art Unit 2467

CPC - Searched*		
Symbol	Date	Examiner

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* 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
H04M3/007 OR H04L12/5692 OR H04L45/24 OR H04L45/54 OR H04L47/821 OR H04L61/5014 OR H04L69/168 OR H04M1/6033 OR H04W88/16 OR H04M2203/052 OR H04M2203/60 OR H04M2250/ 06 OR H04W8/26 OR H04W28/06 OR H04W40/02 OR H04W72/04 OR H04W80/00 OR H04W84/12 OR H04W84/18 OR Y02D30/70	11/23/2022	hc
inventor search	11/23/2022	hc

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	see search history printout	11/23/2022	hc

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Issue Classification 	Application/Control No. 17/887,922	Applicant(s)/Patent Under Reexamination DELANGIS, ERIC M.
	Examiner Hong S Cho	Art Unit 2467

CPC						
Symbol					Type	Version
H04M	/	3	/	007	F	2013-01-01
H04L	/	12	/	5692	I	2013-01-01
H04L	/	61	/	5014	I	2022-05-01
H04W	/	88	/	16	I	2013-01-01
H04L	/	45	/	24	I	2013-01-01
H04L	/	45	/	54	I	2013-01-01
H04L	/	47	/	821	I	2013-01-01
H04L	/	69	/	168	I	2013-01-01
H04M	/	1	/	6033	I	2013-01-01
H04W	/	8	/	26	A	2013-01-01
H04W	/	28	/	06	A	2013-01-01
H04W	/	40	/	02	A	2013-01-01
H04W	/	72	/	04	A	2013-01-01
H04W	/	80	/	00	A	2013-01-01
H04W	/	84	/	12	A	2013-01-01
H04W	/	84	/	18	A	2013-01-01
Y02D	/	30	/	70	A	2020-08-01
H04M	/	2203	/	052	A	2013-01-01
H04M	/	2203	/	60	A	2013-01-01
H04M	/	2250	/	06	A	2013-01-01

CPC Combination Sets							
Symbol				Type	Set	Ranking	Version
	/		/				

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/HONG S CHO/ Primary Examiner, Art Unit 2467	23 November 2022	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	7

U.S. Patent and Trademark Office

Part of Paper No.: 20221123

Issue Classification 	Application/Control No. 17/887,922	Applicant(s)/Patent Under Reexamination DELANGIS, ERIC M.
	Examiner Hong S Cho	Art Unit 2467

INTERNATIONAL CLASSIFICATION			
CLAIMED			
H04L	/	45	/ 24
H04M	/	3	/ 00
H04L	/	12	/ 54
NON-CLAIMED			
/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

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

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/HONG S CHO/ Primary Examiner, Art Unit 2467	23 November 2022	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	7

U.S. Patent and Trademark Office

Part of Paper No.: 20221123

Issue Classification 	Application/Control No. 17/887,922	Applicant(s)/Patent Under Reexamination DELANGIS, ERIC M.
	Examiner Hong S Cho	Art Unit 2467

☒ 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

NONE	Total Claims Allowed:	
(Assistant Examiner)	(Date)	20
/HONG S CHO/ Primary Examiner, Art Unit 2467	23 November 2022	O.G. Print Claim(s)
(Primary Examiner)	(Date)	1
		O.G. Print Figure
		7

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	24921	(370/235,230,233,363,371,374,381,433,465-468,470-474,483-486,493-495,352,395,252).ccls.	(US-PGPUB; USPAT)	OR	OFF	OFF	2008/03/18 09:31 AM
L2	574	(379/399,93.01).ccls.	(US-PGPUB; USPAT)	OR	OFF	OFF	2008/03/18 09:31 AM
L3	1	"20050078690"	(US-PGPUB; USPAT)	OR	OFF	OFF	2008/03/18 09:49 AM
L4	106	pots same pstn same (wireless or ad adj hoc) same ethernet	(US-PGPUB; USPAT)	OR	OFF	OFF	2008/03/18 10:24 AM
L5	17	("20020054597" "4197427" "5313467" "5638363" "5909445" "6061392" "6101182" "6167095" "6307839" "6307853" "6373860" "6647015" "6728238" "7069328" "7184427" "7236579" "7257106").PN.	(US-PGPUB; USPAT)	OR	OFF	OFF	2008/03/18 10:25 AM
L6	2	L5 and pots same pstn same (wireless or ad adj hoc)	(US-PGPUB; USPAT)	OR	OFF	OFF	2008/03/18 10:25 AM
L7	46	pots same pstn same (wireless or ad adj hoc) same ethernet same broadband	(US-PGPUB; USPAT)	OR	OFF	OFF	2008/03/18 10:27 AM
L8	60	pots same pstn same (wireless or ad adj hoc) same ethernet same broadband	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/02/19 12:46 PM
L9	28401	(370/235,230,233,363,371,374,381,433,465-468,470-474,483-486,493-495,352,395,252).ccls.	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/02/19 12:47 PM
L10	27	L9 and (aggregat\$3 or combin\$3 or add\$3) with unused near bandwidth	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/02/19 12:47 PM
L11	1	L9 and (aggregat\$3 or combin\$3 or add\$3) with bandwidth same hop\$1 same distance	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/02/19 01:16 PM
L12	5	((aggregat\$3 or combin\$3 or add\$3) with bandwidth same hop\$1).clm.	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/02/19 01:17 PM

L13	1	L8 and (aggregat\$3 or combin\$3 or add\$3) with bandwidth same distance	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/02/19 01:27 PM
L14	5	(eric near delangis).in.	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/02/19 01:29 PM
L15	1	11/188537	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/04/29 07:08 AM
L16	5	(eric near delangis).in.	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/05/27 10:12 AM
L17	29370	(370/235,230,233,363,371,374,381,433,465-468,470-474,483-486,493-495,352,395,252).ccls.	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/05/27 10:12 AM
L18	29	L17 and (aggregat\$3 or combin\$3 or add\$3) with unused near bandwidth///	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/05/27 10:13 AM
L19	13	((aggregat\$3 or combin\$3 or add\$3) with unused near bandwidth).clm.	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/05/27 10:16 AM
L20	1	(pots same pstn same (wireless or ad adj hoc) same ethernet same broadband).clm.	(US-PGPUB; USPAT)	OR	OFF	OFF	2009/05/27 10:19 AM
L21	43899	(370/235,230,233,363,371,374,381,433,465-468,470-474,483-486,493-495,352,395,252).ccls.	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/03/19 08:52 AM
L22	52	L21 and (aggregat\$3 or combin\$3 or add\$3) with unused near bandwidth	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/03/19 08:52 AM
L23	7	((ERIC) near2 (DELANGIS)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2012/03/19 08:53 AM
L24	1	12/581852	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/03/19 10:07 AM
L25	3	10/686375	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/03/19 10:07 AM
L26	43899	(370/235,230,233,363,371,374,381,433,465-468,470-474,483-486,493-495,352,395,252).ccls.	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/03/19 10:18 AM
L27	52	L26 and (aggregat\$3 or combin\$3 or add\$3) with unused near bandwidth	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/03/19 10:18 AM
L28	19	((aggregat\$3 or combin\$3 or add\$3)	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/03/19 12:13 PM

L29	3	with unused near bandwidth).clm. "12581852"	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 09:38 AM
L30	5	10/686375	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 09:39 AM
L31	9	((ERIC) near2 (DELANGIS)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2012/11/26 09:41 AM
L32	37466	370/230-235,278,282,328,338,468,477.ccls.	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:25 AM
L33	10921	L32 and (aggregat\$3 or combin\$3 or add\$3) with data	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:26 AM
L34	1011	L32 and request\$3 with (aggregat\$3 or combin\$3 or add\$3) with data	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:26 AM
L35	137	L32 and request\$3 with (aggregat\$3 or combin\$3 or add\$3) with data same rout\$3	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:27 AM
L36	11	L32 and request\$3 with (aggregat\$3 or combin\$3 or add\$3) near data same rout\$3	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:27 AM
L37	1	"13531294"	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:30 AM
L38	12	L32 and request\$3 with (aggregat\$3 or combin\$3 or add\$3) near data same wireless	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:31 AM
L39	483	L32 and (aggregat\$3 or combin\$3 or add\$3) near data same wireless	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:35 AM
L40	195	L32 and (aggregat\$3 or combin\$3 or add\$3) near data with wireless	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:35 AM
L41	6	L32 and (aggregat\$3 or combin\$3 or add\$3) near data with wireless adj devices	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:37 AM
L42	57	(aggregat\$3 or combin\$3 or add\$3) near data with wireless adj devices	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:37 AM
L43	4	(aggregat\$3 or combin\$3 or add\$3) near (several or multiple or plural\$3) with (trasnfer or	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:45 AM

L44	814	transmission) with wireless adj devices (aggregat\$3 or combin\$3 or add\$3) near (several or multiple or plural\$3) with (data or message or inforamtion) with (trasnfer or transmission)	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:45 AM
L45	1016	(aggregat\$3 or combin\$3 or add\$3) near (several or multiple or plural\$3) with (data or message or inforamtion) with (transfer or transmission)	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:46 AM
L46	30	(aggregat\$3 or combin\$3 or add\$3) near (several or multiple or plural\$3) with (data or message or inforamtion) with (transfer or transmission) same (wireless or mobile) adj (devices or station\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:47 AM
L47	5	ap with (aggregat\$3 or combin\$3 or add\$3) near (data or message or inforamtion) with (wireless or mobile) adj (devices or station\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:50 AM
L48	809	(aggregat\$3 or combin\$3 or add\$3) near (data or message or inforamtion) with (wireless or mobile) adj (devices or station\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:50 AM
L49	128	L48 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:51 AM
L50	544	(aggregat\$3 or combin\$3) near (data or message or inforamtion) with (wireless or mobile) adj (devices or station\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:51 AM
L51	67	L50 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 10:52 AM
L52	1118	(multiplex\$3 or aggregat\$3 or combin\$3) near (traffic or data or message\$1 or inforamtion or	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 11:13 AM

L53	195	packet\$1 or frame\$1) with (wireless or mobile) adj (devices or station\$1) L32 and (multiplex\$3 or aggregat\$3 or combin\$3) near (traffic or data or message\$1 or inforamtion or packet\$1 or frame\$1) with (wireless or mobile) adj (devices or station\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 11:13 AM
L54	26	L53 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 11:14 AM
L55	9	"6847623"	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 11:21 AM
L56	2	"6990806"	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 11:22 AM
L57	428	updat\$3 with rout\$3 near table with (qos or hop\$1 or rssi)	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:18 PM
L58	7	(select\$3 or determin\$3 or choos\$3) with rout\$3 near path with (qos with hop\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:19 PM
L59	93	(select\$3 or determin\$3 or choos\$3) with rout\$3 near path with qos	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:20 PM
L60	25	(select\$3 or determin\$3 or choos\$3) with rout\$3 near path with qos same hop	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:20 PM
L61	10	(select\$3 or determin\$3 or choos\$3) with rout\$3 near path with qos same (mobile or wireless)	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:22 PM
L62	26	(select\$3 or determin\$3 or choos\$3) with rout\$3 near path with qos same bandwidth	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:24 PM
L63	0	(bs or ap)with (select\$3 or determin\$3 or choos\$3) with rout\$3 near path with qos	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:26 PM
L64	22	(bs or ap)with (select\$3 or determin\$3 or choos\$3) with rout\$3 near path	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:26 PM
L65	1	(bs or ap)with (select\$3 or determin\$3 or choos\$3) with rout\$3 with hop with qos	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:28 PM

L66	41	(bs or ap)with (select\$3 or determin\$3 or choos\$3) with rout\$3 with hop	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:28 PM
L67	10	(bs or ap)with (select\$3 or determin\$3 or choos\$3) with rout\$3 with qos	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:28 PM
L68	1582	(select\$3 or determin\$3 or choos\$3) with rout\$3 with qos	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:30 PM
L69	175	(select\$3 or determin\$3 or choos\$3) with rout\$3 with qos same hop	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:30 PM
L70	30	(select\$3 or determin\$3 or choos\$3) with rout\$3 with qos same hop same bandwidth	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:30 PM
L71	1475	multicast\$3 with (bs or ap)	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:47 PM
L72	5	multicast\$3 with (bs or ap) with range near transmission	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:47 PM
L73	37	multicast\$3 with range near transmission	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:48 PM
L74	0	multicast\$3 with within near range near transmission	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:58 PM
L75	7	multicast\$3 with range near transmission same tree	(US-PGPUB; USPAT)	OR	OFF	OFF	2012/11/26 01:58 PM
L76	1	"13531294"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/05/21 11:43 AM
L77	0	(aggregat\$3 or combin\$3) near downloaded near(data or message or inforamtion) with (wireless or mobile) adj (devices or station\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/05/21 11:56 AM
L78	1	(aggregat\$3 or combin\$3) with downloaded near(data or message or inforamtion) with (wireless or mobile) adj (devices or station\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/05/21 11:56 AM
L79	194	request\$3 with download\$3 near(data or message or inforamtion or file) with (wireless or mobile) adj (device\$1 or station\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/05/21 11:58 AM

L80	19	L79 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/05/21 11:59 AM
L81	4	"6941151"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/05/21 12:06 PM
L82	80	(aggregat\$3 or combin\$3 or multiplex\$3) near received near (packet or frame or cell or data or message or inforamtion) with sequenc\$3	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/05/21 12:40 PM
L83	10	L82 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/05/21 12:41 PM
L84	9	((ERIC) near2 (DELANGIS)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2013/09/05 09:49 AM
L85	83	(aggregat\$3 or combin\$3 or multiplex\$3) near received near (packet or frame or cell or data or message or inforamtion) with sequenc\$3	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 10:33 AM
L86	10	L85 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 10:33 AM
L87	1734	(receiv\$3 or transmit\$4) with wireless near connection with internet	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 10:36 AM
L88	279	L87 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 10:36 AM
L89	30	(combin\$5 or aggregat\$3 or multiplex\$3) with (receiv\$3 or transmit\$4) with wireless near connection with internet	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 10:48 AM
L90	1	"7426316".pn.	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 10:50 AM
L91	70	(combin\$5 or aggregat\$3 or multiplex\$3) with (data or flow or stream)with wireless near connection with internet	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 10:52 AM
L92	13	L91 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 10:52 AM
L93	6250	(combin\$5 or aggregat\$3 or multiplex\$3) with (data or flow or stream)with wireless with internet	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 10:57 AM
L94	795	L93 and	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05

L95	160	@rld<"20021015" (combin\$5 or aggregat\$3 or multiplex\$3) with received with (data or flow\$1 or stream\$1)with wireless with internet	(US-PGPUB; USPAT)	OR	OFF	OFF	10:57 AM 2013/09/05 10:58 AM
L96	795	L94 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 10:58 AM
L97	13	L95 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 10:58 AM
L98	6943	(receiv\$3 or transmit\$4) near (packet\$1 or frame\$1 or cell\$1 or data or message or inforamtion) with wireless with internet	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:13 AM
L99	5570	L98 and (combin\$5 or aggregat\$3 or multiplex\$3)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:14 AM
L100	237	(combin\$5 or aggregat\$3 or multiplex\$3) with (receiv\$3 or transmit\$4) near (packet\$1 or frame\$1 or cell\$1 or data or message or inforamtion) with wireless with internet	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:15 AM
L101	25	L100 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:16 AM
L102	41285	(multiplex\$3 or combin\$5 or aggregat\$3) with (packet\$1 or frame\$1 or cell\$1 or data or message or inforamtion) with (wireless\$2 or (wi near fi) or bluetooth)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:28 AM
L103	52452	(multiplex\$3 or combin\$5 or aggregat\$3) with (packet\$1 or frame\$1 or cell\$1 or data or message or information) with (wireless\$2 or (wi near fi) or bluetooth)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:28 AM
L104	802	router with (multiplex\$3 or combin\$5 or aggregat\$3) with (packet\$1 or frame\$1 or cell\$1 or data or	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:29 AM

L105	1474	message or information) with (wireless\$2 or (wi near fi) or bluetooth) (router or gateway) with (multiplex\$3 or combin\$5 or aggregat\$3) with (packet\$1 or frame\$1 or cell\$1 or data or message or information) with (wireless\$2 or (wi near fi) or bluetooth)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:29 AM
L106	348	(router or gateway) with (multiplex\$3 or combin\$5 or aggregat\$3) with (packet\$1 or frame\$1 or cell\$1 or data or message or information) with (transmitted or received) with (wireless\$2 or (wi near fi) or bluetooth)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:30 AM
L107	144	(router or gateway) with (multiplex\$3 or combin\$5 or aggregat\$3) with (packet\$1 or frame\$1 or cell\$1 or data or message or information) near (transmitted or received) with (wireless\$2 or (wi near fi) or bluetooth)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:30 AM
L108	1	L107 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:30 AM
L109	144	(router or gateway) with (multiplex\$3 or combin\$5 or aggregat\$3) with (packet\$1 or frame\$1 or cell\$1 or data or message or information) near (transmitted or received) with wireless\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:31 AM
L110	1	L109 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:31 AM
L111	42135	370/230-235,278,282,328,338,468,477.ccls.	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:35 AM

L112	224	L111 and (multiplex\$3 or aggregat\$3 or combin\$3) near (traffic or data or message\$1 or inforamtion or packet\$1 or frame\$1) with (wireless or mobile) adj (devices or station\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:35 AM
L113	860	L111 and (multiplex\$3 or aggregat\$3 or combin\$3) with (stream\$1 or flow\$1 or traffic or data or message\$1 or inforamtion or packet\$1 or frame\$1) with (wireless or mobile) adj (device\$1 or station\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:36 AM
L114	108	L113 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:37 AM
L115	4	09/953980	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:49 AM
L116	7	09/954087	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:50 AM
L117	7115	(multiplex\$3 or aggregat\$3 or combin\$3) with (stream\$1 or flow\$1 or traffic or data or message\$1 or inforamtion or packet\$1 or frame\$1) with (wireless or mobile) adj (device\$1 or station\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:51 AM
L118	850	L117 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:51 AM
L119	135	(multiplex\$3 or aggregat\$3 or combin\$3) with wireless\$2 near received near (stream\$1 or flow\$1 or traffic or data or message\$1 or inforamtion or packet\$1 or frame\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:52 AM
L120	15	L119 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:52 AM
L121	1	13/531294	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2013/09/05 11:55 AM
L122	78	(ms or mobile adj (station\$1 or device\$1))	(US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	OFF	OFF	2013/09/05 11:59 AM

L123	0	with wireless\$3 with establish\$4 near connection with (ap or internet or ip) (ms or mobile adj (station\$1 or device\$1)) with wireless\$3 with establish\$4 near connection with (ap or internet or ip) same ad near hoc	JPO; DERWENT; IBM_TDB)				
			(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2013/09/05 11:59 AM
L124	5	L122 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 11:59 AM
L125	1515	wireless\$3 with establish\$4 near connection with (ap or internet or ip)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2013/09/05 12:00 PM
L126	166	L125 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 12:00 PM
L127	74	increas\$3 with (bandwidth or throughput) with wireless near connection	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 12:48 PM
L128	55	increas\$3 near (bandwidth or throughput) with wireless near connection	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 12:48 PM
L129	41	L128 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 12:48 PM
L130	0	increas\$3 near (bandwidth with throughput) with wireless near connection	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 12:50 PM
L131	0	increas\$3 with (bandwidth with throughput) with wireless near connection	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 12:50 PM
L132	252	increas\$3 with (bandwidth with throughput) with wireless	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 12:51 PM
L133	29	L132 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 12:51 PM
L134	0	creat\$3 with data near file with (combined or multiplexed or aggregated) with (flow\$1 or stresm\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 01:18 PM
L135	15	creat\$3 with file with (combined or	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 01:19 PM

L136	1187	multiplexed or aggregated) with (flow\$1 or stresm\$1) creat\$3 with file with data near (flow\$1 or stream\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 01:24 PM
L137	293	L136 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 01:24 PM
L138	267	creat\$3 near file with data near (flow\$1 or stream\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 01:25 PM
L139	51	L138 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 01:25 PM
L140	1	"7562110".pn.	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/09/05 01:28 PM
L141	1	13/531294	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2013/09/05 02:06 PM
L142	141	(multiplex\$3 or aggregat\$3 or combin\$3) with wireless\$2 near received near (stream\$1 or flow\$1 or traffic or data or message\$1 or inforamtion or packet\$1 or frame\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 11:59 AM
L143	16	L142 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 11:59 AM
L144	2	"20070149150"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2013/12/23 12:12 PM
L145	1	13/328051	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2013/12/23 12:13 PM
L146	568	concurrently near receiv\$3 near (data or packet\$1 or frame\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2013/12/23 12:43 PM
L147	111	L146 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 12:45 PM
L148	2	L147 and (multiplex\$3 or aggregat\$3 or combin\$3) with wireless\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 12:45 PM
L149	75	L146 and @rlad<"20021015" and wireless	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 12:46 PM
L150	1	13/531294	(US-PGPUB; USPAT;	OR	OFF	OFF	2013/12/23

L151	8	L146 and @rldad<"20021015" and wireless with wired	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT)	OR	OFF	OFF	12:53 PM
L152	63	concurrent\$2 with receiv\$3 with wireless with wired	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:04 PM
L153	2	L152 and @rldad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:06 PM
L154	14	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$).did. or (US-7257106-\$ or US-6307839-\$ or US-7385924-\$ or US-7308279-\$ or US-7068623-\$ or US-6249669-\$ or US-6941151-\$ or US-7426316-\$ or US-7562110-\$).did.	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:07 PM
L155	4	L154 and concurrent\$2	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2013/12/23 01:07 PM
L156	11	L146 and @rldad<"20021015" and wired	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:09 PM
L157	32283	(multiplex\$3 or aggregat\$3 or combin\$3) with received near (stream\$1 or flow\$1 or traffic or data or message\$1 or informtion or packet\$1 or frame\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:10 PM
L158	5762	L157 and @rldad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:11 PM
L159	31618	(multiplex\$3 or aggregat\$3 or combin\$3) with received near (stream\$1 or flow\$1 or data or message\$1 or packet\$1 or frame\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:12 PM
L160	29531	(multiplex\$3 or aggregat\$3 or combin\$3) with received near (data or message\$1 or packet\$1	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:12 PM

L161	5211	or frame\$1) L160 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:13 PM
L162	59	(multiplex\$3 or aggregat\$3 or combin\$3) with received near (data or packet\$1 or frame\$1) with concurrently	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:13 PM
L163	12	L162 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:14 PM
L164	2354	(multiplex\$3 or aggregat\$3 or combin\$3) with (data or packet\$1 or frame\$1) with concurrently	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:15 PM
L165	456	L164 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:16 PM
L166	217	(multiplex\$3 or aggregat\$3 or combin\$3) with (data or packet\$1 or frame\$1) near concurrently	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:16 PM
L167	40	L166 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:16 PM
L168	25	(multiplex\$3 or aggregat\$3 or combin\$3) with (data or packet\$1 or frame\$1) with concurrently near received	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:18 PM
L169	30	(multiplex\$3 or aggregat\$3 or combin\$3) with (data or packet\$1 or frame\$1) near received with wired with wireless\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:20 PM
L170	0	L169 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:20 PM
L171	93	(multiplex\$3 or aggregat\$3 or combin\$3) with (data or packet\$1 or frame\$1) near wired with wireless\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:21 PM
L172	26	L171 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2013/12/23 01:21 PM
L173	96	(multiplex\$3 or aggregat\$3 or combin\$3) with (data or packet\$1 or frame\$1) near wired with wireless\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 07:56 AM

L174	26	L173 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 07:56 AM
L175	69696	(370/235,230,233,363,3 71,374,381,433,465- 468,470-474,483- 486,493- 495,352,395,252).cccls.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 08:17 AM
L176	10	(eric near delangis).in.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 08:17 AM
L177	3	concurrently near receiv\$3 near (data or packet\$1 or frame\$1) same ((wired or landline) with wireless)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 08:19 AM
L178	36	(multiplex\$3 or aggregat\$3 or combin\$3) with received near (data or packet\$1 or frame\$1) with wired with wireless\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 08:21 AM
L179	3324	receiv\$3 with server with wirelessly	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 09:52 AM
L180	0	receiv\$3 near data with wirelessly with "from server"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 09:52 AM
L181	0	receiv\$3 near wirelessly with "from server"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 09:53 AM
L182	834	receiv\$3 near wirelessly with server	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 09:53 AM
L183	109	L182 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 09:53 AM
L184	499	receiv\$3 near data with wirelessly with server	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 09:53 AM
L185	46	L184 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 09:54 AM
L186	7	concurrent\$2 with receiv\$3 near data with wirelessly	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 10:24 AM
L187	1611	concurrent\$2 with receiv\$3 with wireless\$2	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	OFF	2014/04/16 10:26 AM

L188	197	L187 and @rlad<"20021015"	IBM_TDB) (US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:26 AM
L189	66	concurrent\$2 with receiv\$3 with wireless\$2 with wired	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 10:26 AM
L190	2	L189 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:26 AM
L191	16	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987- \$).did. or (US-7257106- \$ or US-6307839-\$ or US-7385924-\$ or US- 7308279-\$ or US- 7068623-\$ or US- 6249669-\$ or US- 6941151-\$ or US- 7426316-\$ or US- 7562110-\$ or US- 7889181-\$ or US- 7035914-\$).did.	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:27 AM
L192	4	L191 and concurrent\$2	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 10:27 AM
L193	4361	concurrent\$2 with receiv\$3 near (data or packet\$2 or frame\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 10:31 AM
L194	700	L193 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:32 AM
L195	211	concurrent\$2 with receiv\$3 near (data or packet\$2 or frame\$1) with source\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 10:32 AM
L196	38	L195 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:32 AM
L197	0	multi near link near ppp with concurrent\$2 with (receiv\$3 or send\$3 or transmit\$4)	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:36 AM
L198	3	multi near link with concurrent\$2 with (receiv\$3 or send\$3 or transmit\$4)	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:36 AM
L199	38277	concurrent\$2 with receiv\$3	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:42 AM
L200	6847	L199 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:42 AM

L201	203	concurrent\$2 near receiv\$3 with packets	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:42 AM
L202	37	L201 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:43 AM
L203	107	(provider\$1 or subscriber\$1) with (receiv\$3 or send\$3 or transmit\$4) with content\$1 with concurrent\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:53 AM
L204	40	L203 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:53 AM
L205	22351	(receiv\$3 or send\$3 or transmit\$4) with (information or message\$1 or data or frame\$1) with concurrent\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:58 AM
L206	4175	L205 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:58 AM
L207	192	subscriber with receiv\$3 with (information or message\$1 or data or frame\$1) with concurrent\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:59 AM
L208	55	L207 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 10:59 AM
L209	779	subscriber with receiv\$3 with (information or message\$1 or data or frame\$1) with simultaneous\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 11:07 AM
L210	286	L209 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 11:07 AM
L211	32	subscriber with receiv\$3 with (content\$1 or information or message\$1 or data or frame\$1) with provider\$1 with simultaneous\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 11:07 AM
L212	14	L211 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 11:07 AM
L213	192	receiv\$3 with content\$1 with provider\$1 with simultaneous\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 11:09 AM
L214	38	L213 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 11:09 AM
L215	1	"09409366"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 11:13 AM
L216	1	09/409366	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 11:13 AM
L217	1	(concurrent\$2 or	(US-PGPUB; USPAT;	OR	OFF	OFF	2014/04/16

		simultaneous\$2) with received\$3 with (different or several) with transmission near (media or medium)	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)				11:23 AM
L218	49	(concurrent\$2 or simultaneous\$2) with received\$3 with (different or several) with transmission near (media or medium)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 11:23 AM
L219	6	L218 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 11:24 AM
L220	309	(concurrent\$2 or simultaneous\$2) with received\$3 with transmission near (media or medium)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/04/16 11:25 AM
L221	58	L220 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 11:25 AM
L222	92	(multiplex\$3 or aggregated\$3 or combined\$3) with (data or packet\$1 or frame\$1) with received with wired with wireless\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 12:18 PM
L223	15	L222 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 12:19 PM
L224	12	"7426316"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 12:38 PM
L225	1	"7426316".pn.	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 12:38 PM
L226	1	L225 and "110" same "106"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 12:38 PM
L227	1	L225 and "110" with "104"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 01:08 PM
L228	18	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$ or US-20090150924- \$).did. or (US-7257106- \$ or US-6307839-\$ or US-7385924-\$ or US- 7308279-\$ or US- 7068623-\$ or US- 6249669-\$ or US- 6941151-\$ or US- 7426316-\$ or US- 7562110-\$ or US- 7889181-\$ or US- 7035914-\$ or US- 7065090-\$).did.	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 01:12 PM

L229	5	L228 and (multiplex\$3 or aggregat\$3 or combin\$3) with (data or packet\$1 or frame\$1) with wireless\$2	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 01:13 PM
L230	4	09/953980	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 01:17 PM
L231	1211	establish\$3 with wireless near (connection or path) with server	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 01:27 PM
L232	27	establish\$3 with wireless near (connection or path) with wireless near server	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 01:27 PM
L233	4	L232 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 01:28 PM
L234	121	09/476686	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 01:30 PM
L235	19	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$ or US-20090150924-\$).did. or (US-7257106-\$ or US-6307839-\$ or US-7385924-\$ or US-7308279-\$ or US-7068623-\$ or US-6249669-\$ or US-6941151-\$ or US-7426316-\$ or US-7562110-\$ or US-7889181-\$ or US-7035914-\$ or US-7065090-\$ or US-8285802-\$).did.	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 02:02 PM
L236	16	L235 and (multiplex\$3 or aggregat\$3 or combin\$3)	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 02:02 PM
L237	7292	(multiplex\$3 or aggregat\$3 or combin\$3) with received with (traffic or data or packet\$1 or frame\$1) with (stream or flow)	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 02:06 PM
L238	1317	L237 and @rld<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 02:06 PM
L239	492	(multiplex\$3 or aggregat\$3 or combin\$3) with received near (traffic or	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 02:06 PM

L240	88	data or packet\$1 or frame\$1) near (stream or flow) L239 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 02:07 PM
L241	35368	(multiplex\$3 or aggregat\$3 or combin\$3) with (traffic or data or packet\$1 or frame\$1) near (stream or flow)	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 05:11 PM
L242	7625	L241 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 05:11 PM
L243	4320	aggregat\$3 with (traffic or data or packet\$1 or frame\$1) near (stream or flow)	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 05:11 PM
L244	929	L243 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 05:12 PM
L245	110	aggregat\$3 with (traffic or data or packet\$1 or frame\$1) near (stream or flow)same service near provider\$1	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 05:12 PM
L246	8	L245 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 05:13 PM
L247	269	(multiplex\$3 or combin\$3) with (traffic or data or packet\$1 or frame\$1) near (stream or flow) same service near provider\$1	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 05:17 PM
L248	72	L247 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/04/16 05:17 PM
L249	1	13/531294	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/08/18 09:42 AM
L250	3	multi near link with concurrent\$2 with (receiv\$3 or send\$3 or transmit\$4)	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 10:50 AM
L251	32	multi near link with ppp same request\$3	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 10:50 AM
L252	4	L251 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 10:56 AM
L253	1	join\$3 with multi near link same request\$3	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/08/18 11:00 AM
L254	1	"12983154"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	OFF	2014/08/18 11:08 AM

L255	14	(request\$3 or join\$3 or establish\$3) with multi near link with ppp near connection	IBM_TDB) (US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 11:49 AM
L256	41	(request\$3 or join\$3 or establish\$3) with multi near link with connection	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 11:55 AM
L257	10	(eric near delangis).in.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/08/18 12:38 PM
L258	156	(multiplex\$3 or aggregat\$3 or combin\$3) with wireless\$2 near received near (stream\$1 or flow\$1 or traffic or data or message\$1 or inforamtion or packet\$1 or frame\$1)	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 12:39 PM
L259	16	L258 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 12:39 PM
L260	16	L258 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 12:41 PM
L261	59094	(370/235,230,233,363,371,374,381,433,465-468,470-474,483-486,493-495,352,395,252).ccls.	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 12:41 PM
L262	66	L261 and (aggregat\$3 or combin\$3 or add\$3) with unused near bandwidth///	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 12:41 PM
L263	66	L261 and (aggregat\$3 or combin\$3 or add\$3) with unused near bandwidth	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 12:50 PM
L264	7	L262 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 12:51 PM
L265	58	L261 and multi near link with ppp	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 12:58 PM
L266	10	L265 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 12:58 PM
L267	7	(join\$3 or request\$3 or support\$3) with multi near link near connection	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/08/18 01:04 PM
L268	59504	(370/235,230,233,363,371,374,381,433,465-468,470-474,483-	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/09/02 10:01 AM

L269	58	486,493-495,352,395,252).ccls. L268 and multi near link with ppp	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/09/02 10:01 AM
L270	1	13/531294	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/09/02 10:04 AM
L271	7	(join\$3 or request\$3 or support\$3) with multi near link near connection	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/09/02 10:05 AM
L272	10	(eric near delangis).in.	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/09/02 10:11 AM
L273	9	(join\$3 or request\$3 or support\$3) with multi near link near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2014/09/02 10:11 AM
L274	11	((request\$3 or join\$3 or establish\$3) with multi near link with connection).clm.	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/09/02 10:44 AM
L275	20	((multiplex\$3 or aggregat\$3 or combin\$3) with wireless\$2 near received near (stream\$1 or flow\$1 or traffic or data or message\$1 or inforamtion or packet\$1 or frame\$1)).clm.	(US-PGPUB; USPAT)	OR	OFF	OFF	2014/09/02 11:09 AM
L276	1	14/512414	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/07/30 10:12 AM
L277	12	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:13 AM
L278	0	(connect\$3 or establish\$3 or join\$3) with multi near (link or path) same muticast\$3	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:18 AM
L279	3	(connect\$3 or establish\$3 or join\$3) with multi near (link or path) same multicast\$3 near router	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:18 AM
L280	0	multi near (link or path) same multicast\$3 near router same join\$3	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:19 AM
L281	9	multi near (link or path) same multicast\$3 same join\$3	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:19 AM
L282	1	L277 and connection near id	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:20 AM
L283	3	13/531294	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:26 AM

L284	1581	join\$3 with multicast\$3 with router	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:40 AM
L285	435	join\$3 with multicast\$3 near router	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:40 AM
L286	0	join\$3 with multicast\$3 near router same multi near (link or path)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:40 AM
L287	2	join\$3 with multicast\$3 near router and multi near (link or path)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:40 AM
L288	0	join\$3 with multicast\$3 near ggroup	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:55 AM
L289	4097	join\$3 with multicast\$3 near group	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:55 AM
L290	87	join\$3 with multicast\$3 near group and multi near (path or link)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:55 AM
L291	0	L290 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/07/30 10:55 AM
L292	166	join\$3 with multicast\$3 and multi near (path or link)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 10:56 AM
L293	7	L292 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/07/30 10:56 AM
L294	41830	H04L12/5692;H04L45/24;H04W88/16;H04W8/26;H04W28/06;H04W40/02;H04W80/00;H04W84/12;H04W84/18;H04W72/04.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/07/30 11:12 AM
L295	27	L294 and join\$3 with multicast\$3 and multi near (path or link)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/07/30 11:12 AM
L296	259	(prun\$3 or remov\$3) with multicast\$3 near tree	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/08/11 08:49 AM
L297	32	L296 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/08/11 08:50 AM
L298	44859	H04L12/5692;H04L45/24;H04W88/16;H04W8/26;H04W28/06;H04W40/02;H04W80/00;H04W84/12;H04W84/18;H04W72/04.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/12/21 07:40 AM
L299	27	L298 and join\$3 with multicast\$3 and multi near (path or link)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/12/21 07:40 AM
L300	12	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/12/21 07:45 AM
L301	620	(request\$3 or join\$3) with (two or multiple or different or several)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/12/21 08:00 AM

L302	95	near multicast\$3 L301 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/12/21 08:00 AM
L303	0	(request\$3 or join\$3) with (two or multiple or different or several) near multicast\$3 same multi near (path or link)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/12/21 08:00 AM
L304	54	(request\$3 or join\$3) with (two or multiple or different or several) near multicast\$3 near group	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/12/21 08:02 AM
L305	4	L304 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/12/21 08:02 AM
L306	1	09/661273	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/12/21 08:03 AM
L307	24	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$ or US-20090150924-\$ or US-20030137959-\$ or US-20020150099- \$).did. or (US-7257106- \$ or US-6307839-\$ or US-7385924-\$ or US- 7308279-\$ or US- 7068623-\$ or US- 6249669-\$ or US- 6941151-\$ or US- 7426316-\$ or US- 7562110-\$ or US- 7889181-\$ or US- 7035914-\$ or US- 7065090-\$ or US- 8285802-\$ or US- 7653089-\$ or US- 6496477-\$ or US- 5483522-\$).did.	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/12/21 08:11 AM
L308	2	L307 and (request\$3 or join\$3) with multicast\$3 near group\$1	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/12/21 08:12 AM
L309	160	(request\$3 or join\$3) with (two or multiple or different or several) near multicast\$3 near group\$1	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/12/21 09:41 AM
L310	11	L309 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/12/21 09:41 AM
L311	3	"09993213"	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/12/21 09:44 AM
L312	2	L311 and (request\$3 or	(US-PGPUB; USPAT;	OR	OFF	OFF	2015/12/21

		join\$3) with (two or multiple or different or several) near multicast\$3 near group\$1	USOCR)				09:45 AM
L313	5	"09661273"	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/12/21 10:20 AM
L314	51	(several or multiple or backup or second\$3) near (connection or link) same multicast\$3 near group\$1	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2015/12/21 10:22 AM
L315	3	L314 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/12/21 10:22 AM
L316	4	("7224964" "7917129" "8442504" "8521142").P N.	(US-PGPUB; USPAT)	OR	OFF	OFF	2015/12/21 11:39 AM
L317	47451	H04L12/5692;H04L45/24;H04W88/16;H04W8/26;H04W28/06;H04W40/02;H04W80/00;H04W84/12;H04W84/18;H04W72/04.cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2016/04/06 03:38 PM
L318	31	L317 and join\$3 with multicast\$3 and multi near (path or link)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/04/06 03:38 PM
L319	1	"5487069".pn.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/04/06 03:39 PM
L320	1	14/512414	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/04/06 03:40 PM
L321	1	"8861349".pn.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/04/06 03:40 PM
L322	1	"8228801".pn.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/04/06 03:41 PM
L323	1	"7606156".pn.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/04/06 03:41 PM
L324	12	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/04/06 03:43 PM
L325	54	(several or multiple or backup or second\$3) near (connection or link) same multicast\$3 near group\$1	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/04/06 03:43 PM
L326	56	(request\$3 or join\$3) with (two or multiple or different or several) near multicast\$3 near group	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/04/06 04:01 PM
L327	12	((request\$3 or join\$3) with (two or multiple or different or several) near multicast\$3 near group).clm.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/04/06 04:08 PM

L328	14	((("DELANGIS") near3 ("Eric")).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/10/05 07:10 AM
L329	58393	(H04M3/007 or H04L47/821 or H04M1/6033 or H04L45/54 or H04L69/168 or H04L61/2015 or H04L45/24 or H04W88/16 or H04L12/5692 or H04M2203/60 or H04M2250/06 or H04M2203/052 or H04W80/00 or H04W40/02 or H04W28/06 or H04W84/18 or H04W84/12 or H04W72/04 or H04W8/26).cpc.	(US-PGPUB; USPAT)	OR	OFF	OFF	2016/10/05 07:12 AM
L330	41	L329 and join\$3 with multicast\$3 and multi near (path or link)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/10/05 07:19 AM
L331	14	((("DELANGIS") near3 ("Eric")).INV.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:19 AM
L332	198259	(H04M3/007 or H04L47/821 or H04M1/6033 or H04L45/54 or H04L69/168 or H04L61/2015 or H04L45/24 or H04W88/16 or H04L12/5692 or H04M2203/60 or H04M2250/06 or H04M2203/052 or H04W80/00 or H04W40/02 or H04W28/06 or H04W84/18 or H04W84/12 or H04W72/04 or H04W8/26).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:19 AM
L333	41	L332 and join\$3 with multicast\$3 and multi near (path or link)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2016/10/05 07:20 AM
L334	41	L332 and join\$3 with multicast\$3 and multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:20 AM
L335	1	L334 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2016/10/05 07:20 AM

L336	293	(prun\$3 or remov\$3) with multicast\$3 near tree	(US-PGPUB; USPAT)	OR	OFF	OFF	2016/10/05 07:22 AM
L337	32	L336 and @rlad<"20021015"	(US-PGPUB; USPAT)	OR	OFF	OFF	2016/10/05 07:22 AM
L338	326	(prun\$3 or remov\$3) with multicast\$3 near tree	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:29 AM
L339	32	L338 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:30 AM
L340	1	15/161787	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:30 AM
L341	204	multicast\$3 with multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:32 AM
L342	177	multicast\$3 with multi adj (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:33 AM
L343	2	L342 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:33 AM
L344	3041	rout\$3 with multi adj (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:36 AM
L345	261	L344 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:36 AM
L346	58	rout\$3 near packets with multi adj (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:36 AM
L347	0	L346 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:36 AM
L348	62	rout\$3 near packets with multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:37 AM
L349	123	rout\$3 near packet\$1 with multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:37 AM

L350	9	L349 and @rld<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:37 AM
L351	74	rout\$3 near packet\$1 with ecmp	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:39 AM
L352	0	L351 and @rld<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:39 AM
L353	1038	rout\$3 with ecmp	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:39 AM
L354	0	L352 and @rld<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:40 AM
L355	2071	(multicast\$3 or broadcast\$3 or distribut\$3 or rout\$3) with (packet\$1 or stream\$1 or data or traffic) with multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:41 AM
L356	131	L355 and @rld<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:41 AM
L357	597	(multicast\$3 or broadcast\$3 or distribut\$3 or rout\$3) near (packet\$1 or stream\$1 or data or traffic) with multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:41 AM
L358	55	L357 and @rld<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 07:42 AM
L359	4	09/752461	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 08:28 AM
L360	3	09/885223	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 08:31 AM
L361	17	10/610371	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 08:36 AM

L362	5588	(establish\$4 or set\$4) with multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 08:38 AM
L363	258	L362 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 08:38 AM
L364	450	(establish\$4 or set\$4)near multi adj (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 08:38 AM
L365	35	L364 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 08:39 AM
L366	131364	(terminat\$3 or tear near down\$3) with connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 09:54 AM
L367	2359	notif\$7 with (terminat\$3 or tear near down\$3) with connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 09:55 AM
L368	347	L367 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 09:55 AM
L369	732	notif\$7 with (terminat\$3 or tear near down\$3) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 09:55 AM
L370	95	L369 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 09:55 AM
L371	7	notif\$7 with (terminat\$3 or tear near down\$3) near established near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 09:56 AM
L372	898	(alarm\$3 or warn\$3 or notif\$7) with (terminat\$3 or tear near down\$3) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 09:58 AM
L373	129	L372 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 09:58 AM
L374	206060	(alarm\$3 or warn\$3 or notif\$7) near user before near (terminat\$3 or tear near down\$3) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 10:01 AM
L375	0	(alarm\$3 or warn\$3 or	(US-PGPUB; USPAT;	OR	OFF	OFF	2016/10/05

		notif\$7) near user with before near (terminat\$3 or tear near down\$3) near connection	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)				10:02 AM
L376	0	(alarm\$3 or warn\$3 or notif\$7) with user with before near (terminat\$3 or tear near down\$3) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 10:02 AM
L377	0	(alarm\$3 or warn\$3 or notif\$7) with user with "before" near (terminat\$3 or tear near down\$3) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 10:02 AM
L378	8	(alarm\$3 or warn\$3 or notif\$7) with user with "before" with (terminat\$3 or tear near down\$3) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 10:02 AM
L379	200	(alarm\$3 or warn\$3 or notif\$7) with user with (terminat\$3 or tear near down\$3) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 10:05 AM
L380	34	L379 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 10:05 AM
L381	50	notif\$7 near (user or subscriber) with (terminat\$3 or tear near down\$3) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 10:09 AM
L382	17	L381 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 10:09 AM
L383	27	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$ or US-20090150924-\$ or US-20030137959-\$ or US-20020150099-\$ or US-20010037472-\$ or US-20010007557-\$).did. or (US-7257106-\$ or US-6307839-\$ or US-7385924-\$ or US-7308279-\$ or US-7068623-\$ or US-6249669-\$ or US-	(US-PGPUB; USPAT)	OR	OFF	OFF	2016/10/05 10:19 AM

		6941151-\$ or US-7426316-\$ or US-7562110-\$ or US-7889181-\$ or US-7035914-\$ or US-7065090-\$ or US-8285802-\$ or US-7653089-\$ or US-6496477-\$ or US-5483522-\$ or US-7315900-\$).did.					
L384	0	L383 and notif\$7 near (user or subscriber) with (terminat\$3 or tear near down\$3) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 10:19 AM
L385	0	L383 and (warn\$3 or alarm\$3 or notif\$7) with (terminat\$3 or tear near down\$3) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 10:20 AM
L386	2	L383 and (terminat\$3 or tear near down\$3) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 10:20 AM
L387	3	L383 and (terminat\$3 or tear near down\$3) near (path or link or connection)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 10:20 AM
L388	3	14/512414	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2016/10/05 11:00 AM
L389	220898	(H04M3/007 or H04L47/821 or H04M1/6033 or H04L45/54 or H04L69/168 or H04L61/2015 or H04L45/24 or H04V88/16 or H04L12/5692 or H04M2203/60 or H04M2250/06 or H04M2203/052 or H04V80/00 or H04V40/02 or H04V28/06 or H04V84/18 or H04V84/12 or H04V72/04 or H04V8/26).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/04/07 09:22 AM
L390	45	L389 and join\$3 with multicast\$3 and multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/04/07 09:22 AM

L391	56	notif\$7 near (user or subscriber) with (terminat\$3 or tear near down\$3) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/04/07 09:22 AM
L392	18	L391 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/04/07 09:22 AM
L393	1	L390 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/04/07 09:25 AM
L394	639	(multicast\$3 or broadcast\$3 or distribut\$3 or rout\$3) near (packet\$1 or stream\$1 or data or traffic) with multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/04/07 09:25 AM
L395	55	L394 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/04/07 09:25 AM
L396	14	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/04/07 09:30 AM
L397	14	((request\$3 or join\$3) with (two or multiple or different or several) near multicast\$3 near group).clm.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/04/07 10:21 AM
L398	235227	(H04M3/007 or H04L47/821 or H04M1/6033 or H04L45/54 or H04L69/168 or H04L61/2015 or H04L45/24 or H04W88/16 or H04L12/5692 or H04M2203/60 or H04M2250/06 or H04M2203/052 or H04W80/00 or H04W40/02 or H04W28/06 or H04W84/18 or H04W84/12 or H04W72/04 or H04W8/26).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/09/19 07:22 AM
L399	47	L398 and join\$3 with multicast\$3 and multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/09/19 07:22 AM
L400	681	(multicast\$3 or	(US-PGPUB; USPAT;	OR	OFF	OFF	2017/09/19

		broadcast\$3 or distribut\$3 or rout\$3) near (packet\$1 or stream\$1 or data or traffic) with multi near (path or link)	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)				07:22 AM
L401	55	L400 and @rld<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/09/19 07:22 AM
L402	14	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 07:22 AM
L403	14	((request\$3 or join\$3) with (two or multiple or different or several) near multicast\$3 near group).clm.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 07:22 AM
L404	47	L398 and join\$3 with multicast\$3 and multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/09/19 07:25 AM
L405	14	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 07:37 AM
L406	14	((request\$3 or join\$3) with (two or multiple or different or several) near multicast\$3 near group).clm.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 07:49 AM
L407	3	multi near path with (simultaneous\$2 or concurrent\$2) near connect\$3	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 08:58 AM
L408	28	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$ or US-20090150924-\$ or US-20030137959-\$ or US-20020150099-\$ or US-20010037472-\$ or US-20010007557-\$ or US-20020106065- \$).did. or (US-7257106- \$ or US-6307839-\$ or US-7385924-\$ or US- 7308279-\$ or US- 7068623-\$ or US- 6249669-\$ or US- 6941151-\$ or US- 7426316-\$ or US- 7562110-\$ or US- 7889181-\$ or US- 7035914-\$ or US- 7065090-\$ or US-	(US-PGPUB; USPAT)	OR	OFF	OFF	2017/09/19 08:59 AM

L409	0	8285802-\$ or US-7653089-\$ or US-6496477-\$ or US-5483522-\$ or US-7315900-\$).did. L408 and (simultaneous\$2 or concurrent\$2) near connect\$3	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 09:00 AM
L410	4	L408 and (simultaneous\$2 or concurrent\$2) with connect\$3	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 09:00 AM
L411	816	establish\$4 with (simultaneous\$2 or concurrent\$2) near (connect or connection or connecting)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 09:06 AM
L412	73	L411 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/09/19 09:06 AM
L413	450	establish\$4 near (simultaneous\$2 or concurrent\$2) near (connect or connection or connecting)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 09:06 AM
L414	47	L413 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/09/19 09:06 AM
L415	25	09/608685	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/09/19 09:19 AM
L416	2	L415 and establish\$4 near (simultaneous\$2 or concurrent\$2) near (connect or connection or connecting)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 09:19 AM
L417	1091	(establish\$4 or creat\$3 or set\$4 adj up) near3 (simultaneous\$2 or concurrent\$2) near (connect or connection or connecting)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 09:31 AM
L418	1047	(establish\$4 or creat\$3 or set\$4 adj up) near3 (simultaneous\$2 or concurrent\$2) near connection	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 09:32 AM
L419	154	L417 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	OFF	2017/09/19 09:33 AM

L420	94	(devices or subscribers or computers or clients) with (establish\$4 or creat\$3 or set\$4 adj up) near3 (simultaneous\$2 or concurrent\$2) near (connect or connection or connecting)	IBM_TDB) (US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 09:34 AM
L421	16	L420 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/09/19 09:34 AM
L422	185	(devices or subscribers or computers or clients) with (establish\$4 or creat\$3 or set\$4 adj up) near3 (connect or connection or connecting) near3 (simultaneous\$2 or concurrent\$2)	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2017/09/19 09:41 AM
L423	25	L422 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2017/09/19 09:41 AM
L424	10391	aggregat\$3 with received near (packet\$1 or data)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/03/14 11:36 AM
L425	2123	server same aggregat\$3 with received near (packet\$1 or data)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/03/14 11:37 AM
L426	61	server same aggregat\$3 with received near (packet\$1 or data) with (portion or part)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/03/14 11:37 AM
L427	0	L426 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/03/14 11:44 AM
L428	68	server same aggregat\$3 with received near (packet\$1 or data) with (portion or part)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 09:26 AM
L429	0	L428 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 09:26 AM
L430	16	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2018/10/01 09:27 AM

L431	273073	(H04M3/007 or H04L47/821 or H04M1/6033 or H04L45/54 or H04L69/168 or H04L61/2015 or H04L45/24 or H04W88/16 or H04L12/5692 or H04M2203/60 or H04M2250/06 or H04M2203/052 or H04W80/00 or H04W40/02 or H04W28/06 or H04W84/18 or H04W84/12 or H04W72/04 or H04W8/26).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 09:30 AM
L432	854	L431 and multi near (path or link) with rout\$3	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 09:30 AM
L433	16	L431 and multi near (path or link) with rout\$3 with concurrent\$2	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 09:31 AM
L434	37	multi near (path or link) with rout\$3 with concurrent\$2	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 09:32 AM
L435	31	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$ or US-20090150924-\$ or US-20030137959-\$ or US-20020150099-\$ or US-20010037472-\$ or US-20010007557-\$ or US-20020106065-\$ or US-20020193115-\$ or US-20030191848-\$ or US-20020055982-\$).did. or (US-7257106-\$ or US-6307839-\$ or US-7385924-\$ or US-7308279-\$ or US-7068623-\$ or US-6249669-\$ or US-6941151-\$ or US-7426316-\$ or US-7562110-\$ or US-7889181-\$ or US-7035914-\$ or US-7065090-\$ or US-	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/10/01 09:35 AM

L436	1	8285802-\$ or US-7653089-\$ or US-6496477-\$ or US-5483522-\$ or US-7315900-\$).did. L435 and rout\$3 with concurrent\$2	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 09:36 AM
L437	10	"l31" and multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 09:38 AM
L438	4	L435 and multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 09:38 AM
L439	228	(router or gateway) with (forward\$3 or advertiz\$5 or updat\$3) with (route or link or path) same multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 10:00 AM
L440	11	L439 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 10:01 AM
L441	848	(router or gateway) with (forward\$3 or advertiz\$5) with (new or latest or updated) with (route or link or path)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 10:16 AM
L442	78	L441 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 10:39 AM
L443	8	L442 and multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 10:39 AM
L444	13	09/911304	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 10:41 AM
L445	4	L444 and (router or gateway) with (forward\$3 or advertiz\$5) with (new or latest or updated) with (route or link or path)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 10:46 AM
L446	519	(router or gateway) with (notif\$7 or communicat\$3) with available near	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:12 AM

L447	40	(connection\$1 or link\$1 or route\$1 or path\$1) L446 and @rld<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:13 AM
L448	64	(router or gateway) with (notif\$7 or communicat\$3) with (user or sender) with available near (connection\$1 or link\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:15 AM
L449	5	L448 and @rld<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:15 AM
L450	1290	(notif\$7 or communicat\$3) with (user or sender) with available near (connection\$1 or link\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:17 AM
L451	110	L450 and @rld<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:18 AM
L452	12	(notif\$7 or communicat\$3) near (user or sender) near available near (connection\$1 or link\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:18 AM
L453	278	(notif\$7 or communicat\$3) with (router or gayeway or user or sender) near available near (connection\$1 or link\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:20 AM
L454	413	(notif\$7 or indicat\$3 or communicat\$3) with (router or gayeway or user or sender) near available near (connection\$1 or link\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:20 AM
L455	413	(notif\$7 or indicat\$3 or communicat\$3 or advertiz\$5) with (router or gayeway or user or sender) near available near (connection\$1 or link\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:20 AM

L456	52	L455 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:21 AM
L457	313	(notif\$7 or inform\$3 or communicat\$3 or advertiz\$5) with (router or gateway or user or sender) near available near (connection\$1 or link\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:24 AM
L458	34	L457 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:24 AM
L459	1803	(notif\$7 or inform\$3 or communicat\$3 or advertiz\$5) with (router or gateway or user or sender) with available near (connection\$1 or link\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:27 AM
L460	1441	(notif\$7 or inform\$3 or communicat\$3 or advertiz\$5) with (user or sender) with available near (connection\$1 or link\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:27 AM
L461	130	L460 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:28 AM
L462	0	L461 and multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:28 AM
L463	0	L461 and (multi\$3 or plural\$3) near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:29 AM
L464	100	(notif\$7 or inform\$3 or communicat\$3 or advertiz\$5) near (user or sender) with available adj (connection\$1 or link\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:29 AM
L465	9	L464 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:30 AM
L466	1051	(notif\$7 or inform\$3 or	(US-PGPUB; USPAT;	OR	OFF	OFF	2018/10/01

		communicat\$3 or advertiz\$5) with (user or sender) with available near (connection\$1 or route\$1 or path\$1)	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)				11:32 AM
L467	396	(notif\$7 or inform\$3) with (user or sender) with available near (connection\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:32 AM
L468	42	L467 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:33 AM
L469	4	09/576468	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:40 AM
L470	150	(notif\$7 or inform\$3) with (user or sender) with updat\$3 near (connection\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:44 AM
L471	19	L470 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:45 AM
L472	0	L444 and (notif\$7 or inform\$3) with (user or sender) with updat\$3 near (connection\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:48 AM
L473	0	L444 and (notif\$7 or inform\$3) with (user or sender) with (available or updated) near (connection\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:48 AM
L474	451	(notif\$7 or inform\$3) with (user or sender) with (available or updated) near (connection\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:49 AM
L475	587	(notif\$7 or inform\$3) with (user or sender or router) with (available or updated) near (connection\$1 or route\$1 or path\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:49 AM
L476	58	L475 and @rlad<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 11:49 AM

L477	1	09/311256	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 12:04 PM
L478	17	(join\$3 or combin\$3 or aggregat\$3) near (packet\$1 or frame\$1 or cell\$1) with (session or connection) near (id or identifier)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 12:06 PM
L479	34	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$ or US-20090150924-\$ or US-20030137959-\$ or US-20020150099-\$ or US-20010037472-\$ or US-20010007557-\$ or US-20020106065-\$ or US-20020193115-\$ or US-20030191848-\$ or US-20020055982-\$ or US-20030016664-\$ or US-20010036161-\$).did. or (US-7257106-\$ or US-6307839-\$ or US-7385924-\$ or US-7308279-\$ or US-7068623-\$ or US-6249669-\$ or US-6941151-\$ or US-7426316-\$ or US-7562110-\$ or US-7889181-\$ or US-7035914-\$ or US-7065090-\$ or US-8285802-\$ or US-7653089-\$ or US-6496477-\$ or US-5483522-\$ or US-7315900-\$ or US-6704794-\$).did.	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/10/01 01:06 PM
L480	0	L479 and qos with threshold	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 01:07 PM
L481	3	L479 and qos with below	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 01:07 PM
L482	0	L479 and qos with avaiable	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 01:08 PM

L483	4	L479 and qos with available	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 01:08 PM
L484	0	L479 and switch\$3 with (alternate or better) near (link or path or route) same qos	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 01:10 PM
L485	1	L479 and (alternate or better) near (link or path or route) same qos	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 01:11 PM
L486	34	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$ or US-20090150924-\$ or US-20030137959-\$ or US-20020150099-\$ or US-20010037472-\$ or US-20010007557-\$ or US-20020106065-\$ or US-20020193115-\$ or US-20030191848-\$ or US-20020055982-\$ or US-20030016664-\$ or US-20010036161-\$).did. or (US-7257106-\$ or US-6307839-\$ or US-7385924-\$ or US-7308279-\$ or US-7068623-\$ or US-6249669-\$ or US-6941151-\$ or US-7426316-\$ or US-7562110-\$ or US-7889181-\$ or US-7035914-\$ or US-7065090-\$ or US-8285802-\$ or US-7653089-\$ or US-6496477-\$ or US-5483522-\$ or US-7315900-\$ or US-6704794-\$).did.	(US-PGPUB; USPAT)	OR	OFF	OFF	2018/10/01 01:26 PM
L487	26	L486 and (wired or wireless or optical)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 01:26 PM
L488	11	L486 and (wired or wireless or optical) near connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2018/10/01 01:26 PM
L489	287002	(H04M3/007 or H04L47/821 or	(US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	OFF	OFF	2019/02/23 09:29 AM

		H04M1/6033 or H04L45/54 or H04L69/168 or H04L61/2015 or H04L45/24 or H04W88/16 or H04L12/5692 or H04M2203/60 or H04M2250/06 or H04M2203/052 or H04W80/00 or H04W40/02 or H04W28/06 or H04W84/18 or H04W84/12 or H04W72/04 or H04W8/26).cpc.	JPO; DERWENT; IBM_TDB)				
L490	16	L489 and multi near (path or link) with rout\$3 with concurrent\$2	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/02/23 09:29 AM
L491	16	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2019/02/23 09:30 AM
L492	72	server same aggregat\$3 with received near (packet\$1 or data) with (portion or part)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/02/23 09:30 AM
L493	17	(join\$3 or combin\$3 or aggregat\$3) near (packet\$1 or frame\$1 or cell\$1) with (session or connection) near (id or identifier)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/02/23 09:30 AM
L494	44610	network near monitor\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/02/25 09:49 AM
L495	0	network near monitor\$1 with multilink	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/02/25 09:50 AM
L496	87	network near monitor\$1 and multilink	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/02/25 09:50 AM
L497	0	network near monitor\$1 same multilink	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/02/25 09:50 AM
L498	4052252	send\$3 packets and multilink	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/02/25 10:00 AM
L499	114	send\$3 near packets	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/02/25

L500	12	and multilink send\$3 near packets same multilink	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	10:00 AM 2019/02/25 10:01 AM
L501	29	allocat\$3 near bandwidth same multilink	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/02/25 10:02 AM
L502	2773	(send\$3 or transmit\$4 or includ\$3) with ip adj address with network adj interface\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/25 02:19 PM
L503	75	(send\$3 or transmit\$4 or includ\$3) with ip adj address with (correspond\$3 or associat\$3) near3 network adj interface\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/25 02:20 PM
L504	10	L503 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/25 02:21 PM
L505	34	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$ or US-20090150924-\$ or US-20030137959-\$ or US-20020150099-\$ or US-20010037472-\$ or US-20010007557-\$ or US-20020106065-\$ or US-20020193115-\$ or US-20030191848-\$ or US-20020055982-\$ or US-20030016664-\$ or US-20010036161- \$).did. or (US-7257106- \$ or US-6307839-\$ or US-7385924-\$ or US- 7308279-\$ or US- 7068623-\$ or US- 6249669-\$ or US- 6941151-\$ or US- 7426316-\$ or US- 7562110-\$ or US- 7889181-\$ or US- 7035914-\$ or US- 7065090-\$ or US- 8285802-\$ or US- 7653089-\$ or US- 6496477-\$ or US-	(US-PGPUB; USPAT)	OR	OFF	OFF	2019/03/25 02:21 PM

L506	0	5483522-\$ or US-7315900-\$ or US-6704794-\$).did. L503 and L505	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/25 02:22 PM
L507	0	L505 and ip adj address with (correspond\$3 or associat\$3) near3 network adj interface\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/25 02:22 PM
L508	0	L505 and ip adj address near3 network adj interface\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/25 02:22 PM
L509	34	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$ or US-20090150924-\$ or US-20030137959-\$ or US-20020150099-\$ or US-20010037472-\$ or US-20010007557-\$ or US-20020106065-\$ or US-20020193115-\$ or US-20030191848-\$ or US-20020055982-\$ or US-20030016664-\$ or US-20010036161-\$).did. or (US-7257106-\$ or US-6307839-\$ or US-7385924-\$ or US-7308279-\$ or US-7068623-\$ or US-6249669-\$ or US-6941151-\$ or US-7426316-\$ or US-7562110-\$ or US-7889181-\$ or US-7035914-\$ or US-7065090-\$ or US-8285802-\$ or US-7653089-\$ or US-6496477-\$ or US-5483522-\$ or US-7315900-\$ or US-6704794-\$).did.	(US-PGPUB; USPAT)	OR	OFF	OFF	2019/03/26 12:25 PM
L510	0	L509 and reorder\$3 with (aggregat\$3 or multiplex\$3) near (packet\$1 or cell\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:26 PM
L511	120	reorder\$3 with (aggregat\$3 or multiplex\$3) near	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	OFF	2019/03/26 12:26 PM

L512	11	(packet\$1 or cell\$1) multicast\$3 and reorder\$3 with (aggregat\$3 or multiplex\$3) near (packet\$1 or cell\$1)	IBM_TDB) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:27 PM
L513	1	L512 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:27 PM
L514	34	L511 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:28 PM
L515	1	15/161787	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:40 PM
L516	9	10/686375	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:40 PM
L517	0	L516 and reorder\$3 with (aggregat\$3 or multiplex\$3) near (packet\$1 or cell\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:40 PM
L518	0	L516 and reorder\$3 with (aggregat\$3 or multiplex\$3)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:41 PM
L519	0	L516 and reorder\$3 and (aggregat\$3 or multiplex\$3)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:41 PM
L520	28	reorder\$3 with aggregat\$3 with received near (packet\$1 or cell\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:45 PM
L521	0	L520 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:45 PM
L522	11	aggregat\$3 with reordered near (packet\$1 or cell\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:49 PM
L523	25	(multiplex\$3 or combin\$3 or aggregat\$3) with reordered near (packet\$1 or cell\$1)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/03/26 12:50 PM
L524	0	L521 and (@pd or @ptad or @prad or @ad or	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	OFF	2019/03/26 12:51 PM

L525	300943	@rlad)<"20021015" (H04M3/007 or H04L47/821 or H04M1/6033 or H04L45/54 or H04L69/168 or H04L61/2015 or H04L45/24 or H04W88/16 or H04L12/5692 or H04M2203/60 or H04M2250/06 or H04M2203/052 or H04W80/00 or H04W40/02 or H04W28/06 or H04W84/18 or H04W84/12 or H04W72/04 or H04W8/26).cpc.	IBM_TDB) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/07/02 12:16 PM
L526	16	L525 and multi near (path or link) with rout\$3 with concurrent\$2	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/07/02 12:16 PM
L527	16	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2019/07/02 12:16 PM
L528	76	server same aggregat\$3 with received near (packet\$1 or data) with (portion or part)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/07/02 12:16 PM
L529	306009	(H04M3/007 or H04L47/821 or H04M1/6033 or H04L45/54 or H04L69/168 or H04L61/2015 or H04L45/24 or H04W88/16 or H04L12/5692 or H04M2203/60 or H04M2250/06 or H04M2203/052 or H04W80/00 or H04W40/02 or H04W28/06 or H04W84/18 or H04W84/12 or H04W72/04 or H04W8/26).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/08/13 08:45 AM
L530	16	L529 and multi near (path or link) with rout\$3 with concurrent\$2	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/08/13 08:45 AM
L531	17	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2019/08/13 08:45 AM

L532	77	(send\$3 or transmit\$4 or includ\$3) with ip adj address with (correspond\$3 or associat\$3) near3 network adj interface\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/08/13 08:48 AM
L533	10	L532 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/08/13 08:48 AM
L534	79	server same aggregat\$3 with received near (packet\$1 or data) with (portion or part)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/08/13 09:25 AM
L535	0	L534 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/08/13 09:25 AM
L536	2	"20160269547"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/08/13 09:40 AM
L537	5170	packet near reassembl\$3	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/08/13 09:53 AM
L538	273	segment\$3 with packet near reassembl\$3	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2019/08/13 09:54 AM
L539	330759	(H04M3/007 or H04L47/821 or H04M1/6033 or H04L45/54 or H04L69/168 or H04L61/2015 or H04L45/24 or H04W88/16 or H04L12/5692 or H04M2203/60 or H04M2250/06 or H04M2203/052 or H04W80/00 or H04W40/02 or H04W28/06 or H04W84/18 or H04W84/12 or H04W72/04 or H04W8/26).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 09:50 AM
L540	27	L539 and request\$3 with multi near (path or link) with connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 09:50 AM
L541	17	((Eric) near2	(US-PGPUB; USPAT;	OR	OFF	OFF	2020/03/05

L542	0	(Delangis)).INV. L541 and request\$3 with multi near (path or link) with connection	USOCR) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	09:51 AM 2020/03/05 09:51 AM
L543	0	L541 and request\$3 with multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 09:51 AM
L544	7	L540 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 09:52 AM
L545	283	interface\$1 with different with data near transfer near rate\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 10:14 AM
L546	116	L545 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 10:14 AM
L547	0	L546 and multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 10:15 AM
L548	12	network near interface\$1 with different with data near transfer near rate\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 10:15 AM
L549	9	L548 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 10:16 AM
L550	138	request\$3 with multi near (path or link) with connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 10:52 AM
L551	71	server and request\$3 with multi near (path or link) with connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 10:52 AM
L552	16	L551 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 10:53 AM
L553	35	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$ or US-20090150924-\$ or US-20030137959-\$ or US-20020150099-\$ or US-20010037472-\$ or	(US-PGPUB; USPAT)	OR	OFF	OFF	2020/03/05 11:01 AM

		US-20010007557-\$ or US-20020106065-\$ or US-20020193115-\$ or US-20030191848-\$ or US-20020055982-\$ or US-20030016664-\$ or US-20010036161-\$ or US-20140122656- \$).did. or (US-7257106- \$ or US-6307839-\$ or US-7385924-\$ or US- 7308279-\$ or US- 7068623-\$ or US- 6249669-\$ or US- 6941151-\$ or US- 7426316-\$ or US- 7562110-\$ or US- 7889181-\$ or US- 7035914-\$ or US- 7065090-\$ or US- 8285802-\$ or US- 7653089-\$ or US- 6496477-\$ or US- 5483522-\$ or US- 7315900-\$ or US- 6704794-\$).did.					
L554	0	L553 and server with multi near (path or link) with connection\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:02 AM
L555	1	L553 and multi near (path or link) with connection\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:02 AM
L556	5	L553 and multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:04 AM
L557	251	client same server and request\$3 with multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:10 AM
L558	207	client same server with multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:10 AM
L559	0	L558 and interface\$1 with different with data near transfer near rate\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:11 AM
L560	35	L558 and interface\$1 with different	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:11 AM
L561	4	L560 and (@pd or	(US-PGPUB; USPAT;	OR	OFF	OFF	2020/03/05

L562	12	@ptad or @prad or @ad or @rlad)<"20021015" L553 and client with server	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	11:11 AM 2020/03/05 11:14 AM
L563	19	client with request\$3 with multi near (path or link) with connection\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:19 AM
L564	5	L563 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:19 AM
L565	281	establish\$4 with multi near (path or link) with connection\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:23 AM
L566	72	establish\$4 with multi near (path or link) near connection\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:23 AM
L567	23	L566 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:23 AM
L568	32	L553 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:29 AM
L569	33	"09608685"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:34 AM
L570	36	"09454178"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:35 AM
L571	30	09/608685	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:37 AM
L572	34796	client with request\$3 with connection\$1 with server	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:38 AM
L573	110	client with request\$3 with multiple near connection\$1 with server	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:39 AM
L574	31	L573 and (@pd or @ptad or @prad or @ad or	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	OFF	2020/03/05 11:39 AM

L575	23	@rlad)<"20021015" ppp near multilink near connection	IBM_TDB) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:53 AM
L576	13	L575 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 11:53 AM
L577	10	ppp near multilink near connection and url	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 12:17 PM
L578	37	(US-20060079274-\$ or US-20030202468-\$ or US-20030063591-\$ or US-20040090924-\$ or US-20020102987-\$ or US-20090150924-\$ or US-20030137959-\$ or US-20020150099-\$ or US-20010037472-\$ or US-20010007557-\$ or US-20020106065-\$ or US-20020193115-\$ or US-20030191848-\$ or US-20020055982-\$ or US-20030016664-\$ or US-20010036161-\$ or US-20140122656- \$).did. or (US-7257106- \$ or US-6307839-\$ or US-7385924-\$ or US- 7308279-\$ or US- 7068623-\$ or US- 6249669-\$ or US- 6941151-\$ or US- 7426316-\$ or US- 7562110-\$ or US- 7889181-\$ or US- 7035914-\$ or US- 7065090-\$ or US- 8285802-\$ or US- 7653089-\$ or US- 6496477-\$ or US- 5483522-\$ or US- 7315900-\$ or US- 6704794-\$ or US- 6577644-\$ or US- 6470453-\$).did.	(US-PGPUB; USPAT)	OR	OFF	OFF	2020/03/05 01:07 PM
L579	7	L578 and distribut\$3 with packet\$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/03/05 01:07 PM
L580	17	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2020/08/04 10:08 AM

L581	1	L580 and multi near (path or link)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 10:08 AM
L582	350067	(H04M3/007 or H04L47/821 or H04M1/6033 or H04L45/54 or H04L69/168 or H04L61/2015 or H04L45/24 or H04W88/16 or H04L12/5692 or H04M2203/60 or H04M2250/06 or H04M2203/052 or H04W80/00 or H04W40/02 or H04W28/06 or H04W84/18 or H04W84/12 or H04W72/04 or H04W8/26).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 10:09 AM
L583	293	L582 and multi near (path or link) with connection	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 10:09 AM
L584	36	L583 and (@pd or @ptad or @prad or @ad or @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 10:10 AM
L585	138	multi near (path or link) with url	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 10:48 AM
L586	0	multi near (path or link) near session same url	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 10:49 AM
L587	678999	multi near (path or link) near session anf url	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 10:49 AM
L588	1	multi near (path or link) near session and url	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 10:49 AM
L589	10	(multi near (path or link) and url).clm.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 11:02 AM
L590	0	(multi near (path or link) near session near (id or identifier or identification))	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 11:05 AM

L591	6	(packet\$1 with multi near (path or link) near (id or identifier or identification)).clm.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 11:05 AM
L592	5	multi near (path or link) near session with (id or identifier or identification)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 11:08 AM
L593	10	(multi near (path or link) and url).clm.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 11:09 AM
L594	6	(packet\$1 with multi near (path or link) near (id or identifier or identification)).clm.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2020/08/04 11:14 AM
L595	11	10/686375	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/29 11:32 AM
L596	938701	(H04M3/007 OR H04L12/5692 OR H04L45/24 OR H04L45/54 OR H04L47/821 OR H04L61/2015 OR H04L69/168 OR H04M1/6033 OR H04W88/16 OR H04M2203/052 OR H04M2203/60 OR H04M2250/06 OR H04W8/26 OR H04W28/06 OR H04W40/02 OR H04W72/04 OR H04W80/00 OR H04W84/12 OR H04W84/18 OR Y02D30/70).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/03/30 03:01 PM
L602	37	((US-7257106-B2 OR US-6941151-B2 OR US-6307839-B1 OR US-7385924-B1 OR	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU,	OR	OFF	OFF	2022/03/30 03:23 PM

		US-7308279-B1 OR US-7068623-B1 OR US-6249669-B1 OR US-6470453-B1 OR US-7426316-B2 OR US-7562110-B2 OR US-7889181-B2 OR US-7035914-B1 OR US-7065090-B2 OR US-7653089-B2 OR US-6496477-B1 OR US-5483522-A OR US- 7315900-B1 OR US- 8285802-B2 OR US- 6704794-B1 OR US- 6577644-B1).did. AND USPT.dbnm.) OR ((US- 20060079274-A1 OR US-20030202468-A1 OR US-20030063591- A1 OR US- 20040090924-A1 OR US-20020102987-A1 OR US-20090150924- A1 OR US- 20020106065-A1 OR US-20030137959-A1 OR US-20020150099- A1 OR US- 20010037472-A1 OR US-20010007557-A1 OR US-20020193115- A1 OR US- 20030191848-A1 OR US-20020055982-A1 OR US-20030016664- A1 OR US- 20010036161-A1 OR US-20140122656- A1).did. AND PGPB.dbnm.)	CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L604	40	residential ADJ gateway SAME multi NEAR (path OR link) WITH (communication OR connection)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/30 03:24 PM

L605	21	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/30 03:24 PM
L607	40	(check\$3 OR determin\$5) WITH multi NEAR (path OR link) WITH (communication OR connection) NEAR (capable OR capabilit\$3 OR available OR availability)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/30 03:44 PM
L608	107	L596 AND multi NEAR (path OR link) WITH (communication OR connection) NEAR (capable OR capabilit\$3 OR available OR availability)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/30 03:48 PM
L609	9	L608 AND (join\$3 OR participat\$3) WITH multi NEAR (path OR link) WITH (communication OR connection)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL,	OR	OFF	OFF	2022/03/30 03:50 PM

L613	3	request\$3 WITH (join\$3 OR participat\$3) WITH multi ADJ link NEAR (communication OR connection)	NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/31 09:47 AM
L614	582	multi ADJ (path OR link) NEAR (communication OR connection) WITH (capable OR capabilit\$3 OR available OR availability)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/31 09:49 AM
L615	14	L614 AND (@pd OR @ptad OR @prad OR @ad OR @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/31 09:50 AM
L616	921	link NEAR aggregat\$3 SAME multi ADJ (link OR connection)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO;	OR	OFF	OFF	2022/03/31 09:54 AM

L617	19	L616 AND (@pd OR @ptad OR @prad OR @ad OR @rlad)<"20021015"	JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/31 09:54 AM
L619	1	L602 AND link NEAR aggregat\$3	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/31 10:00 AM
L621	1	L602 AND multi ADJ (link OR connection)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/31 10:01 AM
L624	7	((join\$3 OR participat\$3) WITH multi ADJ link NEAR (communication OR connection)).clm.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/31 10:04 AM
L627	18	(link NEAR aggregat\$3 WITH (perform\$3 OR	(US-PGPUB; USPAT; USOCR; FIT (AP, AT,	OR	OFF	OFF	2022/03/31 10:07 AM

		join\$3 OR participat\$3) WITH multi ADJ (link OR connection)).clm.	AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L628	96	(multi ADJ (path OR link) NEAR (communication OR connection) WITH (capable OR capabilit\$3 OR available OR availability)).clm.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/31 10:33 AM
L629	5	L628 AND (@pd OR @ptad OR @prad OR @ad OR @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/31 10:34 AM
L631	86	(multi ADJ (link OR connection) NEAR aggregat\$3).clm.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/31 10:35 AM
L634	14	(join\$3 OR participat\$3) WITH multi ADJ (link OR connection) NEAR aggregat\$3	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS,	OR	OFF	OFF	2022/03/31 10:37 AM

L635	0	L602 AND join\$3 WITH multi ADJ cast\$3	IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/31 11:19 AM
L636	14	L602 AND join\$3	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/03/31 11:19 AM
L637	1099146	(H04M3/007 OR H04L12/5692 OR H04L45/24 OR H04L45/54 OR H04L47/821 OR H04L61/5014 OR H04L69/168 OR H04M1/6033 OR H04W88/16 OR H04M2203/052 OR H04M2203/60 OR H04M2250/06 OR H04W8/26 OR H04W28/06 OR H04W40/02 OR H04W72/04 OR	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/11/23 06:50 AM

L638	1	H04W80/00 OR H04W84/12 OR H04W84/18 OR Y02D30/70).cpc. ("7315900").pn.	(US-PGPUB; USPAT)	OR	ON	ON	2022/11/23 06:51 AM
L640	23	((Eric) near2 (Delangis)).INV.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 06:53 AM
L641	40	(Artificial Intelligence) Similar to: 17/887,922 with 0 CPC Selections and 0 Text Selections Text: (KR-100631714-B1 OR CN-100466703-C OR CN-100466773-C OR EP-1428374-A1 OR CN-100466742-C OR CN-1581914-A OR KR- 100942536-B1 OR CN- 100466718-C OR WO- 03026260-A1 OR CN- 1557089-A OR EP- 1624683-B1 OR JP- 4634711-B2 OR FR- 2829900-A1 OR KR- 20040044951-A OR CN-100466682-C OR CN-100466740-C OR JP-2005503728-A OR CN-100466546-C OR TW-200629811-A OR CA-2365087-A1 OR EP-1721420-A1 OR WO-2005081463-A1 OR WO-2006028409- A8 OR CN-109417533- B OR EP-3771157-A1 OR EP-3468110-A1 OR CN-111884900-A OR JP-4331777-B2 OR JP- 2007523576-A OR DE-	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO))	OR	OFF	OFF	2022/11/23 09:06 AM

		10053525-A1 OR KR-0184103-B1 OR CN-1922827-A OR US-7983250-B2 OR DE-102004008910-A1 OR KR-970056914-A OR DE-10340165-A1 OR WO-9702665-A3 OR EP-1233574-A3 OR EP-1721420-B1 OR CN-111884899-A OR US-20070286225-A1 OR EP-2012469-A1 OR CN-100466601-C OR ES-2402893-T3 OR ES-2167584-T3 OR WO-9713343-A1 OR CN-1312841-C OR IN-20140DN09369-A OR CN-107040477-A OR EP-2012469-B1).did.					
L642	26	L641 AND (@pd OR @ptad OR @prad OR @ad OR @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 09:07 AM
L643	37	((US-20020193115-A1 OR US-20020106065-A1 OR US-20030137959-A1 OR US-20020150099-A1 OR US-20010037472-A1 OR US-20010007557-A1 OR US-20090150924-A1 OR US-20030191848-A1 OR US-20020055982-A1 OR US-20030016664-A1 OR US-20010036161-A1 OR US-20140122656-A1 OR US-20060079274-A1 OR US-20030202468-A1 OR US-20030063591-A1 OR US-20040090924-A1 OR US-20020102987-A1).did. AND PGPB.dbnm.) OR ((US-7653089-B2 OR US-6496477-B1 OR US-5483522-A OR US-7315900-B1 OR US-8285802-B2 OR US-6704794-B1 OR US-6577644-B1 OR US-6249669-B1 OR US-	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 09:10 AM

L644	1	6941151-B2 OR US-6307839-B1 OR US-7385924-B1 OR US-7308279-B1 OR US-7068623-B1 OR US-7257106-B2 OR US-6470453-B1 OR US-7426316-B2 OR US-7562110-B2 OR US-7889181-B2 OR US-7035914-B1 OR US-7065090-B2).did. AND USPT.dbnm.) L643 AND multi ADJ link	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 09:10 AM
L645	24	"10686375"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 09:11 AM
L648	1785	L637 AND multi ADJ (link OR path) NEAR rout\$3	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH,	OR	OFF	OFF	2022/11/23 09:25 AM

L650	70	L648 AND (@pd OR @ptad OR @prad OR @ad OR @rlad)<"20021015"	TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 09:26 AM
L651	50	L637 AND (receiv\$3 OR send\$3 OR transmit\$4) WITH multi ADJ (link OR path) WITH concurrently	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 09:35 AM
L652	9	L651 AND (@pd OR @ptad OR @prad OR @ad OR @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 09:40 AM
L654	552	(receiv\$3 OR send\$3 OR transmit\$4 OR rout\$3) WITH (data OR packet OR frame) WITH multi ADJ (link OR path	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA,	OR	OFF	OFF	2022/11/23 09:44 AM

L655	9	OR connection) SAME (heterogeneous OR plural\$3 OR multiple) ADJ network\$1 L654 AND (@pd OR @ptad OR @prad OR @ad OR @rlad)<"20021015"	EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 09:44 AM
L659	1115	(receiv\$3 OR send\$3 OR transmit\$4 OR rout\$3) WITH (data OR packet OR frame) SAME (dual ADJ connectivity OR multi ADJ (link OR path OR connection)) SAME (heterogeneous OR plural\$3 OR multiple) ADJ network\$1	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 09:49 AM
L660	21	L659 AND (@pd OR @ptad OR @prad OR @ad OR @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO;	OR	OFF	OFF	2022/11/23 09:49 AM

L662	2	L643 AND (receiv\$3 OR send\$3 OR transmit\$4 OR rout\$3) WITH (data OR packet OR frame) SAME (dual ADJ connectivity OR multi ADJ (link OR path OR connection))	JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 10:06 AM
L665	97	(receiv\$3 OR send\$3 OR transmit\$4 OR rout\$3) WITH (data OR packet OR frame) SAME multi ADJ (link OR path OR connection) SAME wired ADJ network WITH wireless ADJ network	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 10:33 AM
L666	1	L665 AND (@pd OR @ptad OR @prad OR @ad OR @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 10:34 AM
L678	11	(dual OR multi) ADJ (link OR path OR connection) SAME wired ADJ network SAME cellular ADJ network	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS,	OR	OFF	OFF	2022/11/23 10:50 AM

L679	37	((US-20020193115-A1 OR US-20020106065-A1 OR US-20030137959-A1 OR US-20020150099-A1 OR US-20010037472-A1 OR US-20010007557-A1 OR US-20090150924-A1 OR US-20030191848-A1 OR US-20020055982-A1 OR US-20030016664-A1 OR US-20010036161-A1 OR US-20140122656-A1 OR US-20060079274-A1 OR US-20030202468-A1 OR US-20030063591-A1 OR US-20040090924-A1 OR US-20020102987-A1).did. AND PGPB.dbnm.) OR ((US-7653089-B2 OR US-6496477-B1 OR US-5483522-A OR US-7315900-B1 OR US-8285802-B2 OR US-6704794-B1 OR US-6577644-B1 OR US-6249669-B1 OR US-6941151-B2 OR US-6307839-B1 OR US-7385924-B1 OR US-7308279-B1 OR US-7068623-B1 OR US-7257106-B2 OR US-6470453-B1 OR US-7426316-B2 OR US-7562110-B2 OR US-7889181-B2 OR US-7035914-B1 OR US-7065090-B2).did. AND USPT.dbnm.)	IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 10:51 AM
L686	4	L679 AND (dual OR multi) ADJ (link OR path OR connection OR	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY,	OR	OFF	OFF	2022/11/23 11:00 AM

		connectivity)	CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L699	1968	(dual OR multi) ADJ (link OR path OR connection OR connectivity) SAME heterogeneous ADJ network\$1	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 11:33 AM
L700	10	L699 AND (@pd OR @ptad OR @prad OR @ad OR @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 11:34 AM
L702	164	L701 AND (@pd OR @ptad OR @prad OR @ad OR @rlad)<"20021015"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH,	OR	OFF	OFF	2022/11/23 11:55 AM

L707	186	(receiv\$3 OR send\$3 OR transmit\$4 OR rout\$3) WITH (portion OR part) NEAR (data OR packet OR frame) SAME (simultaneous\$2 OR concurrent\$2) SAME (different OR heterogeneous) ADJ network\$1	TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 12:08 PM
L710	198	dual ADJ (connectivity OR connection) SAME (receiv\$3 OR send\$3 OR transmit\$4 OR rout\$3) WITH (portion OR part) NEAR (data OR packet OR frame)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 12:38 PM
L714	821	(receiv\$3 OR send\$3 OR transmit\$4 OR rout\$3) WITH (portion OR part) NEAR (data OR packet OR frame) SAME (different OR heterogeneous) ADJ network\$1	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	OFF	OFF	2022/11/23 12:53 PM
L715	127	((receiv\$3 OR send\$3 OR transmit\$4 OR rout\$3) WITH (portion OR part) NEAR (data	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU,	OR	OFF	OFF	2022/11/23 12:54 PM

		OR packet OR frame) SAME (different OR heterogeneous) ADJ network\$1).clm.	CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
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PE2E SEARCH - Search History (Interference)

There are no Interference searches to show.

Bibliographic Data

Application No: 17/887,922

Foreign Priority claimed:

☐ Yes ☒ No

35 USC 119 (a-d) conditions met:

☐ Yes ☒ No

☒ Met After Allowance

Verified and Acknowledged:

/HONG S CHO/

Examiner's Signature

H.S.C

Initials

Title:

DEVICES AND METHODS FOR MULTIPATH
COMMUNICATIONS

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
08/15/2022	370	2467	ED 7000
RULE			

APPLICANTS

INVENTORS

ERIC M. DELANGIS, Wylie, TX, UNITED STATES

CONTINUING DATA

This application is a CON of 17120549 12/14/2020 PAT 11418641

17120549 is a CON of 15161787 05/23/2016 PAT 10868908

15161787 is a CON of 14512414 10/11/2014 PAT 9350649

14512414 is a CON of 13531294 06/22/2012 PAT 8861349

13531294 is a CON of 12581852 10/19/2009 PAT 8228801

12581852 is a CON of 10686375 10/14/2003 PAT 7606156

10686375 has PRO of 60418521 10/15/2002

FOREIGN APPLICATIONS

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08/26/2022

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Harold McGurk

The Law Office of Clay McGurk

P.O. BOX 1488

Orange, CA 92856

UNITED STATES

FILING FEE RECEIVED

\$2,930

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

Approved for use through 07/31/2012. OMB 0651-0031

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	
	Filing Date	
	First Named Inventor	ERIC DELANGIS
	Art Unit	
	Examiner Name	
	Attorney Docket Number	ED 7000

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	
Filing Date	
First Named Inventor	ERIC DELANGIS
Art Unit	
Examiner Name	
Attorney Docket Number	ED 7000

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EXAMINER SIGNATURE

Examiner Signature	/HONG S CHO/	Date Considered	11/23/2022
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	
Filing Date	
First Named Inventor	ERIC DELANGIS
Art Unit	
Examiner Name	
Attorney Docket Number	ED 7000

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	
Name/Print		Registration Number	

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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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.
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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.

To: CLAYMCGURK@GMAIL.COM,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 64828

Dec 15, 2022 03:21:06 AM

Dear PAIR Customer:

Harold McGurk
The Law Office of Clay McGurk
P.O. BOX 1488
Orange, CA 92856
UNITED STATES

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Application	Document	Mailroom Date	Attorney Docket No.
17887922	NOA	12/15/2022	ED 7000
	892	12/15/2022	ED 7000
	1449	12/15/2022	ED 7000

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Commissioner for Patents
P.O. Box 1450
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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 including the Patent, advance orders and notification of maintenance fees 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.

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64828 7590 12/15/2022
Harold McGurk
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(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/887,922	08/15/2022	ERIC M. DELANGIS	ED 7000	8336

TITLE OF INVENTION: DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	03/15/2023

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHO, HONG SOL	2467	370-235000

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 Clay McGurk2 The Law Office of Clay McGurk

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

Competitive Access Systems, Inc.

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

USA

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) ☐ Advance Order - # of Copies _____

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

☒ Electronic Payment via EFS-Web ☐ 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

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

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.

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.

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 H C MCGURK IVDate January 9, 2023Typed or printed name H C MCGURK IV, Reg. No. 34964Registration No. 34.964

Electronic Patent Application Fee Transmittal				
Application Number:		17887922		
Filing Date:		15-Aug-2022		
Title of Invention:		DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS		
First Named Inventor/Applicant Name:		ERIC M. DELANGIS		
Filer:		Harold C. McGurk		
Attorney Docket Number:		ED 7000		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	2501	1	600	600

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				600

Electronic Acknowledgement Receipt

EFS ID:	47342822
Application Number:	17887922
International Application Number:	
Confirmation Number:	8336
Title of Invention:	DEVICES AND METHODS FOR MULTIPATH COMMUNICATIONS
First Named Inventor/Applicant Name:	ERIC M. DELANGIS
Customer Number:	64828
Filer:	Harold C. McGurk
Filer Authorized By:	
Attorney Docket Number:	ED 7000
Receipt Date:	09-JAN-2023
Filing Date:	15-AUG-2022
Time Stamp:	19:54:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$600
RAM confirmation Number	E202319J56102622
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	17887922_PARTB_1-9-2023.pdf	2869603 2fa7af5517be227b1413bccf27468d855d363ab3	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	37771 b1dfae4cf18fb0c23aca2fb374c9b3a2f885be5f	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			2907374		
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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/887,922	02/14/2023	11582343	ED 7000	8336

64828 7590 01/25/2023
Harold McGurk
The Law Office of Clay McGurk
P.O. BOX 1488
Orange, CA 92856

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

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 Application Information Retrieval (PAIR) WEB site (<http://pair.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 PAIR WEB site <http://pair.uspto.gov> for additional inventors):

ERIC M. DELANGIS, Wylie, TX;

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

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IR103 (Rev. 10/09)

To: CLAYMCGURK@GMAIL.COM,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 64828

Jan 26, 2023 04:16:30 AM

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Harold McGurk
The Law Office of Clay McGurk
P.O. BOX 1488
Orange, CA 92856
UNITED STATES

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Application	Document	Mailroom Date	Attorney Docket No.
17887922	ISSUE.NTF	01/25/2023	ED 7000

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