

## TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

ETAS ID: TM472165

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT		
<b>NATURE OF CONVEYANCE:</b>	SECURITY INTEREST		
<b>CONVEYING PARTY DATA</b>			
<b>Name</b>	<b>Formerly</b>	<b>Execution Date</b>	<b>Entity Type</b>
EXTREME NETWORKS, INC.		05/01/2018	Corporation: DELAWARE
<b>RECEIVING PARTY DATA</b>			
<b>Name:</b>	Bank of Montreal		
<b>Street Address:</b>	3 Times Square		
<b>Internal Address:</b>	28th Floor		
<b>City:</b>	New York		
<b>State/Country:</b>	NEW YORK		
<b>Postal Code:</b>	10036		
<b>Entity Type:</b>	Bank: CANADA		
<b>PROPERTY NUMBERS Total: 31</b>			
<b>Property Type</b>	<b>Number</b>	<b>Word Mark</b>	
<b>Registration Number:</b>	4032543	AIRDEFENSE	
<b>Registration Number:</b>	2456966	BAYSTACK	
<b>Registration Number:</b>	2312393	BIGIRON	
<b>Registration Number:</b>	2281382	BLACKDIAMOND	
<b>Registration Number:</b>	2301696	CONTIVITY	
<b>Registration Number:</b>	4841944	E	
<b>Registration Number:</b>	4874975	E EXTREME NETWORKS	
<b>Registration Number:</b>	2243238	EXTREME NETWORKS	
<b>Registration Number:</b>	3840628	EXTREME NETWORKS	
<b>Registration Number:</b>	2549958	EXTREMEWORKS	
<b>Registration Number:</b>	3379396	EXTREMEXOS	
<b>Registration Number:</b>	3349489	IDENGINES	
<b>Registration Number:</b>	3349580	IGNITION	
<b>Registration Number:</b>	3975571	MLX	
<b>Registration Number:</b>	2174495	NETIRON	
<b>Registration Number:</b>	2388859		
<b>Registration Number:</b>	3910064		
<b>Registration Number:</b>	4073424	R	

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Property Type	Number	Word Mark
Registration Number:	3796814	REACHNXT
Registration Number:	4960698	STACKSTORM
Registration Number:	2365696	SUMMIT
Registration Number:	4057074	VCS
Registration Number:	4068603	VDX
Registration Number:	4046730	VDX
Registration Number:	4837384	WI-FI COACH
Registration Number:	4199003	K-SERIES
Registration Number:	4029666	K-SERIES
Registration Number:	2598722	NETSIGHT
Registration Number:	4354738	ONEFABRIC
Registration Number:	1927017	ROAMABOUT
Serial Number:	87825682	AIRDEFENSE SERVICES PLATFORM

**CORRESPONDENCE DATA**

**Fax Number:** 2127352000

*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

**Phone:** 212-735-2811

**Email:** mribando@skadden.com

**Correspondent Name:** Skadden, Arps, Slate, Meagher & Flom LLP

**Address Line 1:** Four Times Square

**Address Line 2:** Monique L. Ribando

**Address Line 4:** New York, NEW YORK 10036

<b>NAME OF SUBMITTER:</b>	Pramode Chiruvolu
<b>SIGNATURE:</b>	/pramode chiruvolu/
<b>DATE SIGNED:</b>	05/01/2018

**Total Attachments: 57**

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## PATENT AND TRADEMARK SECURITY AGREEMENT

THIS PATENT AND TRADEMARK SECURITY AGREEMENT (this “**Agreement**”), dated as of May 1, 2018, is made between EXTREME NETWORKS, INC., a Delaware corporation (the “**Grantor**”), and Bank of Montreal, as administrative agent for the Lenders referred to below and for the benefit of the Secured Parties defined in the Credit Agreement referred to below (in such capacity, the “**Administrative Agent**”).

A. The Grantor, certain financial institutions as lenders (the “**Lenders**”) and the Administrative Agent are parties to that certain Credit Agreement, dated as of May 1, 2018 (as amended, restated, amended and restated, supplemented, restructured or otherwise modified from time to time, the “**Credit Agreement**”).

B. The Grantor and the Administrative Agent are parties to that certain Guarantee and Collateral Agreement, dated as of May 1, 2018 (as amended, restated, amended and restated, supplemented, restructured or otherwise modified from time to time, the “**Guarantee and Collateral Agreement**”).

C. Pursuant to the terms of the Guarantee and Collateral Agreement, the Grantor granted to the Administrative Agent (for the benefit of the Secured Parties and to secure the Secured Obligations (as defined in the Guarantee and Collateral Agreement)) a security interest in substantially all of the Grantor’s present and future personal property assets (including the Intellectual Property of the Grantor) and, to further evidence such security interest grant in the Intellectual Property of the Grantor, the Grantor and the Administrative Agent shall enter into this Agreement

Accordingly, the parties hereto agree as follows:

### SECTION 1 Definitions; Interpretation.

(a) Terms Defined in the Credit Agreement and the Guarantee and Collateral Agreement. All capitalized terms used in this Agreement (including in the recitals hereof) and not otherwise defined herein shall have the respective meanings assigned to such terms in the Credit Agreement or the Guarantee and Collateral Agreement, as the context may require.

(b) Interpretation. The rules of interpretation set forth in Section 1.2 of the Credit Agreement shall be applicable to this Agreement and are incorporated herein by this reference.

### SECTION 2 Security Interest.

(a) Grant of Security Interest. As security for the payment and performance of the Secured Obligations, the Grantor hereby grants, assigns, and conveys to the Administrative Agent (for the benefit of the Secured Parties), a security interest in all of the Grantor’s right, title and interest in, to and under the following property, in each case whether now or hereafter existing or arising or in which the Grantor now has or hereafter owns, acquires or develops an interest and wherever located (collectively, the “**Collateral**”):

(i) all patents and patent applications, domestic or foreign, all licenses relating to any of the foregoing and all income and royalties with respect to any licenses (including such patents and

patent applications as described in Schedule A), all rights to sue for past, present or future infringement thereof, all rights arising therefrom and pertaining thereto and all reissues, divisions, continuations, renewals, extensions and continuations-in-part thereof;

(ii) all state (including common law), federal and foreign trademarks, service marks and trade names, and applications for registration of such trademarks, service marks and trade names, all licenses relating to any of the foregoing and all income and royalties with respect to any licenses (including such marks, names and applications as described in Schedule B), whether registered or unregistered and wherever registered, all rights to sue for past, present or future infringement or unconsented use thereof, all rights arising therefrom and pertaining thereto and all reissues, extensions and renewals thereof;

(iii) the entire goodwill of or associated with the businesses now or hereafter conducted by the Grantor connected with and symbolized by any of the aforementioned properties and assets;

(iv) all Commercial Tort Claims associated with or arising out of any of the aforementioned properties and assets;

(v) all accounts, all intangible intellectual or other similar property and other general intangibles associated with or arising out of any of the aforementioned properties and assets and not otherwise described above, including all license payments and payments under insurance (whether or not the Administrative Agent is the loss payee thereof) or any indemnity, warranty or guaranty payable by reason of loss or damage to or otherwise with respect to the foregoing Collateral; and

(vi) all products, proceeds and supporting obligations of or with respect to any and all of the foregoing Collateral.

(b) Continuing Security Interest. The Grantor agrees that this Agreement shall create a continuing security interest in the Collateral which shall remain in effect until terminated in accordance with the Guarantee and Collateral Agreement.

SECTION 3 Supplement to Guarantee and Collateral Agreement. The terms and provisions of this Agreement are intended as a supplement to the terms and provisions of the Guarantee and Collateral Agreement. The rights and remedies of the Administrative Agent with respect to the security interests granted herein are without prejudice to, and are in addition to those set forth in the Guarantee and Collateral Agreement, all terms and provisions of which are incorporated herein by reference.

SECTION 4 Authorization to Supplement. If the Grantor shall obtain rights to any new trademarks, any new patentable inventions or become entitled to the benefit of any patent application or patent for any reissue, division, or continuation, of any patent, the provisions of this Agreement shall automatically apply thereto. To the extent required by the terms and provisions of the Guarantee and Collateral Agreement, the Grantor shall give prompt notice in writing to the Administrative Agent with respect to any such new trademarks or patents, or renewal or extension of any trademark registration. Without limiting the Grantor's obligation under this Section 4, the Grantor authorizes the Administrative Agent to modify this Agreement by amending Schedule A or Schedule B, as applicable, to include any such new patent or trademark rights. No failure to so amend Schedule A or Schedule B, as applicable, shall in any way affect, invalidate or detract from the Administrative Agent's continuing security interest in all Collateral (held for the benefit of the Secured Parties), whether or not listed on Schedule A or Schedule B.

SECTION 5 Further Acts. On a continuing basis, the Grantor shall make, execute, acknowledge and deliver, and file and record in the proper filing and recording places, all such instruments and documents, and take all such action as may be necessary or advisable or as may be requested by the Administrative Agent to carry out the intent and purposes of this Agreement, or for assuring, confirming or protecting the grant or perfection of the security interest granted or purported to be granted hereby, to ensure the Grantor's compliance with this Agreement or to enable the Administrative Agent to exercise and enforce its rights and remedies hereunder with respect to the Collateral, including any documents for filing with the USPTO and/or any applicable state office. The Administrative Agent may record this Agreement, an abstract thereof, or any other document describing the Administrative Agent's interest in the Collateral with the USPTO, including any modification hereof as provided above, at the expense of the Grantor.

SECTION 6 Binding Effect. This Agreement shall be binding upon, inure to the benefit of and be enforceable by the Grantor, the Administrative Agent, the other Secured Parties and their respective successors and assigns and shall bind any Person who becomes bound as a debtor to this Agreement.

SECTION 7 Governing Law. **THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES UNDER THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK.** This Agreement is subject to the provisions of Section 10.14 of the Credit Agreement relating to submission to jurisdiction, jury trial waiver and judicial reference, which provisions are by this reference incorporated herein, mutatis mutandis, as if set forth herein in full.

SECTION 8 Entire Agreement; Amendment. This Agreement contains the entire agreement of the parties with respect to the subject matter hereof and shall not be amended except by the written agreement of the parties as provided in Section 10.1 of the Credit Agreement.

SECTION 9 Severability. Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under all applicable laws and regulations. If, however, any provision of this Agreement shall be prohibited by or invalid under any such law or regulation in any jurisdiction, it shall, as to such jurisdiction, be deemed modified to conform to the minimum requirements of such law or regulation, or, if for any reason it is not deemed so modified, it shall be ineffective and invalid only to the extent of such prohibition or invalidity without affecting the remaining provisions of this Agreement, or the validity or effectiveness of such provision in any other jurisdiction.

SECTION 10 Counterparts. This Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute but one and the same agreement. Delivery of an executed counterpart of a signature page of this Agreement by facsimile or in electronic (i.e., "pdf" or "tif") format shall be effective as delivery of a manually executed counterpart of this Agreement.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement, as of the date first above written.

**GRANTORS:**

**EXTREME NETWORKS, INC.**

By: B. Drew Davis  
Name: B. Drew Davis  
Title: Chief Financial Officer

**ADMINISTRATIVE AGENT:**

**BANK OF MONTREAL**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

[Signature Page to Patent and Trademark Security Agreement]

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement, as of the date first above written.

**GRANTORS:**

**EXTREME NETWORKS, INC.**

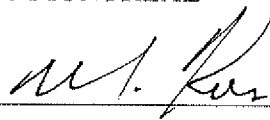
By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**ADMINISTRATIVE AGENT:**

**BANK OF MONTREAL**

By:  \_\_\_\_\_

Name: Michael Kus

Title: Managing Director

[Signature Page to Patent and Trademark Security Agreement]

**TRADEMARK**  
**REEL: 006324 FRAME: 0339**



SCHEDULE A  
to the Patent and Trademark Security Agreement

**EXTREME NETWORKS, INC.**

Issued U.S. Patents of the Grantor

Jurisdiction	Patent No.	Issue Date	Title
US	9,954,750	04/24/2018	DEBUGGING AUTO-ATTACH ENTITIES (CLIENT AND PROXY) USING CONNECTIVITY FAULT MANAGEMENT (CFM) AND SHORTEST PATH BRIDGING MAC (SPBM) CLOUD
US	9,954,764	04/24/2018	PERFORMING MAC-IN-MAC ENCAPSULATION USING SHORTEST PATH BRIDGING CONFIGURATION INFORMATION
US	6,154,589	11/28/2000	METHOD AND SYSTEM FOR REMOVAL OF LOW ORDER OPTICAL TRANSMISSION MODES IN MULTIMODE OPTICAL FIBER COMPUTER NETWORK TO IMPROVE MODAL BANDWIDTH
US	6,356,680	03/12/2002	METHOD AND SYSTEM FOR REMOVAL OF LOW ORDER OPTICAL TRANSMISSION MODES TO IMPROVE MODAL BANDWIDTH IN A MULTIMODE OPTICAL FIBER COMPUTER NETWORK
US	6,556,329	04/29/2003	METHOD AND SYSTEM FOR PREVENTING LOW ORDER OPTICAL TRANSMISSION MODES IN MULTIMODE OPTICAL FIBER COMPUTER NETWORK USING ANNULLUS LASER
US	6,067,300	05/23/2000	METHOD AND APPARATUS FOR OPTIMIZING THE TRANSFER OF DATA PACKETS BETWEEN LOCAL AREA NETWORKS
US	6,621,799	09/16/2003	SEMI-RELIABLE DATA TRANSPORT
US	6,654,374	11/25/2003	METHOD AND APPARATUS TO REDUCE JITTER IN PACKET SWITCHED NETWORKS
US	6,526,052	02/25/2003	VIRTUAL LOCAL AREA NETWORKS HAVING RULES OF PRECEDENCE
US	6,822,966	11/23/2004	ALLOCATING BUFFERS FOR DATA TRANSMISSION IN A NETWORK COMMUNICATION DEVICE
US	6,647,413	11/11/2003	METHOD AND APPARATUS FOR MEASURING PERFORMANCE IN PACKET-SWITCHED NETWORKS
US	6,711,125	03/23/2004	PROVISIONING NETWORKS FOR RELIABLE QUALITY OF SERVICE
US	6,674,760	01/06/2004	METHOD AND SYSTEM FOR IMPLEMENTING END-TO-END QOS IN PACKET-SWITCHED NETWORKS
US	6,359,426	03/19/2002	VOLTAGE THRESHOLD CIRCUIT FOR POWER CONDITIONER
US	6,411,483	06/25/2002	HICCUP-MODE CURRENT PROTECTION CIRCUIT FOR SWITCHING

Jurisdiction	Patent No.	Issue Date	Title
			REGULATOR
US	6,754,171	06/22/2004	METHOD AND SYSTEM FOR DISTRIBUTED CLOCK FAILURE PROTECTION IN A PACKET SWITCHED NETWORK
US	6,850,490	02/01/2005	HIERARCHICAL OUTPUT-QUEUED PACKET-BUFFERING SYSTEM AND METHOD
US	6,930,985	08/16/2005	METHOD AND APPARATUS FOR MANAGEMENT OF CONFIGURATION IN A NETWORK
US	6,597,584	07/22/2003	EJECTOR ASSEMBLY
US	6,980,550	12/27/2005	METHOD AND APPARATUS FOR SERVER LOAD BALANCING
US	6,956,816	10/18/2005	FAULT TOLERANT AUTOMATIC PROTECTION SWITCHING FOR DISTRIBUTED ROUTERS
US	6,954,436	10/11/2005	METHOD AND APPARATUS FOR SELECTING REDUNDANT ROUTERS USING TRACKING
US	6,977,891	12/20/2005	METHOD AND SYSTEM FOR MULTICAST TRAFFIC REDUCTION
US	7,581,024	08/25/2009	METHOD AND SYSTEM FOR INCREASING PARTICIPATION IN A STANDBY ROUTER PROTOCOL
US	8,751,647	06/10/2014	METHOD AND APPARATUS FOR NETWORK LOGIN AUTHORIZATION
US	6,525,266	02/25/2003	CIRCUIT-BOARD MOUNTED CLIP FOR ELECTROMAGNETIC INTERFERENCE REDUCTION
US	7,149,217	12/12/2006	LOAD-SHARING TECHNIQUE FOR DISTRIBUTING MULTI-PROTOCOL LABEL SWITCHING PROTOCOL ENCAPSULATED FLOWS ACROSS MULTIPLE PHYSICAL LINKS
US	7,222,268	05/22/2007	SYSTEM RESOURCE AVAILABILITY MANAGER
US	6,766,482	07/20/2004	ETHERNET AUTOMATIC PROTECTION SWITCHING
US	7,003,705	02/21/2006	ETHERNET AUTOMATIC PROTECTION SWITCHING
US	6,907,466	06/14/2005	METHODS AND SYSTEMS FOR EFFICIENTLY DELIVERING DATA TO A PLURALITY OF DESTINATIONS IN A COMPUTER NETWORK
US	7,111,017	09/19/2006	DYNAMIC DEVICE MANAGEMENT AND DEPLOYMENT
US	6,892,309	05/10/2005	CONTROLLING USAGE OF NETWORK RESOURCES BY A USER AT THE USER'S ENTRY POINT TO A COMMUNICATIONS NETWORK BASED ON AN IDENTITY OF THE USER
US	6,990,592	01/24/2006	CONTROLLING CONCURRENT USAGE OF NETWORK RESOURCES BY MULTIPLE USERS AT AN ENTRY POINT TO A COMMUNICATIONS NETWORK BASE
US	7,855,972	12/21/2010	CREATING, MODIFYING AND STORING SERVICE ABSTRACTIONS AND

Jurisdiction	Patent No.	Issue Date	Title
US	6,781,990	08/24/2004	ROLE ABSTRACTIONS REPRESENTING ONE OR MORE PACKET RULES METHOD AND SYSTEM FOR MANAGING TRAFFIC IN A PACKET NETWORK ENVIRONMENT
US	7,152,124	12/19/2006	METHOD AND SYSTEM FOR MAINTAINING TEMPORAL CONSISTENCY OF RESOURCES AND DATA IN A MULTIPLE-PROCESSOR PACKET SWITCH
US	7,447,777	11/04/2008	SWITCHING SYSTEM
US	7,814,204	10/12/2010	METHOD OF AND SYSTEM FOR ANALYZING THE CONTENT OF RESOURCE REQUESTS
US	7,298,746	11/20/2007	METHOD AND SYSTEM FOR REASSEMBLING AND PARSING PACKETS IN A NETWORK ENVIRONMENT
US	7,584,262	09/01/2009	METHOD OF AND SYSTEM FOR ALLOCATING RESOURCES TO RESOURCE REQUESTS BASED ON APPLICATION OF PERSISTENCE POLICIES
US	8,560,693	10/15/2013	METHOD OF AND SYSTEM FOR ALLOCATING RESOURCES TO RESOURCE REQUESTS BASED ON APPLICATION OF PERSISTENCE POLICIES
US	8,412,838	04/02/2013	METHOD OF AND SYSTEM FOR ANALYZING THE CONTENT OF RESOURCE REQUESTS
US	7,411,901	08/12/2008	METHOD AND APPARATUS FOR DYNAMICALLY SELECTING TIMER DURATIONS
US	7,269,135	09/11/2007	METHODS AND SYSTEMS FOR PROVIDING REDUNDANT CONNECTIVITY ACROSS A NETWORK USING A TUNNELING PROTOCOL
US	7,760,652	07/20/2010	METHODS AND APPARATUS FOR IMPROVED FAILURE RECOVERY OF INTERMEDIATE SYSTEMS
US	7,689,678	03/30/2010	METHOD AND APPARATUS FOR RESTORING THE CONFIGURATION OF A NETWORK DEVICE
US	7,783,733	08/24/2010	METHOD AND APPARATUS FOR DYNAMIC CONFIGURATION MANAGEMENT
US	7,448,045	11/04/2008	METHOD AND APPARATUS TO EXTEND A PROGRAM
US	7,245,619	07/17/2007	METHOD AND APPARATUS FOR MANAGING ROUTES
US	7,154,861	12/26/2006	METHOD AND SYSTEM FOR A VIRTUAL LOCAL AREA NETWORK TO SPAN MULTIPLE LOOP FREE NETWORK TOPOLOGY DOMAINS.
US	7,334,048	02/19/2008	METHOD AND APPARATUS FOR FAST ROUTE TABLE UPDATE
US	7,017,082	03/21/2006	METHOD AND SYSTEM FOR A PROCESS MANAGER

Jurisdiction	Patent No.	Issue Date	Title
US	7,126,923	10/24/2006	METHOD AND SYSTEM FOR INTER-DOMAIN LOOP PROTECTION USING A HIERARCHY OF LOOP RESOLVING PROTOCOLS
US	7,408,876	08/05/2008	METHOD AND APPARATUS FOR PROVIDING QUALITY OF SERVICE ACROSS A SWITCHED BACKPLANE BETWEEN EGRESS QUEUE MANAGERS
US	6,981,174	12/27/2005	METHOD AND APPARATUS FOR A REDUNDANT PORT
US	7,286,552	10/23/2007	METHOD AND APPARATUS FOR PROVIDING QUALITY OF SERVICE ACROSS A SWITCHED BACKPLANE FOR MULTICAST PACKETS
US	8,274,974	09/25/2012	METHOD AND APPARATUS FOR PROVIDING QUALITY OF SERVICE ACROSS A SWITCHED BACKPLANE FOR MULTICAST PACKETS
US	7,599,292	10/06/2009	METHOD AND APPARATUS FOR PROVIDING QUALITY OF SERVICE ACROSS A SWITCHED BACKPLANE BETWEEN EGRESS AND INGRESS QUEUE MAN
US	7,376,951	05/20/2008	METHOD AND APPARATUS FOR CONTROLLING PROCESS DEPENDENCIES
US	7,152,242	12/19/2006	MODULAR SYSTEM FOR DETECTING, FILTERING AND PROVIDING NOTICE ABOUT ATTACK EVENTS ASSOCIATED WITH NETWORK SECURITY
US	6,685,498	02/03/2004	LOGIC ANALYZER TESTING METHOD AND CONFIGURATION AND INTERFACE ASSEMBLY FOR USE THEREWITH
US	7,245,629	07/17/2007	METHOD AND APPARATUS FOR A CONTROL COMMUNICATION CHANNEL IN A PACKET-FORWARDING DEVICE
US	7,009,983	03/07/2006	METHODS AND APPARATUS FOR BROADCAST DOMAIN INTERWORKING
US	7,386,605	06/10/2008	METHODS AND APPARATUS FOR AUTOMATED EDGE DEVICE CONFIGURATION IN A HETEROGENEOUS NETWORK
US	7,386,309	06/10/2008	METHOD AND SYSTEM FOR DISTRIBUTED WIRELESS ACCESS
US	7,401,086	07/15/2008	TRANSLATING CONFIGURATION FILES AMONG NETWORK DEVICES
US	7,372,813	05/13/2008	VIRTUAL LOAD BALANCING ACROSS A NETWORK LINK
US	7,343,597	03/11/2008	METHODS AND APPARATUS FOR COMMUNICATION BETWEEN AN APPLICATION AND A DEVICE
US	7,290,263	10/30/2007	METHOD AND SYSTEM FOR A SCRIPTABLE COMMAND LINE INTERFACE
US	7,685,295	03/23/2010	WIRELESS LOCAL AREA COMMUNICATION NETWORK SYSTEM AND METHOD
US	7,400,647	07/15/2008	LOOK UP TABLE (LUT) FOR POINT-TO-POINT PROTOCOL IDENTIFICATION (PPP ID)

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Jurisdiction	Patent No.	Issue Date	Title
US	7,944,942	05/17/2011	LOOK UP TABLE (LUT) FOR POINT-TO-POINT PROTOCOL IDENTIFICATION (PPP ID)
US	7,093,072	08/15/2006	METHODS FOR IMPROVED DATA CACHING
US	7,739,402	06/15/2010	LOCATING DEVICES IN A DATA NETWORK
US	7,606,938	10/20/2009	VERIFIED DEVICE LOCATIONS IN A DATA NETWORK
US	7,898,977	03/01/2011	USING SIGNAL CHARACTERISTICS TO DETERMINE THE PHYSICAL LOCATION OF DEVICES IN A DATA NETWORK
US	7,092,943	08/15/2006	LOCATION BASED DATA
US	7,295,556	11/13/2007	LOCATION DISCOVERY IN A DATA NETWORK
US	8,972,589	03/03/2015	LOCATION-BASED ACCESS CONTROL IN A DATA NETWORK
US	7,706,369	04/27/2010	LOCATION DISCOVERY IN A DATA NETWORK
US	7,672,228	03/02/2010	SYSTEM AND METHOD FOR NETWORK LOOP DETECTION AND RECOVERY
US	7,272,672	09/18/2007	HIGH SPEED BUS WITH FLOW CONTROL AND EXTENDED BURST ENHANCEMENTS
US	7,724,669	05/25/2010	HIGH SPEED BUS WITH FLOW CONTROL AND EXTENDED BURST ENHANCEMENTS
US	7,366,935	04/29/2008	HIGH SPEED BUS WITH ALIGNMENT, RE-TIMING AND BUFFER UNDERFLOW/OVERFLOW DETECTION ENHANCEMENTS
US	7,546,480	06/09/2009	HIGH SPEED BUS WITH ALIGNMENT, RE-TIMING AND BUFFER UNDERFLOW/OVERFLOW DETECTION ENHANCEMENTS
US	7,047,515	05/16/2006	METHOD FOR SELECTING AND PLACING BYPASS CAPACITORS ON MULTI-LAYER PRINTED CIRCUIT BOARDS
US	7,660,894	02/09/2010	CONNECTION PACER AND METHOD FOR PERFORMING CONNECTION PACING IN A NETWORK OF SERVERS AND CLIENTS USING FIFO BUFFERS
US	6,970,426	11/29/2005	RATE COLOR MARKER
US	7,529,243	05/05/2009	APPARATUS AND METHOD FOR A VIRTUAL HIERARCHICAL LOCAL AREA NETWORK
US	8,040,890	10/18/2011	APPARATUS AND METHOD FOR A VIRTUAL HIERARCHICAL LOCAL AREA NETWORK
US	7,480,917	01/20/2009	USER INTERFACE FOR EDITING OBJECTS OF A NETWORK OBJECT DATABASE
US	9,154,372	10/06/2015	EDITING A PORTABLE, DYNAMIC AND ABSTRACT VIEW DEFINITION OF A NETWORK OBJECT DATABASE

Jurisdiction	Patent No.	Issue Date	Title
US	7,526,541	04/28/2009	SYSTEM AND METHOD FOR DYNAMIC NETWORK POLICY MANAGEMENT
US	7,739,372	06/15/2010	SYSTEM AND METHOD FOR DYNAMIC NETWORK POLICY MANAGEMENT
US	8,191,107	05/29/2012	SYSTEM AND METHOD FOR LOST CONTACT RESPONSE
US	7,568,107	07/28/2009	METHOD AND SYSTEM FOR AUTO DISCOVERY OF AUTHENTICATOR FOR NETWORK LOGIN
US	7,185,216	02/27/2007	A SYSTEM FOR SYNCHRONIZING FIRST AND SECOND SECTIONS OF DATA TO OPPOSING POLARITY EDGES OF A CLOCK
US	7,580,409	08/25/2009	SYSTEM FOR AND METHOD OF COMMUNICATING CONTROL INFORMATION BETWEEN ENTITIES INTERCONNECTED BY BACKPLANE CONNECTIONS
US	7,581,249	08/25/2009	DISTRIBUTED INTRUSION RESPONSE SYSTEM
US	9,632,995	04/25/2017	METHOD AND APPARATUS FOR NAVIGATING THROUGH A TASK ON A COMPUTER
US	7,119,280	10/10/2006	SYSTEM AND METHOD FOR CABLE MANAGEMENT ON RACK MOUNTED INSTALLATIONS
US	7,349,228	03/25/2008	EJECTOR ASSEMBLY FOR RACK-MOUNTED COMPUTING DEVICES
US	7,194,183	03/20/2007	MODULAR RECEPTACLE ASSEMBLY AND INTERFACE WITH INTEGRAL OPTICAL INDICATION
US	7,137,743	11/21/2006	VISUAL OPTICAL INDICATORS FOR PLUG ASSEMBLIES, CONNECTORS AND CABLES
US	7,483,370	01/27/2009	METHODS AND SYSTEMS FOR HITLESS SWITCH MANAGEMENT MODULE FAILOVER AND UPGRADE
US	7,602,721	10/13/2009	METHODS AND SYSTEMS FOR FINE GRAIN BANDWIDTH ALLOCATION IN A SWITCHED NETWORK ELEMENT
US	7,693,158	04/06/2010	METHODS AND SYSTEMS FOR SELECTIVELY PROCESSING VIRTUAL LOCAL AREA NETWORK (VLAN) TRAFFIC FROM DIFFERENT NETWORKS WHILE ALLOWING FLEXIBLE VLAN IDENTIFIER ASSIGNMENT
US	8,724,638	05/13/2014	METHODS AND SYSTEMS FOR SELECTIVELY PROCESSING VIRTUAL LOCAL AREA NETWORK (VLAN) TRAFFIC FROM DIFFERENT NETWORKS WHILE ALLOWING FLEXIBLE VLAN IDENTIFIER ASSIGNMENT
US	9,742,588	08/22/2017	METHODS AND SYSTEMS FOR SELECTIVELY PROCESSING VIRTUAL LOCAL AREA NETWORK (VLAN) TRAFFIC FROM DIFFERENT NETWORKS WHILE ALLOWING FLEXIBLE VLAN IDENTIFIER ASSIGNMENT

Jurisdiction	Patent No.	Issue Date	Title
			ASSIGNMENT
US	8,166,151	04/24/2012	METHOD AND APPARATUS FOR DETERMINING A SPANNING TREE
US	7,558,273	07/07/2009	METHODS AND SYSTEMS FOR ASSOCIATING AND TRANSLATING VIRTUAL LOCAL AREA NETWORK (VLAN) TAGS
US	6,963,311	11/08/2005	APPARATUS AND METHOD FOR LOCKING AN ANTENNA INTO POSITION
US	7,577,996	08/18/2009	APPARATUS, METHOD AND SYSTEM FOR IMPROVING NETWORK SECURITY
US	7,310,664	12/18/2007	UNIFIED ADAPTIVE NETWORK ARCHITECTURE
US	7,823,199	10/26/2010	METHOD AND SYSTEM FOR DETECTING AND PREVENTING ACCESS INTRUSION IN A NETWORK
US	8,707,432	04/22/2014	METHOD AND SYSTEM FOR DETECTING AND PREVENTING ACCESS INTRUSION IN A NETWORK
US	8,520,507	08/27/2013	ETHERNET AUTOMATIC PROTECTION SWITCHING.
US	7,606,240	10/20/2009	ETHERNET AUTOMATIC PROTECTION SWITCHING
US	7,304,996	12/04/2007	SYSTEM AND METHOD FOR ASSEMBLING A DATA PACKET
US	7,821,931	10/26/2010	SYSTEM AND METHOD FOR ASSEMBLING A DATA PACKET
US	7,453,874	11/18/2008	METHOD AND SYSTEM FOR INCREMENTALLY UPDATING A CHECKSUM IN A NETWORK DATA PACKET
US	7,463,628	12/09/2008	PACKET DATA MODIFICATION PROCESSOR COMMAND INSTRUCTION SET
US	7,539,750	05/26/2009	SYSTEM AND METHOD FOR PACKET PROCESSOR STATUS MONITORING
US	7,613,209	11/03/2009	SYSTEM AND METHOD FOR EGRESS PACKET MARKING
US	7,822,032	10/26/2010	DATA STRUCTURES FOR SUPPORTING PACKET DATA MODIFICATION OPERATIONS
US	8,161,270	04/17/2012	PACKET DATA MODIFICATION PROCESSOR
US	8,924,694	12/30/2014	PACKET DATA MODIFICATION PROCESSOR
US	7,450,940	11/11/2008	WIRELESS NETWORK SYSTEM AND METHOD
US	7,580,350	08/25/2009	SYSTEM FOR DERIVING PACKET QUALITY OF SERVICE INDICATOR
US	7,502,374	03/10/2009	SYSTEM FOR DERIVING HASH VALUES FOR PACKETS IN A PACKET PROCESSING SYSTEM
US	7,522,516	04/21/2009	EXCEPTION HANDLING SYSTEM FOR PACKET PROCESSING SYSTEM
US	7,936,687	05/03/2011	SYSTEMS FOR STATISTICS GATHERING AND SAMPLING IN A PACKET

Jurisdiction	Patent No.	Issue Date	Title
			PROCESSING SYSTEM
US	7,646,770	01/12/2010	SYSTEMS FOR SUPPORTING PACKET PROCESSING OPERATIONS
US	8,085,779	12/27/2011	SYSTEMS FOR SUPPORTING PACKET PROCESSING OPERATIONS
US	7,606,263	10/20/2009	PACKET PARSER
US	7,554,978	06/30/2009	SYSTEM FOR ACCESSING CONTENT-ADDRESSABLE MEMORY IN PACKET PROCESSOR
US	7,649,879	01/19/2010	PIPELINED PACKET PROCESSOR
US	7,889,750	02/15/2011	METHOD OF EXTENDING DEFAULT FIXED NUMBER OF PROCESSING CYCLES IN PIPELINED PACKET PROCESSOR ARCHITECTURE
US	7,389,505	06/17/2008	METHOD AND APPARATUS FOR MODIFYING SOFTWARE
US	7,657,635	02/02/2010	METHOD AND APPARATUS FOR CONVERTING NETWORK MANAGEMENT PROTOCOL TO MARKUP LANGUAGE.
US	7,646,773	01/12/2010	FORWARDING DATABASE IN A NETWORK SWITCH DEVICE
US	8,464,093	06/11/2013	MEMORY ARRAY ERROR CORRECTION
US	8,347,375	01/01/2013	SYSTEM AND METHOD FOR DYNAMIC DISTRIBUTION OF INTRUSION SIGNATURES
US	7,660,259	02/09/2010	METHODS AND SYSTEMS FOR HYBRID HARDWARE- AND SOFTWARE-BASED MEDIA ACCESS CONTROL (MAC) ADDRESS LEARNING
US	7,813,348	10/12/2010	METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS FOR KILLING PRIORITIZED PACKETS USING TIME-TO-LIVE VALUES TO PREVENT HEAD-OF-LINE BLOCKING
US	7,606,249	10/20/2009	METHODS AND SYSTEMS FOR CACHING PACKETS TO BE WRITTEN TO OR READ FROM PACKET MEMORY
US	8,072,887	12/06/2011	METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS FOR CONTROLLING ENQUEUING OF PACKETS IN AN AGGREGATED QUEUE INCLUDING A PLURALITY OF VIRTUAL QUEUES USING BACKPRESSURE MESSAGES FROM DOWNSTREAM QUEUES
US	7,580,403	08/25/2009	STATUS TRANSMISSION SYSTEM AND METHOD
US	7,690,040	03/30/2010	METHOD FOR NETWORK TRAFFIC MIRRORING WITH DATA PRIVACY
US	8,239,960	08/07/2012	METHOD FOR NETWORK TRAFFIC MIRRORING WITH DATA PRIVACY
US	7,404,091	07/22/2008	METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS FOR MANAGING POWER ALLOCATION TO A DEVICE POWERED OVER A NETWORK COMMUNICATIONS CABLE BASED ON A CABLE CHARACTERISTIC



Jurisdiction	Patent No.	Issue Date	Title
US	7,889,658	02/15/2011	METHOD OF AND SYSTEM FOR TRANSFERRING OVERHEAD DATA OVER A SERIAL INTERFACE
US	7,668,969	02/23/2010	RULE STRUCTURE FOR PERFORMING NETWORK SWITCH FUNCTIONS
US	7,860,006	12/28/2010	INTEGRATED METHODS OF PERFORMING NETWORK SWITCH FUNCTIONS
US	8,767,549	07/01/2014	INTEGRATED METHODS OF PERFORMING NETWORK SWITCH FUNCTIONS
US	7,619,971	11/17/2009	METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS FOR ALLOCATING EXCESS BANDWIDTH OF AN OUTPUT AMONG NETWORK USERS
US	8,775,571	07/08/2014	METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS FOR DYNAMIC NETWORK ACCESS DEVICE PORT AND USER DEVICE CONFIGURATION FOR IMPLEMENTING DEVICE-BASED AND USER-BASED POLICIES
US	8,751,649	06/10/2014	PORT MANAGEMENT SYSTEM
US	8,279,874	10/02/2012	SELF-CONFIGURING NETWORK
US	7,945,945	05/17/2011	SYSTEM AND METHOD FOR ADDRESS BLOCK ENHANCED DYNAMIC NETWORK POLICY MANAGEMENT
US	8,819,213	08/26/2014	SYSTEM, METHOD AND APPARATUS FOR TRAFFIC MIRROR SETUP, SERVICE AND SECURITY IN COMMUNICATION NETWORKS
US	7,499,679	03/03/2009	WIRELESS NETWORK ACCESS POINT SENSOR
US	7,347,628	03/25/2008	OPTICAL INTERFACE IDENTIFICATION SYSTEM
US	7,611,292	11/03/2009	OPTICAL INTERFACE IDENTIFICATION SYSTEM
US	8,000,344	08/16/2011	METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS FOR TRANSMITTING AND RECEIVING LAYER 2 FRAMES ASSOCIATED WITH DIFFERENT VIRTUAL LOCAL AREA NETWORKS (VLAN) OVER A SECURE LAYER 2 BROADCAST TRANSPORT NETWORK
US	7,724,734	05/25/2010	METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS FOR CONTROLLING UPDATING OF A LAYER 3 HOST TABLE BASED ON PACKET FORWARDING LOOKUP MISS COUNTS
US	7,843,927	11/30/2010	METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS FOR ROUTING PACKETS AT A MULTI-MODE LAYER 3 PACKET FORWARDING DEVICE
US	7,835,348	11/16/2010	METHOD AND APPARATUS FOR DYNAMIC ANOMALY-BASED UPDATES TO TRAFFIC SELECTION POLICIES IN A SWITCH
US	8,059,658	11/15/2011	METHOD AND SYSTEM FOR AUTOMATIC EXPANSION AND

Jurisdiction	Patent No.	Issue Date	Title
US	7,719,968	05/18/2010	CONTRACTION OF IP HOST FORWARDING DATABASE
US	7,817,633	10/19/2010	MULTI-PRIORITY MULTI-COLOR MARKERS FOR TRAFFIC METERING METHOD OF PROVIDING VIRTUAL ROUTER FUNCTIONALITY THROUGH ABSTRACTED VIRTUAL IDENTIFIERS
US	7,822,033	10/26/2010	MAC ADDRESS DETECTION DEVICE FOR VIRTUAL ROUTERS
US	7,894,451	02/22/2011	METHOD OF PROVIDING VIRTUAL ROUTER FUNCTIONALITY
US	8,605,732	12/10/2013	METHOD OF PROVIDING VIRTUAL ROUTER FUNCTIONALITY
US	8,255,996	08/28/2012	NETWORK THREAT DETECTION AND MITIGATION
US	8,615,785	12/24/2013	NETWORK THREAT DETECTION AND MITIGATION
US	7,756,544	07/13/2010	POWER CONTROLLED NETWORK DEVICES FOR SECURITY AND POWER CONSERVATION
US	9,749,959	08/29/2017	POWER CONTROLLED NETWORK DEVICES FOR SECURITY AND POWER CONSERVATION
US	8,705,532	04/22/2014	METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS FOR SELECTIVE LAYER 2 PORT BLOCKING USING LAYER 2 SOURCE ADDRESSES
US	7,936,770	05/03/2011	METHOD AND APPARATUS OF VIRTUAL CLASS OF SERVICE AND LOGICAL QUEUE REPRESENTATION THROUGH NETWORK TRAFFIC DISTRIBUTION OVER MULTIPLE PORT INTERFACES
US	7,552,275	06/23/2009	METHOD OF PERFORMING TABLE LOOKUP OPERATION WITH TABLE INDEX THAT EXCEEDS CAM KEY SIZE
US	7,908,431	03/15/2011	METHOD OF PERFORMING TABLE LOOKUP OPERATION WITH TABLE INDEX THAT EXCEEDS CAM KEY SIZE
US	7,657,619	02/02/2010	METHOD AND SYSTEM FOR MAINTAINING A LOOP-FREE TOPOLOGY ACROSS MULTIPLE SPANNING TREES IN A VIRTUAL LOCAL AREA NETWORK
US	8,086,232	12/27/2011	TIME SYNCHRONIZED WIRELESS METHOD AND OPERATIONS
US	7,773,507	08/10/2010	AUTOMATIC TIERED SERVICES BASED ON NETWORK CONDITIONS
US	7,733,899	06/08/2010	METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS FOR RATE-BASED DISTRIBUTION OF LAYER 2 PACKETS FOR IN-LINE PROCESSING AT A LAYER 2 PACKET FORWARDING DEVICE AT A TRANSMISSION RATE LESS THAN A RECEIVED TRANSMISSION RATE
US	7,752,338	07/06/2010	RING TOPOLOGY DISCOVERY
US	8,583,833	11/12/2013	RING TOPOLOGY DISCOVERY

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US	8,117,336	02/14/2012	METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS FOR PROVIDING ACCIDENTAL STACK JOIN PROTECTION
US	8,117,657	02/14/2012	DETECTION AND MITIGATION OF RAPIDLY PROPAGATING THREATS FROM P2P, IRC AND GAMING
US	8,055,800	11/08/2011	ENFORCING HOST ROUTING SETTINGS ON A NETWORK DEVICE
US	8,135,007	03/13/2012	METHOD AND SYSTEM FOR REDIRECTING OF PACKETS TO AN INTRUSION PREVENTION SERVICE IN A NETWORK SWITCH
US	7,710,993	05/04/2010	PSEUDO WIRE PROCESSING IN A PACKET FORWARDING DEVICE
US	8,437,359	05/07/2013	PSEUDO WIRE PROCESSING IN A PACKET FORWARDING DEVICE
US	9,166,884	10/20/2015	NETWORK LOCATION SERVICE
US	8,442,030	05/14/2013	SOFTWARE CONTROL PLANE FOR SWITCHES AND ROUTERS
US	8,107,383	01/31/2012	REDUCING TRAFFIC LOSS IN AN EAPS SYSTEM
US	7,936,764	05/03/2011	METHOD FOR OPTIMIZING IP ROUTE TABLE SIZE THROUGH IP ROUTE AGGREGATION
US	7,903,666	03/08/2011	METHOD AND SYSTEM FOR COMPRESSING ROUTE ENTRIES IN A ROUTE TABLE BASED ON EQUAL-COST MULTI-PATHS (ECMPS) MATCHES
US	8,174,980	05/08/2012	METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR DYNAMICALLY RATE LIMITING SLOWPATH PROCESSING OF EXCEPTION PACKETS
US	7,990,850	08/02/2011	REDUNDANT ETHERNET AUTOMATIC PROTECTION SWITCHING ACCESS TO VIRTUAL PRIVATE LAN SERVICES
US	8,797,849	08/05/2014	REDUNDANT ETHERNET AUTOMATIC PROTECTION SWITCHING ACCESS TO VIRTUAL PRIVATE LAN SERVICES
US	9,407,455	08/02/2016	REDUNDANT ETHERNET AUTOMATIC PROTECTION SWITCHING ACCESS TO VIRTUAL PRIVATE LAN SERVICES
US	7,983,192	07/19/2011	METHOD, APPARATUS AND SYSTEM FOR A STACKABLE ETHERNET SWITCH
US	8,464,312	06/11/2013	INTEGRATED NETWORK POLICY ENFORCEMENT
US	7,856,019	12/21/2010	CONVERGENCE OF MULTICAST TRAFFIC
US	8,139,583	03/20/2012	COMMAND SELECTION IN A PACKET FORWARDING DEVICE
US	7,457,297	11/25/2008	METHODS AND APPARATUS FOR DIFFERENTIATED SERVICES OVER A PACKET-BASED NETWORK
US	8,023,521	09/20/2011	METHODS AND APPARATUS FOR DIFFERENTIATED SERVICES OVER A PACKET-BASED NETWORK

Jurisdiction	Patent No.	Issue Date	Title
US	8,208,418	06/26/2012	METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR CONSERVING MULTICAST PORT LIST RESOURCES IN AN INTERNET PROTOCOL (IP) PACKET FORWARDING DEVICE
US	7,912,091	03/22/2011	TRAFFIC FORWARDING IN A TRAFFIC-ENGINEERED LINK AGGREGATION GROUP
US	8,369,344	02/05/2013	CUSTOMER ISOLATION USING A COMMON FORWARDING DATABASE WITH HARDWARE LEARNING SUPPORT
US	8,159,936	04/17/2012	NETWORK CONVERGENCE IN RESPONSE TO A TOPOLOGY CHANGE
US	8,160,074	04/17/2012	OPTIMAL READING OF FORWARDING DATABASE FROM HARDWARE
US	8,233,474	07/31/2012	COMMUNICATION OF LOCATION INFORMATION FOR AN IP TELEPHONY COMMUNICATION DEVICE
US	8,204,070	06/19/2012	BACKPLANE DEVICE FOR NON-BLOCKING STACKABLE SWITCHES
US	8,499,093	07/30/2013	METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR STATELESS LOAD BALANCING OF NETWORK TRAFFIC FLOWS
US	8,331,373	12/11/2012	METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR AUTOMATICALLY SELECTING BETWEEN INTERNET PROTOCOL SWITCHING MODES ON A PER-MODULE BASIS IN A PACKET FORWARDING DEVICE
US	8,660,118	02/25/2014	METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR NEXT HOP SCALING
US	8,605,726	12/10/2013	METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR NEXT HOP SCALING WITH LINK AGGREGATION
US	9,008,091	04/14/2015	METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR IMPROVED MULTICAST SCALING THROUGH POLICY BASED REDIRECTION
US	8,730,963	05/20/2014	METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR IMPROVED MULTI-SWITCH LINK AGGREGATION GROUP (MLAG) CONVERGENCE
US	9,189,317	11/17/2015	SOFTWARE SUSTAINING SYSTEM
US	8,855,124	10/07/2014	FORWARDING INTER-SWITCH CONNECTION (ISC) FRAMES IN A NETWORK-TO-NETWORK INTERCONNECT TOPOLOGY
US	8,842,684	09/23/2014	FORWARDING INTER-SWITCH CONNECTION (ISC) FRAMES IN A NETWORK-TO-NETWORK INTERCONNECT TOPOLOGY
US	9,455,934	09/27/2016	FORWARDING INTER-SWITCH CONNECTION (ISC) FRAMES IN A NETWORK-TO-NETWORK INTERCONNECT TOPOLOGY
US	9,882,838	01/30/2018	FORWARDING INTER-SWITCH CONNECTION (ISC) FRAMES IN A NETWORK-TO-NETWORK INTERCONNECT TOPOLOGY

Jurisdiction	Patent No.	Issue Date	Title
US	8,771,009	07/08/2014	3 X 8 STACKED RJ45 CONNECTOR WITH INTEGRATED LEDS OPTION FOR 1U PRODUCT FORM FACTOR
US	9,252,548	02/02/2016	HIGH DENSITY NETWORKING COMPONENT FOR 1U PRODUCT FORM FACTOR AND ASSOCIATED RACK SYSTEM
US	8,659,993	02/25/2014	PRIORITY DOMAINS FOR PROTECTION SWITCHING PROCESSES
US	9,576,270	02/21/2017	A SYSTEM AND RELATED METHOD FOR MANAGEMENT OF DEVICES OF A NETWORK SYSTEM VIA SOCIAL MEDIA INTERFACES
US	8,891,533	11/18/2014	METHODS, SYSTEMS, AND APPARATUSES FOR DYNAMICALLY TAGGING VLANS
US	9,391,803	07/12/2016	METHODS, SYSTEMS, AND APPARATUSES FOR DYNAMICALLY TAGGING VLANS
US	9,116,660	08/25/2015	MIDPLANE FOR ORTHOGONAL DIRECT CONNECTION
US	9,143,437	09/22/2015	APPARATUS AND METHOD FOR MULTICAST DATA PACKET FORWARDING
US	9,584,393	02/28/2017	A DEVICE AND RELATED METHOD FOR DYNAMIC TRAFFIC MIRRORING POLICY
US	9,256,636	02/09/2016	DEVICE AND RELATED METHOD FOR APPLICATION IDENTIFICATION
US	9,172,627	10/27/2015	DEVICE AND RELATED METHOD FOR DYNAMIC TRAFFIC MIRRORING
US	9,813,447	11/07/2017	DEVICE AND RELATED METHOD FOR ESTABLISHING NETWORK POLICY BASED ON APPLICATIONS
US	9,130,826	09/08/2015	SYSTEM AND RELATED METHOD FOR NETWORK MONITORING AND CONTROL BASED ON APPLICATIONS
US	9,230,213	01/05/2016	DEVICE AND RELATED METHOD FOR SCORING APPLICATIONS RUNNING ON A NETWORK
US	9,385,942	07/05/2016	METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR PROVIDING N-NODE MULTI-SWITCH LINK AGGREGATION GROUPS (MLAGs)
US	9,860,138	01/02/2018	BANDWIDTH ON DEMAND IN SDN NETWORKS
US	9,716,615	07/25/2017	APPARATUS AND METHOD FOR NETWORK RING RESILIENCY, AVAILABILITY AND PERFORMANCE
US	6,008,550	12/28/1999	HOTSWAPPABLE CHASSIS AND ELECTRONIC CIRCUIT CARDS
US	7,385,984	06/10/2008	PACKET PROCESSING SYSTEM ARCHITECTURE AND METHOD
US	7,822,038	10/26/2010	PACKET PROCESSING SYSTEM ARCHITECTURE AND METHOD
US	7,653,033	01/26/2010	INFRASTRUCTURE FOR WIRELESS LANS
US	8,687,610	04/01/2014	INFRASTRUCTURE FOR WIRELESS LANS

Jurisdiction	Patent No.	Issue Date	Title
US	6,259,898	07/10/2001	MULTI-COMMUNICATION ACCESS POINT
US	6,393,261	05/21/2002	MULTI-COMMUNICATION ACCESS POINT
US	6,600,734	07/29/2003	APPARATUS FOR INTERFACING A WIRELESS LOCAL NETWORK AND A WIRED VOICE TELECOMMUNICATIONS SYSTEM
US	7,693,101	04/06/2010	APPARATUS FOR INTERFACING A WIRELESS LOCAL NETWORK AND A WIRED VOICE TELECOMMUNICATIONS SYSTEM
US	6,442,507	08/27/2002	SYSTEM FOR CREATING A COMPUTER MODEL AND MEASUREMENT DATABASE OF A WIRELESS COMMUNICATION NETWORK
US	6,876,951	04/05/2005	METHOD FOR CREATING A COMPUTER MODEL AND MEASUREMENT DATABASE OF A WIRELESS COMMUNICATION NETWORK
US	7,096,160	08/22/2006	SYSTEM AND METHOD FOR MEASURING AND MONITORING WIRELESS NETWORK PERFORMANCE IN CAMPUS AND INDOOR ENVIRONMENTS
US	6,526,506	02/25/2003	MULTI-LEVEL ENCRYPTION ACCESS POINT FOR WIRELESS NETWORK
US	6,453,159	09/17/2002	MULTI-LEVEL ENCRYPTION SYSTEM FOR WIRELESS NETWORK
US	6,694,430	02/17/2004	DATA ENCRYPTION INTEGRATED CIRCUIT FOR WITH ON-BOARD DUAL-USE MEMORY
US	6,317,599	11/13/2001	METHOD AND SYSTEM FOR AUTOMATED OPTIMIZATION OF ANTENNA POSITIONING IN 3-D
US	7,035,642	04/25/2006	METHOD AND SYSTEM FOR ANALYSIS, DESIGN AND OPTIMIZATION OF COMMUNICATIONS NETWORK
US	7,155,228	12/26/2006	METHOD AND SYSTEM FOR ANALYSIS, DESIGN AND OPTIMIZATION OF COMMUNICATIONS NETWORK
US	6,493,679	12/10/2002	METHOD AND SYSTEM FOR MANAGING A REAL TIME BILL OF MATERIALS
US	7,596,518	09/29/2009	METHOD AND SYSTEM FOR GENERATION A REAL TIME BILL OF MATERIALS AND EVALUATING NETWORK PERFORMANCE
US	6,850,946	02/01/2005	METHOD AND SYSTEM FOR DEVELOPING INPUT WITH A BUILDING DATABASE MANIPULATOR
US	6,721,769	04/13/2004	METHOD AND SYSTEM FOR A BUILDING DATABASE MANIPULATOR
US	7,711,687	05/04/2010	METHOD AND SYSTEM FOR USING RASTER IMAGES TO CREATE A TRANSPORTABLE BUILDING DATABASE FOR COMMUNICATIONS NETWORK ENGINEERING AND MANAGEMENT
US	6,499,006	12/24/2002	SYSTEM FOR THE THREE DIMENSIONAL DISPLAY OF WIRELESS COMMUNICATION SYSTEM PERFORMANCE

Jurisdiction	Patent No.	Issue Date	Title
US	7,299,168	11/20/2007	SYSTEM FOR THE THREE DIMENSIONAL DISPLAY OF WIRELESS COMMUNICATION SYSTEM PERFORMANCE
US	7,570,929	08/04/2009	802.11 NETWORKS USING DYNAMIC POWER CONTROL FOR RF TRANSMISSION
US	7,492,248	02/17/2009	MULTI-TIER WIRELESS COMMUNICATIONS ARCHITECTURE, APPLICATIONS, AND METHODS
US	7,126,926	10/24/2006	MULTI-TIER WIRELESS COMMUNICATIONS ARCHITECTURE, APPLICATIONS, AND METHODS
US	7,339,905	03/04/2008	WIRELESS COMMUNICATION SYSTEM FOR TELEPHONIC CALLS
US	7,173,922	02/06/2007	MULTIPLE WIRELESS LOCAL AREA NETWORKS OCCUPYING OVERLAPPING PHYSICAL SPACES
US	7,173,923	02/06/2007	SECURITY IN MULTIPLE WIRELESS LOCAL AREA NETWORKS
US	7,386,298	06/10/2008	METHOD AND APPARATUS FOR ROAMING ON A WIRELESS NETWORK
US	8,050,240	11/01/2011	MULTIPLE WIRELESS LOCAL AREA NETWORKS OCCUPYING OVERLAPPING PHYSICAL SPACES
US	8,391,256	03/05/2013	RF PORT FOR MULTIPLE WIRELESS LOCAL AREA NETWORKS
US	8,699,473	04/15/2014	CELL CONTROLLER FOR MULTIPLE WIRELESS LOCAL AREA NETWORKS
US	8,498,278	07/30/2013	A SYSTEM FOR MULTIPLE WIRELESS LOCAL AREA NETWORKS
US	8,699,474	04/15/2014	SYSTEM WITH A CELL CONTROLLER ADAPTED TO PERFORM A MANAGEMENT FUNCTION
US	8,027,320	09/27/2011	WIRELESS LOCAL AREA NETWORKS
US	6,411,608	06/25/2002	METHOD AND APPARATUS FOR VARIABLE POWER CONTROL IN WIRELESS COMMUNICATIONS SYSTEMS
US	6,404,772	06/11/2002	VOICE AND DATA WIRELESS COMMUNICATIONS NETWORK AND METHOD
US	8,660,061	02/25/2014	VOICE AND DATA WIRELESS COMMUNICATIONS NETWORK AND METHOD
US	8,149,796	04/03/2012	VOICE AND DATA WIRELESS COMMUNICATIONS NETWORK AND METHOD
US	8,189,542	05/29/2012	VOICE AND DATA WIRELESS COMMUNICATIONS NETWORK AND METHOD
US	6,971,063	11/29/2005	SYSTEM, METHOD, AND APPARATUS FOR PORTABLE DESIGN, DEPLOYMENT, TEST AND OPTIMIZATION OF A COMMUNICATION NETWORK

Jurisdiction	Patent No.	Issue Date	Title
US	7,246,045	07/17/2007	SYSTEM AND METHOD FOR EFFICIENTLY VISUALIZING AND COMPARING COMMUNICATION NETWORK SYSTEM PERFORMANCE
US	7,286,971	10/23/2007	SYSTEM AND METHOD FOR EFFICIENTLY VISUALIZING AND COMPARING COMMUNICATION NETWORK SYSTEM PERFORMANCE
US	7,085,697	08/01/2006	METHOD AND SYSTEM FOR DESIGNING OR DEPLOYING A COMMUNICATIONS NETWORK WHICH CONSIDERS COMPONENT ATTRIBUTES
US	7,096,173	08/22/2006	METHOD AND SYSTEM FOR DESIGNING OR DEPLOYING A COMMUNICATIONS NETWORK WHICH ALLOWS SIMULTANEOUS SELECTION OF MULTIPLE COMPONENTS
US	6,625,454	09/23/2003	METHOD AND SYSTEM FOR DESIGNING OR DEPLOYING A COMMUNICATIONS NETWORK WHICH ALLOWS SIMULTANEOUS SELECTION OF MULTIPLE COMPONENTS
US	7,171,208	01/30/2007	METHOD AND SYSTEM, WITH COMPONENT KITS FOR DESIGNING OR DEPLOYING A COMMUNICATIONS NETWORK WHICH CONSIDERS FREQUENCY DEPENDENT EFFECTS
US	7,680,644	03/16/2010	METHOD AND SYSTEM, WITH COMPONENT KITS FOR DESIGNING OR DEPLOYING A COMMUNICATIONS NETWORK WHICH CONSIDERS FREQUENCY DEPENDENT EFFECTS
US	7,933,605	04/26/2011	METHOD AND SYSTEM, WITH COMPONENT KITS FOR DESIGNING OR DEPLOYING A COMMUNICATIONS NETWORK WHICH CONSIDERS FREQUENCY DEPENDENT EFFECTS
US	8,290,499	10/16/2012	METHOD AND SYSTEM TO MODEL FREQUENCY DEPENDENT EFFECTS OF A COMMUNICATIONS NETWORK
US	7,055,107	05/30/2006	METHOD AND SYSTEM FOR AUTOMATED SELECTION OF OPTIMAL COMMUNICATION NETWORK EQUIPMENT MODEL, POSITION, AND CONFIGURATION
US	6,973,622	12/06/2005	SYSTEM AND METHOD FOR DESIGN, TRACKING, MEASUREMENT, PREDICTION, AND OPTIMIZATION OF DATA COMMUNICATION NETWORKS
US	8,503,336	08/06/2013	SYSTEM AND METHOD FOR DESIGN, TRACKING, MEASUREMENT, PREDICTION, AND OPTIMIZATION OF DATA COMMUNICATION NETWORKS
US	7,030,812	04/18/2006	WIRELESS CLOCK SYNCHRONIZATION
US	7,250,906	07/31/2007	METHOD AND APPARATUS FOR IDENTIFYING ASSET LOCATION IN COMMUNICATION NETWORKS
US	7,030,811	04/18/2006	METHOD AND APPARATUS FOR IDENTIFYING ASSET LOCATION IN COMMUNICATION NETWORKS



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US	7,069,025	06/27/2006	METHOD AND APPARATUS FOR IDENTIFYING ASSET LOCATION IN COMMUNICATION NETWORKS
US	7,359,676	04/15/2008	SYSTEM AND METHODS FOR ADAPTIVELY SCANNING FOR WIRELESS COMMUNICATIONS
US	7,324,804	01/29/2008	SYSTEM AND METHODS FOR DYNAMIC SENSOR DISCOVERY AND SELECTION
US	7,522,908	04/21/2009	SYSTEMS AND METHODS FOR WIRELESS NETWORK SITE SURVEY
US	6,735,450	05/11/2004	METHOD AND APPARATUS FOR WIRELESS OUTDOOR ENVIRONMENT COMMUNICATIONS NETWORKS
US	7,019,753	03/28/2006	TEXTUAL AND GRAPHICAL DEMARCATION OF LOCATION FROM AN ENVIRONMENTAL DATABASE, AND INTERPRETATION OF MEASUREMENTS INCLUDING DESCRIPTIVE METRICS AND QUALITATIVE VALUES
US	7,574,323	08/11/2009	TEXTUAL AND GRAPHICAL DEMARCATION OF LOCATION AND INTERPRETATION OF MEASUREMENTS
US	7,164,883	01/16/2007	METHOD AND SYSTEM FOR MODELING AND MANAGING TERRAIN, BUILDINGS AND INFRASTRUCTURE
US	7,260,115	08/21/2007	SYSTEM AND METHOD OF ORDERING THE TRANSMISSION OF DATA PACKETS IN A RADIO SYSTEM
US	7,633,974	12/15/2009	SYSTEM AND METHOD OF ORDERING THE TRANSMISSION OF DATA PACKETS IN A RADIO SYSTEM
US	6,985,461	01/10/2006	SOFTWARE FOR INSTALLATION AND CONFIGURATION MANAGEMENT OF NETWORK NODES
US	7,680,085	03/16/2010	BLUE TOOTH OUT-OF-BAND MANAGEMENT AND TRAFFIC MONITORING FOR WIRELESS ACCESS POINTS
US	7,126,945	10/24/2006	POWER SAVING FUNCTION FOR WIRELESS LANS: METHODS, SYSTEM, AND PROGRAM PRODUCTS
US	7,349,356	03/25/2008	POWER SAVING FUNCTION FOR WIRELESS LANS: METHODS, SYSTEM, AND PROGRAM PRODUCTS
US	7,961,660	06/14/2011	POWER SAVING FUNCTION FOR WIRELESS LANS: METHODS, SYSTEM, AND PROGRAM PRODUCTS
US	7,917,610	03/29/2011	XML CONTROL MANAGEMENT
US	7,383,577	06/03/2008	METHOD AND SYSTEM FOR ENCRYPTED NETWORK MANAGEMENT AND INTRUSION DETECTION
US	7,086,089	08/01/2006	SYSTEMS AND METHODS FOR NETWORK SECURITY
US	7,042,852	05/09/2006	SYSTEM AND METHOD FOR WIRELESS LAN DYNAMIC CHANNEL CHANGE WITH HONEYPOT TRAP

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US	7,058,796	06/06/2006	METHOD AND SYSTEM FOR ACTIVELY DEFENDING A WIRELESS LAN AGAINST ATTACKS
US	7,277,404	10/02/2007	SYSTEM AND METHOD FOR SENSING WIRELESS LAN ACTIVITY
US	7,322,044	01/22/2008	SYSTEM AND METHODS FOR AUTOMATED NETWORK POLICY EXCEPTION DETECTION AND CORRECTION
US	7,532,895	05/12/2009	SYSTEMS AND METHODS FOR ADAPTIVE LOCATION TRACKING
US	7,526,808	04/28/2009	METHOD AND SYSTEM FOR ACTIVELY DEFENDING A WIRELESS LAN AGAINST ATTACKS
US	7,779,476	08/17/2010	ACTIVE DEFENSE AGAINST WIRELESS INTRUDERS
US	8,060,939	11/15/2011	METHOD AND SYSTEM FOR SECURING WIRELESS LOCAL AREA NETWORKS
US	7,167,717	01/23/2007	SYSTEM AND METHOD FOR WIRED NETWORK SYNCHRONIZATION FOR REAL TIME LOCATION TRACKING
US	7,068,999	06/27/2006	SYSTEM AND METHOD FOR DETECTION OF A ROGUE WIRELESS ACCESS POINT IN A WIRELESS COMMUNICATION NETWORK
US	7,676,218	03/09/2010	SYSTEM AND METHOD FOR DETECTION OF A ROGUE WIRELESS ACCESS POINT IN A WIRELESS COMMUNICATION NETWORK
US	6,735,445	05/11/2004	SYSTEM AND METHOD FOR MEDIUM ACCESS CONTROL IN A WIRELESS NETWORK
US	8,170,611	05/01/2012	INTERNAL ACCESSORY ANTENNA SYSTEM AND METHOD FOR WIRELESS NETWORK
US	6,925,094	08/02/2005	SYSTEM AND METHOD FOR WIRELESS NETWORK CHANNEL MANAGEMENT
US	7,162,258	01/09/2007	LIGHT FIXTURE WIRELESS ACCESS POINTS
US	7,295,960	11/13/2007	SYSTEM AND METHOD FOR AUTOMATED PLACEMENT OF CONFIGURATION OF EQUIPMENT FOR OBTAINING DESIRED NETWORK PERFORMANCE OBJECTIVES
US	7,295,119	11/13/2007	SYSTEM AND METHOD FOR INDICATING THE PRESENCE OR PHYSICAL LOCATION OF PERSONS OR DEVICES IN A SITE SPECIFIC REPRESENTATION OF A PHYSICAL ENVIRONMENT
US	7,280,520	10/09/2007	VIRTUAL WIRELESS LOCAL AREA NETWORKS
US	7,492,744	02/17/2009	METHOD AND SYSTEM FOR MULTIPLE BASIC AND EXTENDED SERVICE SET IDENTIFIERS IN WIRELESS LOCAL AREA NETWORKS
US	7,424,300	09/09/2008	METHOD FOR TRACKING LOCATION OF A MOBILE UNIT
US	7,873,368	01/18/2011	METHOD FOR TRACKING LOCATION OF A MOBILE UNIT

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US	7,376,079	05/20/2008	BACKUP CELL CONTROLLER
US	7,542,770	06/02/2009	METHOD FOR MOBILE UNIT LOCATION ESTIMATE IN A WIRELESS LAN
US	7,668,201	02/23/2010	BANDWIDTH MANAGEMENT IN WIRELESS NETWORKS
US	7,069,024	06/27/2006	SYSTEM AND METHOD FOR DETERMINING LOCATION OF ROGUE WIRELESS ACCESS POINT
US	7,127,258	10/24/2006	WLANROAMING BASED ON LOCATION
US	7,720,445	05/18/2010	MODULAR ACCESS POINT
US	8,417,302	04/09/2013	MODULAR ACCESS POINT
US	7,272,414	09/18/2007	METHOD AND APPARATUS FOR CONFIGURING A VOICE OVER IP CLIENT CONNECTION
US	7,385,476	06/10/2008	A METHOD AND SYSTEM FOR COMMUNICATING DATA TO A WIRELESS ACCESS POINT
US	7,639,656	12/29/2009	PROTOCOL FOR COMMUNICATION BETWEEN ACCESS PORTS AND WIRELESS SWITCHES
US	7,496,070	02/24/2009	RECONFIGURABLE ARRAYS OF WIRELESS ACCESS POINTS
US	8,321,545	11/27/2012	SERVICE ORIENTATED PLATFORM ARCHITECTURE FOR A WIRELESS NETWORK
US	8,019,352	09/13/2011	SYSTEM, METHOD AND APPARATUS FOR DETERMINING AND USING THE POSITION OF WIRELESS DEVICES OR INFRASTRUCTURE FOR WIRELESS NETWORK ENHANCEMENTS
US	7,349,774	03/25/2008	AIRCRAFT TRAFFIC WARNING SYSTEM USING AN AD-HOC RADIO NETWORK
US	7,596,388	09/29/2009	SECTORIZED WIRELESS COMMUNICATION NETWORK OPERATING UNDER 802.11 SPECIFICATIONS
US	7,669,230	02/23/2010	SECURE SWITCHING SYSTEM FOR NETWORKS AND METHOD FOR SECURING SWITCHING
US	7,515,573	04/07/2009	METHOD, SYSTEM, AND APPARATUS FOR CREATING AN ACTIVE CLIENT LIST TO SUPPORT LAYER 3 ROAMING IN WIRELESS LOCAL AREA NETWORKS (WLANS)
US	7,443,809	10/28/2008	METHOD, SYSTEM, AND APPARATUS FOR CREATING AN ACTIVE CLIENT LIST TO SUPPORT LAYER 3 ROAMING IN WIRELESS LOCAL AREA NETWORKS (WLANS)
US	7,424,000	09/09/2008	TIME SLOT RESERVATION SCHEME IN WIRELESS MESHED NETWORKS
US	7,529,203	05/05/2009	METHOD, SYSTEM, AND APPARATUS FOR LOAD BALANCING OF

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US	7,499,411	03/03/2009	WIRELESS SWITCHES TO SUPPORT LAYER 3 ROAMING IN WIRELESS LOCAL AREA NETWORKS (WLANS)
US	7,729,326	06/01/2010	SYSTEM AND METHOD FOR PROVIDING AUTOMATIC LOAD BALANCING AND REDUNDANCY IN ACCESS PORT ADOPTION
US	7,822,000	10/26/2010	WIRELESS NETWORK SYSTEM WITH WIRELESS ACCESS PORTS
US	7,437,127	10/14/2008	TIME DIVISION MULTIPLEXING FOR ACCESS PORTS IN A WIRELESS NETWORK
US	7,593,715	09/22/2009	METHOD AND SYSTEM FOR DETERMINING EXISTENCE OF A PREDETERMINED WIRELESS NETWORK COVERAGE CONDITION IN A WIRELESS NETWORK
US	7,688,782	03/30/2010	SYSTEM AND METHOD FOR DETECTING ACTIVITY ON A FREQUENCY BAND
US	7,621,497	11/24/2009	SYSTEM AND METHOD FOR MANAGING MULTI-CHANNEL CEILING MOUNT
US	7,742,456	06/22/2010	SYSTEM AND METHOD FOR LOCATIONING IN A COMMUNICATIONS NETWORK
US	8,204,039	06/19/2012	SYSTEM AND METHOD FOR DATA COMMUNICATIONS IN A WIRELESS NETWORK
US	7,577,424	08/18/2009	SYSTEMS AND METHODS FOR WIRELESS VULNERABILITY ANALYSIS
US	7,961,673	06/14/2011	SYSTEM AND METHOD FOR CLUSTERING WIRELESS DEVICES IN A WIRELESS NETWORK
US	7,715,800	05/11/2010	SYSTEM AND METHODS FOR WIRELESS INTRUSTION DETECTION USING SPECTRAL ANALYSIS
US	7,903,624	03/08/2011	METHODS AND APPARATUS FOR SIMPLIFIED SETUP OF CENTRALIZED WLAN SWITCHING
US	7,869,346	01/11/2011	METHODS AND APPARATUS FOR CLUSTER LICENSING IN WIRELESS SWITCH ARCHITECTURE
US	7,971,251	06/28/2011	SYSTEMS AND METHODS FOR WIRELESS SECURITY USING DISTRIBUTED COLLABORATION OF WIRELESS CLIENTS
US	7,720,464	05/18/2010	SYSTEM AND METHOD FOR PROVIDING DIFFERENTIATED SERVICE LEVELS TO WIRELESS DEVICES
US	7,813,443	10/12/2010	TRANSMIT DIVERSITY SYSTEM AND METHOD
US	7,970,013	06/28/2011	SYSTEMS AND METHODS FOR WIRELESS NETWORK CONTENT FILTERING
US	7,804,806	09/28/2010	TECHNIQUES FOR PEER WIRELESS SWITCH DISCOVERY WITHIN A MOBILITY DOMAIN

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US	7,826,869	11/02/2010	MOBILITY RELAY TECHNIQUES FOR REDUCING LAYER 3 MOBILITY CONTROL TRAFFIC AND PEERING SESSIONS TO PROVIDE SCALABILITY IN LARGE WIRELESS SWITCH NETWORKS
US	7,916,682	03/29/2011	WIRELESS SWITCH NETWORK ARCHITECTURE IMPLEMENTING LAYER 3 MOBILITY DOMAINS
US	7,639,648	12/29/2009	TECHNIQUES FOR HOME WIRELESS SWITCH REDUNDANCY AND STATEFUL SWITCHOVER IN A NETWORK OF WIRELESS SWITCHES SUPPORTING LAYER 3 MOBILITY WITHIN A MOBILITY DOMAIN
US	7,826,425	11/02/2010	METHOD AND SYSTEM FOR LOSS-LESS ROAMING WITH WIRELESS BRIDGING
US	8,111,676	02/07/2012	LOSELESS ROAMING VIA BRIDGING BETWEEN ACCESS PORTS
US	8,281,392	10/02/2012	METHODS AND SYSTEMS FOR WIRED EQUIVALENT PRIVACY AND WI-FI PROTECTED ACCESS PROTECTION
US	7,869,438	01/11/2011	PRE-AUTHENTICATION ACROSS AN 802.11 LAYER-3 IP NETWORK
US	7,760,695	07/20/2010	METHODS AND SYSTEMS FOR CENTRALIZED CLUSTER MANAGEMENT IN WIRELESS SWITCH ARCHITECTURE
US	7,783,300	08/24/2010	SYSTEMS AND METHODS FOR PROACTIVELY ENFORCING A WIRELESS FREE ZONE
US	8,205,244	06/19/2012	SYSTEMS AND METHODS FOR GENERATING, MANAGING, AND DISPLAYING ALARMS FOR WIRELESS NETWORK MONITORING
US	8,134,985	03/13/2012	SYSTEM AND METHOD FOR WLAN MULTI-CHANNEL REDUNDANCY FOR VOIP OPTIMIZATION
US	7,912,469	03/22/2011	SYSTEM AND METHOD FOR DEPLOYMENT OF A WIRELESS INFRASTRUCTURE
US	8,320,321	11/27/2012	OPTIMIZING POSITIONS OF TIME SLOTS IN A HYBRID TIME DIVISION MULTIPLE ACCESS (TDMA)-CARRIER SENSE MULTIPLE ACCESS (CSMA) MEDIUM ACCESS CONTROL (MAC) FOR MULTI-HOP AD HOC NETWORKS
US	7,826,862	11/02/2010	METHOD AND APPARATUS FOR IMPROVED LOCATIONING IN A WIRELESS NETWORK
US	8,300,618	10/30/2012	USER PRIORITY BASED PREEMPTION TECHNIQUES IN A TIME DIVISION MULTIPLE ACCESS MULTI-HOP AD HOC NETWORK
US	7,961,725	06/14/2011	ENTERPRISE NETWORK ARCHITECTURE FOR IMPLEMENTING A VIRTUAL PRIVATE NETWORK FOR WIRELESS USERS BY MAPPING WIRELESS LANS TO IP TUNNELS
US	7,885,233	02/08/2011	FORWARDING BROADCAST/MULTICAST DATA WHEN WIRELESS CLIENTS LAYER 3 ROAM ACROSS IP SUBNETS IN A WLAN

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US	8,130,656	03/06/2012	METHOD AND DEVICE FOR ROUTING MESH NETWORK TRAFFIC
US	8,027,266	09/27/2011	OPTIMIZED RF COVERAGE USING AJAX AND SVG
US	8,185,121	05/22/2012	OPTIMIZATION OF DISPLAYED RF COVERAGE
US	8,134,987	03/13/2012	METHODS AND APPARATUS FOR SPLIT POLICY ENFORCEMENT IN WIRELESS NETWORKS
US	7,792,110	09/07/2010	METHOD AND SYSTEM FOR UPDATING A VIRTUAL LOCAL AREA NETWORK (VLAN) STATUS OF A NODE IN A MESH NETWORK
US	8,249,105	08/21/2012	METHOD FOR AGGREGATING FRAMES IN A WIRELESS COMMUNICATION NETWORK
US	7,737,573	06/15/2010	POWER OVER ETHERNET COMBINER
US	8,223,732	07/17/2012	METHOD AND APPARATUS FOR BALANCING LOAD ACROSS ACCESS DEVICES IN A WIRELESS NETWORK
US	8,036,161	10/11/2011	WIRELESS SWITCH WITH VIRTUAL WIRELESS SWITCH MODULES
US	8,225,124	07/17/2012	METHOD AND SYSTEM FOR DETERMINING POWER OVER ETHERNET CLASS CAPABILITIES
US	8,811,295	08/19/2014	METHODS AND APPARATUS FOR PRIORITY-BASED ADOPTION OF AN ACCESS DEVICE
US	8,027,248	09/27/2011	ACCESS PORT ADOPTION TO MULTIPLE WIRELESS SWITCHES
US	7,966,010	06/21/2011	METHOD AND SYSTEM FOR TUNING AND SELF-MONITORING OF WIRELESS NETWORKS
US	8,139,543	03/20/2012	COVERAGE-HOLE DETECTION AND SELF HEALING
US	8,189,547	05/29/2012	SELF-CONFIGURATION OF WIRELESS ACCESS DEVICES IN A WIRELESS NETWORK ENVIRONMENT
US	8,588,146	11/19/2013	METHOD AND APPARATUS FOR CHANNEL SELECTION IN A WIRELESS COMMUNICATION SYSTEM
US	8,170,050	05/01/2012	SELF-ASSIGNMENT OF DETECTORS AND WORKERS AMONG ACCESS DEVICES IN A WIRELESS NETWORK ENVIRONMENT
US	8,612,752	12/17/2013	COMMUNICATING A PACKET FROM A MESH-ENABLED ACCESS POINT TO A MESH PORTAL IN A MULTI-HOP MESH NETWORK
US	8,391,169	03/05/2013	METHODS AND APPARATUS FOR LOCATING A MOBILE DEVICE IN A SLEEP MODE
US	8,184,610	05/22/2012	METHOD FOR ADAPTIVE BEACONING
US	8,171,539	05/01/2012	METHODS AND APPARATUS FOR IMPLEMENTING A SEARCH TREE
US	8,281,134	10/02/2012	METHODS AND APPARATUS FOR LAYER 2 AND LAYER 3 SECURITY BETWEEN WIRELESS TERMINATION POINTS

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US	8,121,102	02/21/2012	METHODS AND APPARATUS FOR RECOVERING FROM MISCONFIGURATION IN A WLAN
US	8,033,149	10/11/2011	METHOD AND SYSTEM FOR COLLECTING LOCATIONING INFORMATION IN A WIRELESS LOCAL AREA NETWORK
US	8,798,034	08/05/2014	SYSTEM AND METHOD FOR SELECTING A ROUTE BASED ON LINK METRICS INCORPORATING CHANNEL BANDWIDTH, SPATIAL STREAMS AND/OR GUARD INTERVAL IN A MULTIPLE-INPUT MULTIPLE-OUTPUT (MIMO) NETWORK
US	9,003,205	04/07/2015	METHOD TO LOWER THE OPERATING COST OF WIRELESS NETWORK BY ENFORCING LOW POWER INFRASTRUCTURE OPERATION
US	8,694,624	04/08/2014	SYSTEMS AND METHODS FOR CONCURRENT WIRELESS LOCAL AREA NETWORK ACCESS AND SENSING
US	8,223,657	07/17/2012	MODIFYING SYSTEM CLOCKS BASED ON PARTICULAR WLAN CHANNEL THAT IS SELECTED TO IMPROVE RF SENSITIVITY OF A RADIO MODULE
US	8,451,735	05/28/2013	SYSTEMS AND METHODS FOR DYNAMIC LOAD BALANCING IN A WIRELESS NETWORK
US	8,756,690	06/17/2014	EXTENSIBLE AUTHENTICATION PROTOCOL ATTACK DETECTION SYSTEMS AND METHODS
US	8,826,413	09/02/2014	WIRELESS LOCAL AREA NETWORK INFRASTRUCTURE DEVICES HAVING IMPROVED FIREWALL FEATURES
US	8,798,000	08/05/2014	MANAGING WIRELESS WIDE AREA NETWORK BANDWIDTH CONSTRAINTS IN A COMMUNICATION NETWORK
US	8,392,990	03/05/2013	MITIGATING EXCESSIVE OPERATIONS ATTACKS IN A WIRELESS COMMUNICATION NETWORK
US	8,352,604	01/08/2013	DISTRIBUTED PROPAGATION OF DATA IN A WIRELESS COMMUNICATION NETWORK
US	8,549,634	10/01/2013	METHOD AND APPARATUS FOR DETECTING A ROGUE ACCESS POINT IN A COMMUNICATION NETWORK
US	8,493,977	07/23/2013	DETECTION OF AN UNAUTHORIZED ACCESS POINT IN A WIRELESS COMMUNICATION NETWORK
US	8,923,133	12/30/2014	DETECTION OF UNAUTHORIZED CHANGES TO AN ADDRESS RESOLUTION PROTOCOL CACHE IN A COMMUNICATION NETWORK
US	8,594,064	11/26/2013	MODE STEERING IN A WIRELESS COMMUNICATION NETWORK
US	8,553,603	10/08/2013	CLIENT BRIDGE BETWEEN WIRED AND WIRELESS COMMUNICATION NETWORKS
US	8,705,967	04/22/2014	SERIALLY DISTRIBUTED ACCESS POINT IN A COMMUNICATION NETWORK

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US	9,088,837	07/21/2015	SERIALLY DISTRIBUTED ACCESS POINT IN A COMMUNICATION NETWORK
US	8,811,361	08/19/2014	HYBRID BROADCAST PACKET REPLICATION FOR VIRTUAL LOCAL AREA NETWORKS
US	8,755,274	06/17/2014	ADAPTIVE DATA RATE LIMITER IN A WIRELESS COMMUNICATION DEVICE
US	8,516,567	08/20/2013	DISTRIBUTED FIREWALLING IN A WIRELESS COMMUNICATION NETWORK
US	8,929,803	01/06/2015	RADIO FREQUENCY BARRIER IN A WIRELESS COMMUNICATION NETWORK
US	8,867,342	10/21/2014	ADAPTIVE STANDBY ACCESS IN A LOCAL AREA COMMUNICATION NETWORK
US	8,934,867	01/13/2015	ON-DEMAND ACCESS TUNNEL BETWEEN SERVICE PROVIDER NETWORK AND WIRELESS COMMUNICATION NETWORK
US	8,842,651	09/23/2014	ACCESS POINT GROUPINGS BRIDGING TUNNELED TRAFFIC FOR A COMMUNICATION NETWORK
US	9,198,034	11/24/2015	VALIDATING PRESENCE OF A COMMUNICATION DEVICE USING A WIRELESS LOCAL AREA NETWORK
US	9,065,497	06/23/2015	CONTEXT AWARE MULTIPLE-INPUT AND MULTIPLE-OUTPUT ANTENNA SYSTEMS AND METHODS
US	9,525,486	12/20/2016	VISIBLE LIGHT COMMUNICATIONS PERSONAL AREA NETWORK CONTROLLER AND ACCESS POINT SYSTEMS AND METHODS
US	9,806,811	10/31/2017	VISIBLE LIGHT COMMUNICATIONS PERSONAL AREA NETWORK CONTROLLER AND ACCESS POINT SYSTEMS AND METHODS
US	9,706,426	07/11/2017	SYSTEMS AND METHODS FOR VISIBLE LIGHT COMMUNICATIONS PERSONAL AREA NETWORK AND WIRELESS LOCAL AREA NETWORK INTERWORKING
US	7,885,606	02/08/2011	ASSISTED MEASUREMENT SURVEY OF A WIRELESS COMMUNICATION NETWORK
US	8,699,392	04/15/2014	METHOD AND APPARATUS FOR CONSERVING ACCESS POINT POWER USAGE DURING LOW NETWORK USAGE INTERVALS
US	7,355,996	04/08/2008	SYSTEM AND METHODS FOR ADAPTIVE MONITORING WITH BANDWIDTH CONSTRAINTS
US	7,961,690	06/14/2011	WIRELESS SWITCH NETWORK ARCHITECTURE IMPLEMENTING MOBILITY AREAS WITHIN A MOBILITY DOMAIN
US	7,613,150	11/03/2009	HITLESS RESTART MECHANISM FOR NON-STOP DATA-FORWARDING IN THE EVENT OF L3-MOBILITY CONTROL-PLANE FAILURE WIRELESS SWITCH



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US	7,720,076	05/18/2010	DISTRIBUTED CONNECTION-ORIENTED SERVICES FOR SWITCHED COMMUNICATION NETWORKS
US	8,023,515	09/20/2011	DISTRIBUTED CONNECTION-ORIENTED SERVICES FOR SWITCHED COMMUNICATION NETWORKS
US	8,462,794	06/11/2013	DISTRIBUTED CONNECTION-ORIENTED SERVICES FOR SWITCHED COMMUNICATION NETWORKS
US	9,621,464	04/11/2017	MULTICAST SPRAY OVER LAG
US	9,565,138	02/07/2017	RULE-BASED DATA NETWORK TRAFFIC INTERCEPTION AND DISTRIBUTION SCHEME
US	9,648,542	05/09/2017	SESSION-BASED PACKET ROUTING FOR FACILITATING ANALYTICS
US	9,866,478	01/09/2018	TECHNIQUES FOR USER-DEFINED TAGGING OF TRAFFIC IN A NETWORK VISIBILITY SYSTEM
US	8,047,383	11/01/2011	RACKMOUNT SYSTEM INCLUDING CONVERSION RAIL
US	7,903,654	03/08/2011	SYSTEM AND METHOD FOR ECOMP LOAD SHARING
US	8,395,996	03/12/2013	TECHNIQUES FOR PROCESSING INCOMING FAILURE DETECTION PROTOCOL PACKETS
US	7,978,614	07/12/2011	TECHNIQUES FOR DETECTING NON-RECEIPT OF FAULT DETECTION PROTOCOL PACKETS
US	8,155,011	04/10/2012	TECHNIQUES FOR USING DUAL MEMORY STRUCTURES FOR PROCESSING FAILURE DETECTION PROTOCOL PACKETS
US	9,112,780	08/18/2015	TECHNIQUES FOR PROCESSING INCOMING FAILURE DETECTION PROTOCOL PACKETS
US	8,615,008	12/24/2013	DUPLICATING NETWORK TRAFFIC THROUGH TRANSPARENT VLAN FLOODING
US	9,294,367	03/22/2016	DUPLICATING NETWORK TRAFFIC THROUGH TRANSPARENT VLAN FLOODING
US	9,479,415	10/25/2016	DUPLICATING NETWORK TRAFFIC THROUGH TRANSPARENT VLAN FLOODING
US	8,509,236	08/13/2013	TECHNIQUES FOR SELECTING PATHS AND/OR TUNK PORTS FOR FORWARDING TRAFFIC FLOWS
US	6,400,777	06/04/2002	LINEAR MODULATOR
US	6,084,944	07/04/2000	SYSTEM FOR AUTOMATED VOICE TERMINAL RECOGNITION AND DYNAMIC REPRESENTATION ON A TEST FACILITY
US	6,374,084	04/16/2002	METHOD AND SYSTEM FOR CALIBRATING ELECTRONIC DEVICES USING POLYNOMIAL FIT CALIBRATION SCHEME
US	6,603,847	08/05/2003	INCOMING CALL ROUTING SYSTEM WITH INTEGRATED WIRELESS

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US	6,567,075	05/20/2005	COMMUNICATION SYSTEM
US	6,356,168	03/12/2002	FEATURE ACCESS CONTROL IN A DISPLAY-BASED TERMINAL ENVIRONMENT
US	6,326,920	12/04/2001	SHEET-METAL FILTER
US	6,317,011	11/13/2001	SHEET-METAL ANTENNA
US	6,329,949	12/11/2001	RESONANT CAPACITIVE COUPLER
US	6,313,719	11/06/2001	TRANSCIEVER STACKED ASSEMBLY
US	7,348,862	03/25/2008	A METHOD OF TUNING A PLANAR FILTER WITH ADDITIONAL COUPLING CREATED BY BENT RESONATOR ELEMENTS
US	7,296,066	11/13/2007	MODULAR CONNECTOR WITH SUPPRESSION OF CONDUCTED AND RADIATED EMISSIONS
US	7,400,879	07/15/2008	MOBILE COMMUNICATION SYSTEM FOR A NETWORK CONFERENCE SERVER
US	8,411,700	04/02/2013	DLP-BASED WIRELESS DOCKING FOR WIFI-BASED ENDPPOINTS WITH DESKTOP
US	9,270,533	02/23/2016	FAST NETWORK DISCOVERY USING SNMP MULTI-CAST
US	9,137,101	09/15/2015	MULTI-LAYER NETWORK DIAGNOSTIC TRACING
US	8,750,299	06/10/2014	MULTICAST TREE DISCOVERY USING 802.1ag
US	9,300,540	03/29/2016	MULTICAST NETWORK DIAGNOSTICS
US	9,813,257	11/07/2017	ACCESS NETWORK DUAL PATH CONNECTIVITY
US	8,824,293	09/02/2014	IMPLEMENTATION OF A QOS PROCESSING FILTER TO MANAGE UPSTREAM OVER-SUBSCRIPTION
US	9,152,423	10/06/2015	METHOD AND APPARATUS FOR EFFICIENT LOOP INSTRUCTION EXECUTION USING BIT VECTOR SCANNING
US	8,625,468	01/07/2014	SYSTEMS AND METHODS FOR GRANTING FEATURE CONTROL BASED ON USER LOCATON
US	8,634,417	01/21/2014	METHOD AND APPARATUS PROVIDING SELECTIVE FLOW REDISTRIBUTION ACROSS MULTI LINK TRUNK/LINK AGGREGATION GROUP (MLT/LAG) AFTER PORT MEMBER FAILURE AND RECOVERY
US	8,804,507	08/12/2014	METHOD AND APPARATUS FOR TEMPORAL-BASED FLOW DISTRIBUTION ACROSS MULTIPLE PACKET PROCESSORS
US	8,861,334	10/14/2014	METHOD AND APPARATUS FOR LOSSLESS LINK RECOVERY BETWEEN TWO DEVICES INTERCONNECTED VIA MULTI LINK TRUNK/LINK AGGREGATION GROUP (MLT/LAG)

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US	8,787,377	07/22/2014	USAGE OF MASKED BMAC ADDRESSES IN A PROVIDER BACKBONE BRIDGED (PBB) NETWORK
US	8,755,383	06/17/2014	TRANSPARENT INTERCONNECT OF LOTS OF LINKS (TRILL) ROUTING BRIDGES
US	8,479,279	07/02/2013	SECURITY POLICY ENFORCEMENT FOR MOBILE DEVICES CONNECTING TO A VIRTUAL PRIVATE NETWORK GATEWAY
US	8,965,326	02/24/2015	DETERMINATION BY PSAPS OF CALLER LOCATION BASED ON THE WIFI HOT SPOTS DETECTED AND REPORTED BY THE CALLER'S DEVICE(S)
US	9,648,479	05/09/2017	DETERMINATION BY PSAPS OF CALLER LOCATION BASED ON THE WIFI HOT SPOTS DETECTED AND REPORTED BY THE CALLER'S DEVICE(S)
US	9,019,964	04/28/2015	METHODS AND SYSTEMS FOR ROUTING APPLICATION TRAFFIC
US	9,282,489	03/08/2016	MEDIA ESCALATION WITH USE OF ENDPOINT ADAPTER
US	9,143,602	09/22/2015	METHODS AND SYSTEMS TO ENSURE THAT THE USER OF A TOUCH OR KEYPAD OPERATED DEVICE WITHIN A MOVING VEHICLE MUST USE TWO HANDS FOR DEVICE OPERATION
US	9,094,889	07/28/2015	METHOD AND SYSTEM TO MANAGE MOBILE DATA NETWORK USAGE FOR VOIP CALLS
US	9,779,222	10/03/2017	SECURE MANAGEMENT OF HOST CONNECTIONS
US	7,408,885	08/05/2008	METHOD AND APPARATUS FOR AUTOMATIC DETERMINATION OF PERFORMANCE PROBLEM LOCATIONS IN A NETWORK
US	7,873,012*	01/18/2011	ROAMING WIRELESS CLIENT COMMUNICATION
US	7,493,124*	02/17/2009	METHOD AND APPARATUS FOR UPDATING INFORMATION WITHIN A COMMUNICATION SYSTEM
US	7,768,929	08/03/2010	HOST DISCOVERY AND ATTACH
US	8,879,707	11/04/2014	PRIVATE BRANCH EXCHANGE THAT MANAGES INTERACTIONS BETWEEN ASSOCIATED TELECOMMUNICATIONS TERMINALS
US	8,259,920	09/04/2012	CALL EXTENSION IN TELECOMMUNICATIONS SYSTEMS
US	7,924,733	04/12/2011	ROOT CAUSE ANALYSIS OF NETWORK PERFORMANCE BASED ON EXCULPATION OR INCULPATION SETS
US	7,991,143	08/02/2011	RAPID RESPONSE TO USER INPUT AT A TELECOMMUNICATIONS TERMINAL
US	8,442,202	05/14/2013	PRIVATE-BRANCH EXCHANGE THAT PROVIDES OUTGOING CALLING FOR AN OFF-PREMISES TERMINAL IN THE PRESENCE OF A THIRD-

Jurisdiction	Patent No.	Issue Date	Title
US	8,160,228	04/17/2012	PARTY APPLICATION PRIVATE-BRANCH EXCHANGE THAT PROVIDES INCOMING CALLING EXTENDED TO AN OFF-PREMISES TERMINAL IN THE PRESENCE OF A THIRD-PARTY APPLICATION
US	8,619,956	12/31/2013	PRIVATE-BRANCH EXCHANGE THAT PROVIDES CALL BRIDGING TO AN OFF-PREMISES TERMINAL IN THE PRESENCE OF A THIRD-PARTY APPLICATION
US	9,009,585	04/14/2015	SOFTWARE WIZARD INTERFACE
US	8,760,275	06/24/2014	OBSTACLE WARNING SYSTEM AND METHOD
US	9,053,624	06/09/2015	SYSTEM AND METHOD FOR TRACKING IN MULTI-STORY BUILDINGS
US	8,576,717	11/05/2013	SYSTEM AND METHOD FOR DETECTING ROGUE TRAFFIC USING FLOW STATISTICS WITH A LIST OF AUTHORIZED ENGINES
US	8,917,602	12/23/2014	SYSTEM AND METHOD FOR DETECTING ROGUE TRAFFIC USING FLOW STATISTICS WITH A LIST OF AUTHORIZED ENGINES
US	8,873,403	10/28/2014	SYSTEM AND METHOD FOR AUTOMATIC DSCP TRACING FOR XOIP ELEMENTS
US	9,438,524	09/06/2016	SYSTEM AND METHOD FOR VERIFYING MULTIPROTOCOL LABEL SWITCHING CONTRACTS
US	9,351,140	05/24/2016	SPECIAL HANDLING OF CERTAIN TYPES OF COMMUNICATIONS
US	8,483,044	07/09/2013	SYSTEMS, METHODS, AND MEDIA FOR IDENTIFYING DEGRADED VIDEO CALL LINKS
US	9,338,303	05/10/2016	WIRELESS ENTERPRISE CONGESTION MANAGEMENT
US	9,008,689	04/14/2015	DYNAMIC GUIDANCE TO A TARGET CONVERSATION AREA WITH A COMMUNICATION DEVICE
US	9,819,745	11/14/2017	SYSTEM AND METHOD FOR PREVENTION OF DENIAL OF SERVICE ATTACKS FOR HOSTED NETWORK ADDRESS TRANSLATOR
US	6,488,533	12/03/2002	DEVICES FOR PROTECTING NETWORK EQUIPMENT FROM ELECTROSTATIC DISCHARGE EMANATING FROM NETWORK CABLES
US	7,752,449	07/06/2010	SYSTEM AND METHOD FOR GENERATING A NON-REPUDIATABLE RECORD OF A DATA STREAM
US	8,694,789	04/08/2014	SYSTEM AND METHOD FOR GENERATING A NON-REPUDIATABLE RECORD OF A DATA STREAM
US	9,124,516	09/01/2015	METHOD AND APPARATUS PROVIDING SPLIT MULTI LINK TRUNK (SMLT) FOR ADVANCED TECHNOLOGY ATTACHMENT (ATA) OVER ETHERNET
US	8,830,998	09/09/2014	SEPARATION OF EDGE AND ROUTING/CONTROL INFORMATION FOR

Jurisdiction	Patent No.	Issue Date	Title
US	8,743,875	06/03/2014	MULTICAST OVER SHORTEST PATH BRIDGING EXTENSION OF THE INTERPRETATION AND DEFINITION OF THE IS-IS TLV/SUB-TLV
US	8,675,522	03/18/2014	CONVEYING THE VLAN/L2 VSN/BRIDGING-DOMAIN OF THE INCOMING INTERFACE (IIF) WHEN TRANSPORTING MULTICAST TRAFFIC OVER A SHORTEST PATH BRIDGED (SPB) NETWORK
US	8,804,722	08/12/2014	METHOD AND APPARATUS FOR ROUTING MULTICAST DATA ACROSS MULTIPLE MULTICAST ROUTING DOMAINS CONNECTED BY A SHORTEST PATH BRIDGING (SPB) NETWORK
US	8,817,782	08/26/2014	METHOD TO ROUTE MULTICAST DATA IN SPB NETWORK BY ESTABLISHING THE VIRTUAL PIM ADJACENCY ACROSS THE SPB NETWORKS IN A SINGLE PIM DOMAIN
US	8,949,385	02/03/2015	METHOD AND APPARATUS FOR RESOLVING CONFLICTING UNICAST ADVERTISEMENTS IN A TRANSPORT NETWORK
US	8,675,658	03/18/2014	USING MULTIPLE IGMF QUERIES IN A LAYER 2 NETWORK
US	9,832,108	11/28/2017	FAST DESIGNATED ROUTER TRANSITIONS IN BROADCAST NETWORKS FOR LINK STATE PROTOCOLS
US	8,693,335	04/08/2014	METHOD AND APPARATUS FOR CONTROL PLANE CPU OVERLOAD PROTECTION
US	8,750,122	06/10/2014	METHOD AND APPARATUS FOR LAYER 2 LOOP PREVENTION IN A MULTI-NODE SWITCH CLUSTER
US	9,094,318	07/28/2015	REMOTE MIRRORING
US	8,730,793	05/20/2014	METHOD AND APPARATUS PROVIDING NETWORK REDUNDANCY AND HIGH AVAILABILITY TO REMOTE NETWORK NODES
US	8,867,360	10/21/2014	METHOD AND APPARATUS FOR LOSSLESS BEHAVIOR FOR MULTIPLE PORTS SHARING A BUFFER POOL
US	9,729,346	08/08/2017	METHOD FOR LAYER 2 FORWARDING IN A MULTI-NODE SWITCH CLUSTER
US	9,083,563	07/14/2015	METHOD FOR REDUCING PROCESSING LATENCY IN A MULTI THREAD PACKET PROCESSOR WITH AT LEAST ONE RE-ORDER QUEUE
US	9,164,771	10/20/2015	METHOD FOR THREAD REDUCTION IN A MULTI-THREAD PACKET PROCESSOR
US	8,934,501	01/13/2015	BIDIRECTIONAL TRANSLATION OF NETWORK EDGE VIRTUALIZATION ENCAPSULATION TO CORE NETWORK VIRTUALIZATION ENCAPSULATION
US	9,451,056	09/20/2016	METHOD FOR MAPPING PACKETS TO NETWORK VIRTUALIZATION

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			INSTANCES
US	8,867,350	10/21/2014	METHOD AND APPARATUS FOR PACKET BUFFERING MEASUREMENT
US	8,929,370	01/06/2015	MECHANISM FOR EFFICIENTLY TRANSMITTING TUNNEL KEEP-ALIVE MESSAGES
US	9,838,493	12/05/2017	DYNAMIC ROUTING OF AUTHENTICATION REQUESTS
US	9,225,627	12/29/2015	REDISTRIBUTING ROUTES IN BACKBONE EDGE BRIDGE MULTI-CHASSIS LINK AGGREGATION GROUP TOPOLOGIES BETWEEN TWO ROUTING PROTOCOLS
US	9,270,586	02/23/2016	METHOD FOR ABSTRACTING DATAPATH HARDWARE ELEMENTS
US	8,918,847	12/23/2014	LAYER 7 AUTHENTICATION USING LAYER 2 OR LAYER 3 AUTHENTICATION
US	9,088,506	07/21/2015	SYSTEM AND METHOD FOR DATA STREAM MIRRORING
US	9,086,950	07/21/2015	METHOD FOR HEAP MANAGEMENT
US	9,137,155	09/15/2015	NETWORK VIRTUALIZATION IN ACCESS NETWORKS
US	9,553,802	01/24/2017	LAYER 2 VPN SERVICE ADVERTISEMENT FROM ACCESS NODES TO A CORE NETWORK
US	9,225,699	12/29/2015	SECURITY KEY GENERATION IN LINK AGGREGATION GROUP TOPOLOGIES
US	9,680,882	06/13/2017	AUTOMATIC CONFIGURATION OF ENDPOINT COMMUNICATION DEVICES TO SET UP A VOIP NETWORK
US	9,077,550	07/07/2015	METHOD AND APPARATUS FOR PERFORMING MULTICAST BACKBONE MEDIA ACCESS CHANNEL (BMAC) HEADER TRANSFORMATIONS
US	9,178,710	11/03/2015	SELECTIVE MULTICAST
US	9,537,669	01/03/2017	SELECTIVE MULTICAST
US	9,258,222	02/09/2016	IMPLEMENTING A SHORTEST PATH BRIDGING (SPB) NETWORK USING A VIRTUAL ROUTING AND FORWARDING (VRF) IDENTIFIER
US	8,848,707	09/30/2014	METHOD FOR IP LONGEST PREFIX MATCH USING PREFIX LENGTH SORTING
US	8,798,066	08/05/2014	METHOD FOR IPV6 LONGEST PREFIX MATCH
US	9,514,091	12/06/2016	LINK AGGREGATION USING DIGESTS
US	9,413,637	08/09/2016	MIXER FOR MULTI-COMPONENT PASTES
US	9,106,556	08/11/2015	METHOD TO ACHIEVE THE USE OF AN EXTERNAL METRIC AS THE PRIMARY TIE-BREAKER IN INTERMEDIATE SYSTEM TO

Jurisdiction	Patent No.	Issue Date	Title
			INTERMEDIATE SYSTEM (ISIS) ROUTE SELECTIONS
US	9,374,295	06/21/2016	METHOD TO ACHIEVE THE USE OF AN EXTERNAL METRIC AS THE PRIMARY TIE-BREAKER IN INTERMEDIATE SYSTEM TO INTERMEDIATE SYSTEM (ISIS) ROUTE SELECTIONS
US	9,258,214	02/09/2016	OPTIMIZED DISTRIBUTED ROUTING FOR STRETCHED DATA CENTER MODELS THROUGH UPDATING ROUTE ADVERTISEMENTS BASED ON CHANGES TO ADDRESS RESOLUTION PROTOCOL (ARP) TABLES
US	9,823,942	11/21/2017	VIRTUAL MACHINE DISCOVERY AND IDENTIFICATION
US	9,270,574	02/23/2016	METHOD AND APPARATUS PROVIDING DELAYED PATH CALCULATIONS BASED ON SERVICE TYPE
US	9,191,314	11/17/2015	IN-BAND MANAGEMENT USING L2 ADDRESSES OVER B-VLAN IN AN SPBM NETWORK
US	9,344,527	05/17/2016	A METHOD FOR MIGRATING TO LAYER-2 VIRTUAL SERVICES NETWORK FROM VLAN WITH NO PACKET LOSS
US	9,154,409	10/06/2015	METHOD FOR DEBUGGING PRIVATE VLAN
US	9,806,945	10/31/2017	mDNS SUPPORT IN UNIFIED ACCESS NETWORKS
US	9,692,677	06/27/2017	IMPLEMENTING MULTICAST LINK TRACE CONNECTIVITY FAULT MANAGEMENT IN AN ETHERNET NETWORK
US	9,525,624	12/20/2016	VIRTUAL ROUTER REDUNDANCY PROTOCOL FOR SCALABLE DISTRIBUTED DEFAULT ROUTING GATEWAY
US	9,806,989	10/31/2017	LAYER 3 (L3) BEST ROUTE SELECTION RULE FOR SHORTEST PATH BRIDGING MULTICAST (SPBM) NETWORKS
US	9,860,081	01/02/2018	GENERAL USER NETWORK INTERFACE (UNI) MULTI-HOMING TECHNIQUES FOR SHORTEST PATH BRIDGING (SPB) NETWORKS
US	9,355,240	05/31/2016	MULTI-DEVICE SINGLE NETWORK SIGN-ON
US	9,438,509	09/06/2016	DEFAULT GATEWAY REDUNDANCY SUPPORT ACROSS SPB NETWORKS
US	9,712,393	07/18/2017	NETWORK LOOP PREVENTION
US	9,467,302	10/11/2016	QUALITY OF SERVICE AWARE HYBRID MULTICAST NETWORKS
US	9,191,233	11/17/2015	MESSAGE TRANSMISSION IN NETWORKS
US	9,338,066	05/10/2016	TUNNEL KEEP-ALIVE TIMEOUT MECHANISM BASED ON QUALITY OF SERVICE (QoS) VALUE OF RECEIVED KEEP-ALIVE MESSAGES
US	9,640,998	05/02/2017	AC POWER OF ETHERNET
US	9,294,920	03/22/2016	CAPTIVE PORTAL SYSTEMS, METHODS, AND DEVICES
US	9,787,502	10/10/2017	CAPTIVE PORTAL SYSTEMS, METHODS, AND DEVICES

Jurisdiction	Patent No.	Issue Date	Title
US	9,515,924	12/06/2016	METHOD AND APPARATUS PROVIDING SINGLE-TIER ROUTING IN A SHORTEST PATH BRIDGING (SPB) NETWORK
US	9,467,366	10/11/2016	METHOD AND APPARATUS PROVIDING SINGLE-TIER ROUTING IN A SHORTEST PATH BRIDGING (SPB) NETWORK
US	9,832,124	11/28/2017	METHOD AND APPARATUS PROVIDING SINGLE-TIER ROUTING IN A SHORTEST PATH BRIDGING (SPB) NETWORK
US	9,264,974	02/16/2016	MOBILITY INTEGRATION WITH FABRIC ENABLED NETWORK
US	9,357,484	05/31/2016	ELASTIC WIRELESS CONTROL PLANE
US	9,614,752	04/04/2017	MULTI-THREADED MULTI-PATH PROCESSING
US	9,584,333	02/28/2017	OPTIMIZATION OF RULES USED FOR PREVENTION OF DUPLICATION AND LOOPING OF MULTICAST TRAFFIC WITHIN A MULTI-HOMED CLUSTER OF BACKBONE EDGE BRIDGES IN A SHORTEST PATH BRIDGING MULTICAST NETWORK
US	9,021,569	04/28/2015	WIRELESS GUEST ACCESS
US	9,461,842	10/04/2016	LIMITING NETWORK SERVICE CONFIGURATION BASED ON NETWORK SERVICE TYPE AND MODE ADVERTISEMENTS
US	9,882,788	01/30/2018	PROVIDING NETWORK SERVICES BASED ON SERVICE MODE AND SERVICE TYPE
US	9,424,276	08/23/2016	EFFICIENT STATE CHANGE SUPPORT FOR HIERARCHICAL DATA MODELS IN A VIRTUALIZED SYSTEM
US	9,875,275	01/23/2018	EFFICIENT STATE CHANGE SUPPORT FOR HIERARCHICAL DATA MODELS IN A VIRTUALIZED SYSTEM
US	9,531,591	12/27/2016	CONFIGURATION OF NETWORKS USING SWITCH DEVICE ACCESS OF REMOTE SERVER
US	9,549,385	01/17/2017	CONFIGURATION OF NETWORKS USING CLIENT DEVICE ACCESS OF REMOTE SERVER
US	9,813,291	11/07/2017	SHORTEST PATH BRIDGING (SPB) CONFIGURATION OF NETWORKS USING CLIENT DEVICE ACCESS OF REMOTE
US	9,806,998	10/31/2017	METHOD OF REDUCING TRAFFIC LOSS WHEN BRINGING UP A SWITCH WITHIN A MULTI CHASSIS SWITCH CLUSTER WITHOUT USING DEDICATED INTRA CLUSTER LINKS
US	9,705,826	07/11/2017	L2 REDIRECTION IN MULTI-CHASSIS LAG ENVIRONMENTS
US	9,762,403	09/12/2017	SHORTEST PATH BRIDGING (SPB) - PROTOCOL-INDEPENDENT MULTICAST (PIM) INTERACTIONS ON A BACKBONE EDGE BRIDGE (BEB) ACTING AS A MULTICAST BOUNDARY ROUTER INTERFACING WITH A PIM NETWORK

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Jurisdiction	Patent No.	Issue Date	Title
US	9,755,845	09/05/2017	PROTOCOL-INDEPENDENT MULTICAST (PIM) SNOOPING FOR A SHORTEST PATH BRIDGING MULTICAST (SPBM) NETWORK
US	9,641,628	05/02/2017	DETERMINATION OF ENDPOINT DEVICE LOCATION FOR EFFICIENT ANALYSIS OF NETWORK PERFORMANCE
US	9,608,841	03/28/2017	METHOD FOR REAL-TIME SYNCHRONIZATION OF ARP RECORD IN RSMULT CLUSTER
US	9,942,330	4/10/2018	SESSION MANAGER ANTI-LOOPING
US	D510343	10/04/2005	NETWORK ACCESS PORT
US	D601551	10/06/2009	ACCESS POINT
US	D512052	11/29/2005	NETWORK ACCESS PORT
US	D512697	12/13/2005	HOUSING FOR ELECTRONIC DEVICE
US	5,956,335	Sep 21, 1999	MANY TO FEW GROUP ADDRESS TRANSLATION THROUGH A NETWORK BRIDGE
US	5,954,835	Sep 21, 1999	CHECK SEQUENCE PRESERVATION
US	6,425,106	Jul 23, 2002	EXTENDED ECC SYSTEM
US	5,844,902	Dec 1, 1998	ASSIGNING MULTIPLE PARALLEL BRIDGE NUMBERS TO BRIDGES
US	6,567,410	May 20, 2003	ASSIGNING MULTIPLE PARALLEL BRIDGE NUMBERS TO BRIDGES HAVING THREE OR MORE PORTS
US	6,081,511	Jun 27, 2000	LOAD SHARING FOR REDUNDANT NETWORKS
US	6,067,557	May 23, 2000	METHOD AND SYSTEM FOR ALLOCATING CPU BANDWIDTH BY PRIORITIZING COMPETING PROCESSES
US	5,822,612	Oct 13, 1998	APPARATUS AND METHOD FOR MANAGING SCHEDULE TABLE POINTERS
US	5,862,206	Jan 19, 1999	METHOD AND APPARATUS FOR PERFORMING RAW CELL STATUS REPORT FREQUENCY MITIGATION ON TRANSMIT IN A NETWORK NODE
US	5,867,480	Feb 2, 1999	METHOD AND APPARATUS FOR CONTROLLING CONGESTION IN A NETWORK NODE
US	5,922,046	Jul 13, 1999	METHOD AND APPARATUS FOR AVOIDING CONTROL READS IN A NETWORK NODE
US	6,067,563	May 23, 2000	METHOD AND APPARATUS FOR AVOIDING CONTROL READS IN A NETWORK NODE
US	5,941,952	Aug 24, 1999	APPARATUS AND METHOD FOR TRANSFERRING DATA FROM A TRANSMIT BUFFER MEMORY AT A PARTICULAR RATE
US	5,966,546	Oct 12, 1999	METHOD AND APPARATUS FOR PERFORMING TX RAW CELL STATUS REPORT FREQUENCY AND INTERRUPT FREQUENCY MITIGATION IN A

Jurisdiction	Patent No.	Issue Date	Title
US	6,466,997	Oct 15, 2002	NETWORK METHOD AND APPARATUS FOR PERFORMING TX/RX CELL STATUS REPORT FREQUENCY AND INTERRUPT FREQUENCY MITIGATION IN A NETWORK
US	5,970,229	Oct 19, 1999	APPARATUS AND METHOD FOR PERFORMING LOOK-AHEAD SCHEDULING OF DMA TRANSFERS OF DATA FROM A HOST MEMORY TO A TRANSMIT BU
US	5,995,995	Nov 30, 1999	APPARATUS AND METHOD FOR SCHEDULING VIRTUAL CIRCUIT DATA FOR DMA FROM A HOST MEMORY TO A TRANSMIT BUFFER MEMORY
US	5,999,980	Dec 7, 1999	APPARATUS AND METHOD FOR SETTING A CONGESTION INDICATE BIT IN AN BACKWARDS RM CELL ON AN ATM NETWORK
US	6,510,151	Jan 21, 2003	PACKET FILTERING IN CONNECTION-BASED SWITCHING NETWORKS
US	6,101,170	Aug 8, 2000	SECURE FAST PACKET SWITCH HAVING IMPROVED MEMORY UTILIZATION
US	6,650,639	Nov 18, 2003	SECURE FAST PACKET SWITCH HAVING IMPROVED MEMORY UTILIZATION
US	5,963,556	Oct 5, 1999	DEVICE FOR PARTITIONING PORTS OF A BRIDGE INTO GROUPS OF DIFFERENT VIRTUAL LOCAL AREA NETWORKS
US	5,650,997	Jul 22, 1997	METHOD AND APPARATUS FOR USE IN A NETWORK OF THE ETHERNET TYPE, TO IMPROVE FAIRNESS BY CONTROLLING COLLISION BACKOFF TIMES IN THE EVENT OF CHANNEL CAPTURE
US	5,954,301	Sep 21, 1999	CABLE MANAGEMENT UNIT
US	5,898,694	Apr 27, 1999	METHOD OF ROUND ROBIN BUS ARBITRATION
US	6,430,194	Aug 6, 2002	METHOD AND APPARATUS FOR ARBITRATING BUS ACCESS AMONGST COMPETING DEVICES
US	5,920,900	Jul 6, 1999	HASH-BASED TRANSLATION METHOD AND APPARATUS WITH MULTIPLE LEVEL COLLISION RESOLUTION
US	6,128,665	Oct 3, 2000	PORT BASED DEFAULT VIRTUAL LOCAL AREA NETWORK
US	6,002,675	Dec 14, 1999	METHOD AND APPARATUS FOR CONTROLLING TRANSMISSION OF DATA OVER A NETWORK
US	6,097,705	Aug 1, 2000	BUFFERED REPEATER WITH INDEPENDENT ETHERNET COLLISION DOMAINS
US	6,442,170	Aug 27, 2002	ADAPTIVE ADDRESSING FILTERING
US	5,940,376	Aug 17, 1999	METHOD AND APPARATUS TO ESTABLISH A TAP-POINT IN A SWITCHED NETWORK USING SELF-CONFIGURING SWITCHES HAVING DISTRIBUTED CONFIGURATION CAPABILITIES

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Jurisdiction	Patent No.	Issue Date	Title
US	6,014,409	Jan 11, 2000	PASSIVE ANALOG FILTER FOR NETWORK INTERFACE
US	5,910,690	Jun 8, 1999	HOTSWAPPABLE CHASSIS AND ELECTRONIC CIRCUIT CARDS
US	6,122,281	Sep 19, 2000	METHOD AND APPARATUS FOR TRANSMITTING LAN DATA OVER A SYNCHRONOUS WIDE AREA NETWORK
US	5,901,045	May 4, 1999	METHOD AND APPARATUS FOR ISOLATING COMPONENT LEADS
US	6,046,982	Apr 4, 2000	METHOD AND APPARATUS FOR REDUCING DATA LOSS IN DATA TRANSFER DEVICES
US	5,956,322	Sep 21, 1999	IMPROVED PHANTOM FLOW CONTROL METHOD AND APPARATUS
US	5,978,357	Nov 2, 1999	PHANTOM FLOW CONTROL METHOD AND APPARATUS WITH IMPROVED STABILITY
US	5,805,808	Sep 8, 1998	REAL TIME PARSER FOR DATA PACKETS IN A COMMUNICATIONS NETWORK
US	6,317,427	Nov 13, 2001	METHOD AND APPARATUS FOR ADAPTIVE PORT BUFFERING
US	5,968,128	Oct 19, 1999	TRAFFIC CONTROL SYSTEM HAVING DISTRIBUTED RATE CALCULATION AND LINK BY LINK FLOW CONTROL
US	6,331,983	Dec 18, 2001	MULTICAST SWITCHING
US	6,041,042	Mar 21, 2000	REMOTE PORT MIRRORING SYSTEM AND METHOD THEREOF
US	5,978,385	Nov 2, 1999	REPEATER PROVIDING FOR DETERMINISTIC ACCESS IN A LAN UTILIZING THE CSMA/CD MEDIUM ACCESS METHOD
US	5,999,538	Dec 7, 1999	METHOD AND APPARATUS FOR ARBITRATING DATA TRANSMISSION IN A CSMA/CD LAN
US	5,936,962	Aug 10, 1999	METHOD AND APPARATUS FOR PREDICTING AND CONTROLLING DATA TRANSMISSION IN A CSMA/CD LAN
US	6,044,121	Mar 28, 2000	METHOD AND APPARATUS FOR RECOVERY OF TIME SKEWED DATA ON A PARALLEL BUS
US	6,456,624	Sep 24, 2002	NETWORK ADDRESS RESOLVE BLOCKER
US	6,085,215	Jul 4, 2000	SCHEDULING MECHANISM USING PREDETERMINED LIMITED EXECUTION TIME PROCESSING THREADS IN A COMMUNICATION NETWORK
US	6,167,049	Dec 26, 2000	NON-ZERO MINIMUM CELL RATE FOR AVAILABLE BIT RATE ATM SERVICE
US	6,272,109	Aug 7, 2001	HIERARCHICAL SCHEDULES FOR DIFFERENT ATM TRAFFIC
US	5,987,522	Nov 16, 1999	PRIVILEGED VIRTUAL LOCAL AREA NETWORKS
US	6,112,251	Aug 29, 2000	VIRTUAL LOCAL NETWORK FOR SENDING MULTICAST TRANSMISSIONS TO TRUNK STATIONS

<u>Jurisdiction</u>	<u>Patent No.</u>	<u>Issue Date</u>	<u>Title</u>
US	6,418,480	Jul 9, 2002	COMMUNICATION PACKET INCLUDING A MULTICAST ADDRESS AND A DESTINATION ADDRESS DIFFERENT THAN AN EQUIVALENT TO THE MULTICAST ADDRESS
US	6,301,224	Oct 9, 2001	NETWORK SWITCH WITH PANIC MODE
US	6,469,987	Oct 22, 2002	VIRTUAL LOCAL AREA NETWORKS WITH TRUNK STATIONS
US	6,295,299	Sep 25, 2001	DATA PATH ARCHITECTURE FOR A LAN SWITCH
US	7,130,308	Oct 31, 2006	DATA PATH ARCHITECTURE FOR A LAN SWITCH
US	6,563,837	May 13, 2003	METHOD AND APPARATUS FOR PROVIDING WORK-CONSERVING PROPERTIES IN A NON-BLOCKING SWITCH WITH LIMITED SPEEDUP INDEPENDENT OF SWITCH SIZE
US	6,865,154	Mar 8, 2005	METHOD AND APPARATUS FOR PROVIDING BANDWIDTH AND DELAY GUARANTEES IN COMBINED INPUT-OUTPUT BUFFERED CROSSBAR SWITCHES THAT IMPLEMENT WORK-CONSERVING ARBITRATION ALGORITHMS
US	6,072,772	Jun 6, 2000	METHOD FOR PROVIDING BANDWIDTH AND DELAY GUARANTEES IN A CROSSBAR SWITCH WITH SPEEDUP
US	6,034,957	Mar 7, 2000	SLICED COMPARISON ENGINE ARCHITECTURE AND METHOD FOR A LAN SWITCH
US	6,081,508	Jun 27, 2000	REMOTE COMPUTER COMMUNICATION
US	6,538,996	Mar 25, 2003	REMOTE COMPUTER COMMUNICATION
US	5,974,467	Oct 26, 1999	PROTOCOL FOR COMMUNICATING DATA BETWEEN PACKET FORWARDING DEVICES VIA AN INTERMEDIATE NETWORK INTERCONNECT DEVICE
US	6,023,471	Feb 8, 2000	NETWORK INTERCONNECT DEVICE AND PROTOCOL FOR COMMUNICATING DATA AMONG PACKET FORWARDING DEVICES
US	5,961,345	Oct 5, 1999	FACEPLATE SYSTEM
US	6,421,731	Jul 16, 2002	DYNAMIC NEXT HOP ROUTING PROTOCOL
US	6,385,442	May 7, 2002	MULTIPHASE RECEIVER AND OSCILLATOR

Pending U.S. Patent Applications of the Grantor

<u>Jurisdiction</u>	<u>Application No.</u>	<u>Filing Date</u>	<u>Title</u>
US	14/451,851	08/05/2014	SYSTEM, METHOD AND APPARATUS FOR TRAFFIC MIRROR SETUP, SERVICE AND SECURITY IN COMMUNICATION NETWORKS

<u>Jurisdiction</u>	<u>Application No.</u>	<u>Filing Date</u>	<u>Title</u>
US	15/190,922	06/23/2016	REDUNDANT ETHERNET AUTOMATIC PROTECTION SWITCHING ACCESS TO VIRTUAL PRIVATE LAN SERVICES
US	15/410,475	01/19/2017	SYSTEM AND RELATED METHOD FOR MANAGEMENT OF DEVICES OF A NETWORK SYSTEM VIA SOCIAL MEDIA INTERFACES
US	15/180,931	06/13/2016	METHODS, SYSTEMS, AND APPARATUSES FOR DYNAMICALLY TAGGING VLANS
US	14/861,838	09/22/2015	APPARATUS AND METHOD FOR MULTICAST DATA PACKET FORWARDING
US	14/842,508	09/01/2015	SYSTEM AND RELATED METHOD FOR NETWORK MONITORING AND CONTROL BASED ON APPLICATIONS
US	14/922,481	10/26/2015	DEVICE AND RELATED METHOD FOR DYNAMIC TRAFFIC MIRRORING
US	14/565,338	12/09/2014	LOAD SHARING OF MPLS PSEUDO-WIRES
US	14/565,343	12/09/2014	METHOD AND SYSTEM FOR DYNAMIC USAGE OF MULTIPLE TABLES FOR INTERNET PROTOCOL HOSTS
US	14/710,533	05/12/2015	METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR VIRTUAL FABRIC ROUTING
US	14/710,534	05/12/2015	METHODS, SYSTEMS, AND NON-TRANSITORY COMPUTER READABLE MEDIA FOR GENERATING A TREE STRUCTURE WITH NODAL COMPARISON FIELDS AND CUT VALUES FOR RAPID TREE TRAVERSAL AND REDUCED NUMBERS OF FULL COMPARISONS AT LEAF NODES
US	14/805,362	07/21/2015	NETWORK MANAGEMENT INTERFACE FOR A NETWORK ELEMENT WITH NETWORK-WIDE INFORMATION
US	14/975,094	12/18/2015	METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR ADVANCED DISTRIBUTION IN A LINK AGGREGATION GROUP
US	13/184,142	07/15/2011	SELF-TESTING OF SERVICES IN AN ACCESS POINT OF A COMMUNICATION NETWORK
US	14/844,151	09/03/2015	METHODS AND SYSTEMS FOR MITIGATING THE IMPACT OF BEAMFORMING ON THE ACCURACY OF WI-FI BASED LOCATION TRACKING OF CLIENT DEVICES
US	14/844,064	09/03/2015	AUTOMATICALLY GROUPING, AUTHENTICATING AND PROVISIONING ACCESS POINTS USING CLOUD-BASED MANAGEMENT OF WLAN INFRASTRUCTURE
US	14/806,738	07/23/2015	METHOD OF AND ARRANGEMENT FOR ENHANCING ROAMING PERFORMANCE OF A MOBILE CLIENT THAT IS ROAMING BETWEEN ACCESS POINTS CONNECTED TO A DISTRIBUTION SYSTEM
US	15/227,258	08/03/2016	NOTIFICATION FRAMEWORK FOR ACCESS POINT CONTROLLERS
US	15/219,461	07/26/2016	ACCESS POINT CLOUD CONTROLLER AUTO-DISCOVERY

<u>Jurisdiction</u>	<u>Application No.</u>	<u>Filing Date</u>	<u>Title</u>
US	14/446,381	07/30/2014	PRIVATE WIRELESS COMMUNICATION NETWORK FOR GUEST USERS
US	15/839,623	12/12/2017	SYSTEMS AND METHODS FOR POWERING A POWER-OVER-ETHERNET POWERED DEVICE USING MULTIPLE POWER-OVER-ETHERNET SOURCING DEVICES
US	62/592,106	11/29/2017	METHOD FOR FLOW AND PATH ANALYTICS USING SAMPLED PACKET INSPECTION
US	15/894,687	02/12/2018	SYSTEMS AND METHODS FOR HARDWARE-IMPLEMENTED ANOMALY DETECTION IN VLAN NETWORK USING LOOPBACK PORT
US	62/593,834	12/01/2017	FORWARDING TABLE MANAGEMENT FOR THE INTERNET
US	62/598,632	12/14/2017	METHOD FOR ZERO-FOOTPRINT LARGE-SCALE USER BEHAVIOR MODELING
US	15/870,069	01/12/2018	USE OF DHCP TO AUTOMATICALLY ASSIGN NICK-NAMES IN A SPBM NETWORK
US	62/615,844	01/10/2018	R45 CABLE MATRIX
US	62/616,903	01/12/2018	SYSTEMS AND METHODS FOR BOOTSTRAPPING MULTICAST STATE WITHOUT USING A NICK-NAME
US	15/425,777	02/06/2017	RULE-BASED DATA NETWORK TRAFFIC INTERCEPTION AND DISTRIBUTION SCHEME
US	14/848,586	09/09/2015	TECHNIQUES FOR EXCHANGING CONTROL AND CONFIGURATION INFORMATION IN A NETWORK VISIBILITY SYSTEM
US	14/848,645	09/09/2015	TECHNIQUES FOR EFFICIENTLY PROGRAMMING FORWARDING RULES IN A NETWORK SYSTEM
US	15/336,333	10/27/2016	OFFLINE, INTELLIGENT LOAD BALANCING OF SCTP TRAFFIC
US	15/205,889	07/08/2016	SOFTWARE-BASED PACKET BROKER
US	15/206,008	07/08/2016	TRAFFIC DEDUPLICATION IN A VISIBILITY NETWORK
US	15/466,732	03/22/2017	ANOMALY DETECTION AND PREDICTION IN A PACKET BROKER
US	15/467,766	03/23/2017	SMART FILTER GENERATOR
US	14/927,478	10/30/2015	CONFIGURATION OF A NETWORK VISIBILITY SYSTEM
US	14/927,479	10/30/2015	ARCHITECTURE FOR A NETWORK VISIBILITY SYSTEM
US	14/927,482	10/30/2015	CONFIGURATION OF RULES IN A NETWORK VISIBILITY SYSTEM
US	14/927,484	10/30/2015	CONFIGURATION OF LOAD-SHARING COMPONENTS OF A NETWORK VISIBILITY ROUTER IN A NETWORK VISIBILITY SYSTEM
US	15/801,044	11/01/2017	ACCESS NETWORK DUAL PATH CONNECTIVITY
US	13/285,392	10/31/2011	ROUTE LOOKUP RESOLUTION

<u>Jurisdiction</u>	<u>Application No.</u>	<u>Filing Date</u>	<u>Title</u>
US	13/930,308	06/28/2013	VIRTUALIZED HOST ID KEY SHARING
US	15/949,620	04/10/2018	VIRTUALIZED HOST ID KEY SHARING
US	15/283,903	10/03/2016	DYNAMIC FIREWALLS AND FORENSIC GATEWAYS
US	15/284,131	10/03/2016	ENHANCED ACCESS SECURITY GATEWAY
US	13/628,358	09/27/2012	SELF ADAPTING DRIVER FOR CONTROLLING DATAPATH HARDWARE ELEMENTS
US	15/605,692	05/25/2017	AUTOMATIC CONFIGURATION OF ENDPOINT COMMUNICATION DEVICES TO SET UP A VOIP NETWORK
US	13/627,260	09/26/2012	MULTI-CHASSIS CLUSTER SYNCHRONIZATION USING SHORTEST PATH BRIDGING (SPB) SERVICE INSTANCE IDENTIFIER (I-SID) TREES
US	15/787,469	10/18/2017	mDNS SUPPORT IN UNIFIED ACCESS NETWORKS
US	13/906,662	05/31/2013	DYNAMIC MULTICAST STATE AGGREGATION IN TRANSPORT NETWORKS
US	15/169,663	05/31/2016	MULTI-DEVICE SINGLE NETWORK SIGN-ON
US	14/041,342	09/30/2013	ENABLING CONFIGURATION IN NETWORKS
US	15/169,661	05/31/2016	ELASTIC WIRELESS CONTROL PLANE
US	14/097,232	12/04/2013	SECURING mDNS IN ENTERPRISE NETWORKS
US	14/656,604	03/12/2015	CONFIGURATION OF NETWORKS WITH SERVER CLUSTER DEVICE
US	14/656,622	03/12/2015	AUTHENTICATION OF CLIENT DEVICES IN NETWORKS
US	15/384,651	12/20/2016	CONFIGURATION OF NETWORKS USING SWITCH DEVICE ACCESS OF REMOTE SERVER
US	14/740,454	06/16/2015	PROVIDING SECURE NETWORKS
US	14/534,099	11/05/2014	NETWORK DISCOVERY OPTIMIZATION USING SUPPLEMENTAL INFORMATION PUBLISHED BY DEVICES
US	14/690,315	04/17/2015	SYNCHRONIZING PEER NODES OF A MULTI-CHASSIS SWITCHING CLUSTER
US	14/872,073	09/30/2015	DYNAMIC TEMPLATES FOR VIRTUALIZED SYSTEMS
US	15/010,009	01/29/2016	AUTOMATED MIRRORING AND REMOTE SWITCH PORT ANALYZER (RSPAN)/ENCAPSULATED REMOTE SWITCH PORT ANALYZER (ERSPAN) FUNCTIONS USING FABRIC ATTACH (FA) SIGNALING
US	15/010,249	01/29/2016	AUTOMATED MIRRORING AND REMOTE SWITCH PORT ANALYZER (RSPAN)/ENCAPSULATED REMOTE SWITCH PORT ANALYZER (ERSPAN) FUNCTIONS USING FABRIC ATTACH (FA) SIGNALING
US	15/162,488	05/23/2016	SECURELY ONBOARDING VIRTUAL MACHINES USING A


<u>Jurisdiction</u>	<u>Application No.</u>	<u>Filing Date</u>	<u>Title</u>
			CENTRALIZED POLICY SERVER
US	15/040,499	02/10/2016	CAPTIVE PORTAL HAVING DYNAMIC CONTEXT-BASED WHITELISTING
US	15/646,151	07/11/2017	AUTO ATTACH SIGNALING USED AS A WLAN SELECTION CRITERION
US	15/645,253	07/10/2017	INGRESS GATEWAY SELECTION FOR AN SPB NETWORK TO SUPPORT INTER DOMAIN MULTICAST ROUTING
US	15/398,530	01/04/2017	OVERLAY IP MULTICAST OVER UNICAST IP NETWORKS
US	15/840,353	12/13/2017	SYSTEMS AND METHODS FOR PROVIDING I-SID TRANSLATION IN SPB NETWORKS

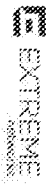




SCHEDULE B  
to the Patent and Trademark Security Agreement  
**EXTREME NETWORKS, INC.**

U.S. Trademarks of the Grantor

Country	Trademark	Class and Description of Goods	Application Number Application Date	Registration Number Registration Date	Owner	Status	Next Renewal Date
United States	AIRDEFENSE	09-Computer software for assessing and protecting wireless and wired computer networks, servers, applications and desktops against attack, intrusion and misuse; computer software for protecting data/information stored on and/or transmitted across wireless and wired networks, servers, applications and desktops against attack, intrusion and misuse in Class 9.	85/081190 07/09/2010	4032543 09/27/2011	Extreme Networks, Inc.	Registered	09/27/2021
United States	BAYSTACK	09-Computer hardware namely, switches in Class 9.	75/873511 12/17/1999	2456966 06/05/2001	Extreme Networks, Inc.	Registered	06/05/2021
United States	BIGIRON	09-Computer software used to optimize network clouds and virtualized data centers; computer hardware for use in computer networks, namely, routers, backbones, switches, access points and controllers in Class 9.	75/409340 12/22/1997	2312393 01/25/2000	Extreme Networks, Inc.	Registered	01/25/2020



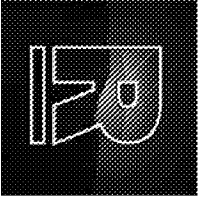
Country	Trademark	Class and Description of Goods	Application Number Application Date	Registration Number Registration Date	Owner	Status	Next Renewal Date
United States	BLACKDIAMOND	09-Computer hardware and embedded computer software for networking and instruction manuals sold therewith as a unit in Class 9.	75/525761 07/21/1998	2281382 09/28/1999	Extreme Networks, Inc.	Registered	09/28/2019
United States	CONTIVITY	09-Computer hardware and computer software used to access enterprise networks and telecommunications networks; and computer hardware and computer software used to integrate extranet technologies in a single platform, namely, routine firewalls, bandwidth management, encryption, authentication, and data integrity maintenance for secured tunneling across worldwide global computer network; and user manuals sold together as a unit in Class 9.	75/499518 06/10/1998	2301696 12/21/1999	Extreme Networks, Inc.	Registered	12/21/2019
United States	E Logo 	09-Computer hardware and embedded computer software for high-speed networking; network service management software for the purpose of monitoring, configuring, securing and troubleshooting networks connecting computers, devices and machines; computer hardware, namely, wireless network extenders; transmitters and receivers, namely, wireless ports for computers in Class 9.	86/161236 01/09/2014	4841944 10/27/2015	Extreme Networks, Inc.	Registered Affidavit of Use due 10/27/2021	10/27/2025

Country	Trademark	Class and Description of Goods	Application Number Application Date	Registration Number Registration Date	Owner	Status	Next Renewal Date
United States	E Logo EXTREME NETWORKS Stylized 	09-Computer hardware and embedded computer software for high-speed networking; network service management software for the purpose of monitoring, configuring, securing and troubleshooting networks connecting computers, devices and machines; computer hardware, namely, wireless network extenders; transmitters and receivers, namely, wireless ports for computers in Class 9.	86/161234 01/09/2014	4874975 12/22/2015	Extreme Networks, Inc.	Registered Affidavit of Use due 12/22/2021	12/22/2025
United States	EXTREME NETWORKS 	09-Computer hardware and computer software for high speed networking in Class 9.	75/213635 12/16/1996	2243238 05/04/1999	Extreme Networks, Inc.	Registered	05/04/2019
United States	EXTREME NETWORKS (Stylized) & Design 	09-Computer software for use in operating, monitoring and securing for high speed networks; computer hardware for high speed networking in Class 9.	77/909914 01/12/2010	3840628 08/31/2010	Extreme Networks, Inc.	Registered	08/31/2020
United States	EXTREMENETWORKS	42-Deployment and configuration of networks for others; testing reliability, performance and interoperability of computer hardware and software for others; computer consulting in Class 42.	76/259505 05/17/2001	2549958 03/19/2002	Extreme Networks, Inc.	Registered	03/19/2022

Country	Trademark	Class and Description of Goods	Application Number Application Date	Registration Number Registration Date	Owner	Status	Next Renewal Date
United States	EXTREMEXOS	09-Computer software for operating, monitoring and securing computer and communications networks; computer and communications network operating system software in Class 9.	78/718496 09/22/2005	3379396 02/05/2008	Extreme Networks, Inc.	Registered Response to Renewal Office Action due 08/22/2018	02/05/2028

Country	Trademark	Class and Description of Goods	Application Number Application Date	Registration Number Registration Date	Owner	Status	Next Renewal Date
United States	IDENGINES	<p>09-Computer hardware; computer software and computer software platforms for use in the field of enterprise identity management, access control and security for applications, networks and infrastructure in Class 9.</p> <p>37-Installation and repair of computer hardware for enterprise identity management, access control and security for applications, networks and infrastructure in Class 37.</p> <p>42-Design and development of enterprise identity management, access control and security hardware and software for others; consulting services in the field of enterprise identity management, access control and security; installation and repair of computer software for enterprise identity management, access control and security applications, networks and infrastructure in Class 42.</p>	78/585760 03/11/2005	3349489 12/04/2007	Extreme Networks, Inc.	Registered	06/04/2018

Country	Trademark	Class and Description of Goods	Application Number Application Date	Registration Number Registration Date	Owner	Status	Next Renewal Date
United States	IGNITION	09-Computer hardware; computer software and computer software platforms for use in the field of enterprise identity management, access control and security for applications, networks and infrastructure in Class 9.	78/651210 06/15/2005	3349580 12/04/2007	Extreme Networks, Inc.	Registered	06/04/2018
United States	MLX	009-Computer hardware and software for data center network communications, namely, interface and communications software for connecting computer servers; file area network, metropolitan area network, internet protocol network, and storage area network systems comprised of network storage drives, servers, hubs and routers; computer software, namely, software used to monitor, allocate, and manage server, storage area networking, metropolitan area networking, internet protocol networking and local area networking hardware and software resources, and to improve application and network performance	77/965406 03/22/2010	3975571 06/07/2011	Extreme Networks, Inc.	Registered	06/07/2021
United States	NETIRON	09-Computer hardware for use in networking, namely, routers in Class 9.	75226612 01/15/1997	2174495 07/21/1998	Extreme Networks, Inc.	Registered	07/21/2018

Country	Trademark	Class and Description of Goods	Application Number Application Date	Registration Number Registration Date	Owner	Status	Next Renewal Date
United States	Purple Network Switch Design 	09-Computer hardware, namely, network switches with embedded software for network management and control and related network equipment, namely, power supplies and link extenders and user manuals sold as a unit therewith in Class 9.	75/631947 09/15/1998	2388859 09/19/2000	Extreme Networks, Inc.	Registered	09/19/2020
United States	Purple Network Switch Design 	09-Computer hardware, namely, network switches, chassis, controllers, routers, and servers in Class 9.	77/909952 01/12/2010	3910064 01/25/2011	Extreme Networks, Inc.	Registered	01/25/2021
United States	R Underscore & Design 	09-Network service management software for the purpose of monitoring, configuring, and troubleshooting networks connecting computers, devices and machines in Class 9.	85/280950 03/30/2011	4073424 12/20/2011	Extreme Networks, Inc.	Registered Affidavit of Use due 06/20/2018	12/20/2021

Country	Trademark	Class and Description of Goods	Application Number Application Date	Registration Number Registration Date	Owner	Status	Next Renewal Date
United States	REACHNXT	09-Computer network switch extenders in Class 9.	77/639509 12/23/2008	3796814 06/01/2010	Extreme Networks, Inc.	Registered	06/01/2020
United States	STACKSTORM	09-Computer hardware for use in networking, namely, routers in Class 9.	86/197433 02/19/2014	49660698 05/17/2016	Extreme Networks, Inc.	Registered Affidavit of Use due 05/17/2022	05/17/2026
United States	SUMMIT	09-Computer software and computer hardware that provide switching and routing for high speed networking and linking computers to networks and user manuals sold therewith as a unit in Class 9.	75/509222 06/26/1998	2365696 07/11/2000	Extreme Networks, Inc.	Registered	07/11/2020
United States	VCS	009-Computer software, namely, software for optimizing the performance of and managing data center networks and virtualized network environments; none of the aforementioned for use in the field of electronic design automation in Class 9.	85/006751 04/05/2010	4057074 11/15/2011	Extreme Networks, Inc.	Registered Affidavit of Use due 05/15/2018	11/15/2021
United States	VDX	09-Computer networking hardware in Class 9.	85/224834 01/24/2011	4068603 12/06/2011	Extreme Networks, Inc.	Registered	12/06/2021



Country	Trademark	Class and Description of Goods	Application Number Application Date	Registration Number Registration Date	Owner	Status	Next Renewal Date
United States	VDX	09-Computer software used to optimize network clouds and virtualized data centers; computer hardware for use in computer networks, namely, routers, backbones, switches, access points and controllers in Class 9.	85/141454 09/29/2010	4046730 10/25/2011	Extreme Networks, Inc.	Registered	10/25/2021
United States	WI-FI COACH	42-Computer consulting in the field of computer hardware and embedded computer software for high-speed networking, network service management software for the purpose of monitoring configuring, securing, and troubleshooting networks connecting computers, devices and machines, computer hardware, namely, wireless network extenders, transmitters and receivers, namely, wireless ports for computers in Class 42.	86/148592 12/19/2013	4837384 10/20/2015	Extreme Networks, Inc.	Registered Affidavit of Use due 10/20/2021	10/20/2025

Enterasys Networks, Inc.

Country	Trademark	Class and Description of Goods	Application Number Application Date	Registration Number Registration Date	Owner	Status	Next Renewal Date
United States	AIRDEFENSE SERVICES PLATFORM	09-Computer software for assessing and protecting wireless and wired computer networks, servers, applications and desktops against attack, intrusion and misuse; computer software for protecting data/information stored on and/or transmitted across wireless and wired networks, servers, applications and desktops against attack, intrusion and misuse in Class 09.	87/825682 03/08/2018		Enterasys Networks, Inc.	Pending Convention Ends 09/08/2018	
United States	K-SERIES	09-Computer hardware and software for use in interconnecting, managing and operating local, wide area, global and optical networks in Class 9.	85/060997 06/11/2010	4199003 08/28/2012	Enterasys Networks, Inc.	Registered Affidavit of Use due 08/28/2018	08/28/2022

Country	Trademark	Class and Description of Goods	Application Number Application Date	Registration Number Registration Date	Owner	Status	Next Renewal Date
United States	K-SERIES	37-Providing installation, maintenance, and repair services for computer networks and networking hardware; updating of computer hardware in Class 37.  42-Technical support services, namely, troubleshooting in the nature of diagnosing computer hardware and software problems in connection with interconnecting, managing, and operating local, wide area, global and optical networks; computer network design; computer consultation services; updating of computer software for others; computer systems analysis; and engineering services in the field of computer networks in Class 42.	85/065120 06/17/2010	4029666 09/20/2011	Enterasys Networks, Inc.	Registered	09/20/2021
United States	NETSIGHT	09-Computer software for network management in Class 09.	75/916741 02/11/2000	2598722 07/23/2002	Enterasys Networks, Inc.	Registered	07/23/2022

Country	Trademark	Class and Description of Goods	Application Number Application Date	Registration Number Registration Date	Owner	Status	Next Renewal Date
United States	ONEFABRIC	37-Providing installation, maintenance, and repair services for computer networks and networking hardware; updating of computer hardware  42-Customer support services in connection with computer hardware and software for use in interconnecting, managing, and operating local, wide area, global and optical networks, namely, computer network design, computer consultation services, updating of computer software, computer systems analysis, and engineering services	85/445152 10/12/2011	4354738 06/18/2013	Enterasys Networks, Inc.	Registered  Affidavit of Use due 06/18/2019	06/18/2023
United States	ROAMABOUT	09-Computer network equipment, namely wireless to wired bridges and network adapters; and, computer software, namely chips, disks, compact disks, for the purpose of network communications in Class 09.	74/466963 12/06/1993	1927017 10/17/1995	Enterasys Networks, Inc.	Registered	10/17/2025

TRADEMARK

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