IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

ORCKIT CORPORATION, Plaintiff, v. CISCO SYSTEMS, INC., Defendant.	Civil Action No. 2:22-CV-00276-JRG **JURY TRIAL DEMANDED**

DEFENDANT'S FIRST AMENDED INVALIDITY CONTENTIONS

Pursuant to Local Patent Rule 3-3 and the Court's First Amended Docket Control Order (D.I. 45), Cisco Systems, Inc. ("Cisco") hereby sets forth its First Amended Invalidity Contentions concerning U.S. Patent Nos. 6,680,904 ("the '904 Patent"), 7,545,740 ("the '740 Patent"), 8,830,821 ("the '821 Patent"), and 10,652,111 ("the '111 Patent") (collectively, the "Asserted Patents"). Plaintiff Orckit Corporation ("Orckit") has asserted claims 1–26 of the '904 Patent, claims 1–31 of the '740 Patent, claims 1–20 of the '821 Patent, and claims 1–9, 12–24, and 27–31 of the '111 Patent (collectively, the "Asserted Claims"). Cisco contends that each of the Asserted Claims is invalid under at least one or more of 35 U.S.C. §§ 101, 102, 103, and 112.

I. SCOPE OF THESE FIRST AMENDED INVALIDITY CONTENTIONS

These First Amended Invalidity Contentions: (i) identify each prior art reference Cisco is currently aware of that either anticipates or renders obvious one or more of the Asserted Claims; (ii) specify whether each such reference anticipates or renders obvious the applicable claims, and in the event a combination with one or more other such references renders obvious the applicable claims, identify each such combination and the motivation to combine such references; (iii) include charts, for illustrative prior art references, citing exemplary disclosures in those references that

anticipate or render obvious each of the elements of the applicable claims; and (iv) identify grounds for invalidating asserted claims based on indefiniteness, enablement, lack of patentable subject matter, improper inventorship, or written description or based on lack of disclosed structure under 35 U.S.C. § 112[1]. These contentions relate only to invalidity, and do not include any contention or position beyond the issue of invalidity (*e.g.*, non-infringement or claim construction).

Cisco's discovery and investigation in this lawsuit is ongoing, and these contentions are based only on the information Cisco has obtained to date. For example, Cisco has not had the opportunity to conduct third party discovery relating to various third-party prior art and expressly reserves the right to amend these contentions subject to third party discovery. These third parties may include, without limitation, the authors, inventors, or assignees of the prior art publications identified in these contentions. Cisco also reserves the right to amend the contentions due to Orckit's failure to produce prior art known to it, including prior art identified by its own investigations, other accused infringers or third parties as to the Asserted Patents or related patents. Cisco reserves its right to supplement and/or amend its First Amended Invalidity Contentions consistent with the Federal Rules of Civil Procedure, the Local Rules, and any orders from the Court.

These First Amended Invalidity Contentions are based upon Cisco's present understanding of the Asserted Claims, Orckit's November 3, 2022 Disclosure of Asserted Claims and Infringement Contentions Pursuant to P.R. 3-1, and Orckit's January 19, 2023 First Amended Disclosure of Asserted Claims and Infringement Contentions Pursuant to P.R. 3-1 (Orckit's

[1] The '904 Patent, '740 Patent, and '821 Patent were all filed and claim priority before September 16, 2011, and thus pre-AIA sections of 35 U.S.C. apply to them. The '111 Patent was filed after September 16, 2011, and Orckit claims a priority date after September 16, 2011, so AIA sections of 35 U.S.C. apply to the '111 patent. Unless stated otherwise, Cisco's First Amended Contentions refer to pre-AIA or AIA statutes consistent with that understanding.

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"Infringement Disclosures"). Cisco does not concede that any (apparent) claim constructions are correct. Even though Cisco contends that all of the Asserted Claims are indefinite, Cisco has disclosed which prior art references render those claims invalid based upon Orckit's contention that those claims are definite. Cisco's assertion of prior art is not a concession as to the meaning, definiteness, written description support for, or enablement of any of the Asserted Claims, or that the Asserted Patents properly claim patent eligible subject matter. If Orckit amends its Infringement Disclosures, Cisco reserves the right to amend its First Amended Invalidity Contentions, and Cisco notes that Orckit's Infringement Disclosures failed to provide sufficient notice of Orckit's infringement theories as required by the Local Rules. Indeed, Cisco served Orckit correspondence explaining how Orckit's Infringement Disclosures were deficient on November 16, 2022 and on December 2, 2022, and Cisco met and conferred with Orckit's counsel to explain these deficiencies in more detail.

Cisco takes no position on any matter of claim construction in its First Amended Invalidity Contentions. Any statement herein describing or tending to describe any claim element is provided solely for the purpose of understanding the relevant prior art. Cisco expressly reserves the right to propose any claim construction it considers appropriate and/or to contest any claim construction it considers inappropriate. Moreover, Cisco's First Amended Invalidity Contentions are sometimes made in the alternative based upon Orckit's allegations and should be viewed accordingly. Further, by including in this disclosure prior art that would be anticipatory or render a claim obvious based on a particular scope or construction of the claims, Cisco's First Amended Invalidity Contentions herein are not, and should in no way be seen as, adoptions or admissions as to the accuracy of such scope or construction. The Court has not yet construed the Asserted Claims, and

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Cisco reserves the right to amend these First Amended Invalidity Contentions in accordance with P.R. 3-3, including after the issuance of the Court's claim construction order.

Additionally, Cisco reserves the right to amend its First Amended Invalidity Contentions in light of additional discovery and developments in this case. For example, to date, Orckit has produced 368 documents and discovery is still in its infancy. Cisco expressly reserves the right to amend its First Amended Invalidity Contentions after the production of any additional documents, the production of additional source code, the production of additional financial data, and after depositions are conducted. Both parties have also served subpoenas on third-party companies and are currently engaged in third-party discovery with respect to Cisco's disclosed prior art systems. Cisco expressly reserves the right to amend its First Amended Invalidity Contentions with respect to information received in response to the parties' subpoenas.

II. ORCKIT'S ALLEGED PRIORITY DATES

Orckit contends that the '904 Patent has a priority date of December 27, 1999, that the '740 Patent has a priority date of April 7, 2006, that the '821 Patent has a priority date of June 22, 2011, and that the '111 Patent has a priority date of April 22, 2014. *See* Orckit's Infringement Disclosures at 3–4. Cisco contends that the Asserted Patents can only claim priority to their respective filing dates of the earliest filed non-provisional application. In other words, the earliest possible priority date for the '904 Patent is its filing date of December 27, 1999, the earliest possible priority date for the '740 Patent is its filing date of April 7, 2006, the earliest possible priority date for the '821 Patent is its filing date of December 5, 2011, and the earliest possible priority date for the '111 Patent is its filing date of April 21, 2015.

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With respect to the ’821 and ’111 Patents, Orckit has not met its burden to demonstrate that these patents should be entitled to an earlier priority date than their filing dates.[2] Pursuant to Local Patent Rule 3-2(b), Orckit is required to disclose “[a]ll documents evidencing the conception, reduction to practice, design, and development of each claimed invention, which were created on or before the date of application for the patent in suit … .” Orckit’s Infringement Disclosures concede that Orckit has not identified any evidence corroborating a conception date earlier than the filing dates of the ’821 or ’111 Patents:

II. Production Numbers

Orckit identifies its accompanying document production below.

Category of Documents	Production Range
Local Patent R. 3-1(f)	Plaintiff Orckit Corporation has never made any products.
Local Patent R. 3-2(a)	As of the date of this disclosure, Orckit has not located any documents that would fall into this category.
Local Patent R. 3-2(b)	As of the date of this disclosure, Orckit has not located any documents that would fall into this category.

Orckit’s Infringement Disclosures at 4 (annotation added).

Orckit appears to claim priority to the provisional applications of the ’821 and ’111, but neither application supports priority of those patents because the provisional applications of the ’821 and ’111 patents do not disclose each limitation of any claim of the ’821 or ’111 patents.

For example, the provisional application of the ’821 Patent does not set forth an adequate written description or enable the claim scope alleged by Orckit of at least the following claim limitations: “determining an overall cost for each entity pair of said plurality of entities”;

[2] Orckit’s Infringement Disclosures treat the priority dates of the Asserted Patents as a whole, and Orckit does not forward any claim-by-claim priority analysis.

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"selecting an entity pair from said plurality of transport entities based at least in part upon said overall cost; and"; "if an entity pair reselection event occurs, reselecting said entity pair from the group consisting of said entity pair and a replacement entity pair comprising at least one entity distinct from the entities of said entity pair"; "wherein said entity pair reselection event is selected from a group consisting of adding an entity to said plurality of transport entities, removing an entity from said plurality of transport entities, an operational status change for one of said plurality of transport entities, and a change in overall cost for one of said plurality of transport entities"; "digital logic configured to select said working entity and said protection entity from said plurality of transport entity descriptors, comprising: logic configured to determine a probability of concurrent failure of said working entity and said protection entity"; "logic configured to determine an entity cost of said plurality of transport entity descriptors"; and "wherein said reselection event is selected from a group consisting of adding an entity to said plurality of transport entities, removing an entity from said plurality of transport entities, an operational status change for one of said plurality of transport entities, and a change in overall cost for one of said plurality of transport entities."

For example, the provisional application of the '111 Patent does not set forth an adequate written description or enable the claim scope alleged by Orckit of at least the following claim limitations: "controller," "instruction," "sending, by the controller to the network node over the packet network, an instruction and a packet-applicable criterion"; "responsive to the packet not satisfying the criterion, sending, by the network node over the packet network, the packet to the second entity"; "responsive to the packet satisfying the criterion, sending the packet, by the network node over the packet network, to an entity that is included in the instruction and is other than the second entity"; "receiving, from the controller, the instruction and the criterion";

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"checking if the packet satisfies the criterion; responsive to the packet not satisfying the criterion, sending over the packet network, the packet to the second entity"; and "responsive to the packet satisfying the criterion, sending the packet over the packet network, to an entity that is included in the instruction and is other than the second entity."

III. INVALIDITY BASED UPON PRIOR ART

Cisco contends that each of the Asserted Claims is invalid under pre-AIA 35 U.S.C. §§ 102(a), 102(b), 102(e), 102(f), and 102(g) and/or § 103(a) and/or AIA 35 U.S.C. § 102(a)[3] and/or is invalid as obvious under 35 U.S.C. § 103. Cisco's detailed contentions regarding the Asserted Claims in claim chart form are attached as Exhibits A-1 through A-9, B-1 through B-6, and C-1 through C-10, D-1 through D-11, and E-1 through E-4. Those charts disclose how each reference, or combination of references, anticipates and/or renders obvious each of the Asserted Claims.

Cisco's claim charts disclose multiple theories of invalidity in a single chart. For example, each chart directed to an anticipatory publication also discloses how that reference alone or in combination with one or more other references and/or the knowledge of one of ordinary skill in the art renders one of the Asserted Claims obvious. Exhibits A-1 through E-4 identify the exemplary disclosures within the prior art reference(s) that teach the relevant claim elements and limitations. While the claim charts have identified citations in the references for the claim limitations, each and every disclosure of the same limitation in the same reference is not necessarily identified. For example, whenever Exhibits A-1 through E-4 include a figure, diagram, table, or drawing, all of the text associated with that figure, diagram, table, or drawing is incorporated by reference (even

[3] Cisco also contends that the Asserted Claims of the '740 Patent, '821 Patent, and '111 Patent are invalid pursuant to 35 U.S.C. § 101, but those contentions are separately outlined in Cisco's Preliminary Subject Matter Eligibility Contentions, served on February 2, 2023.

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if that text is not explicitly cited in the exhibit). Similarly, if an exhibit includes the text associated with a figure, diagram, table, or drawing, the described figure, diagram, or drawing is incorporated by reference (even if that figure, diagram, table, or drawing is not explicitly cited). Further, persons of ordinary skill in the art read a prior art reference as a whole, and in the context of other publications and literature. Thus, Cisco may also rely on uncited portions of the prior art references, any cited documents within any prior art reference, other publications, and the testimony of experts to establish that the limitations of the Asserted Claims are anticipated or rendered obvious and/or that a person of ordinary skill in the art would have been motivated to modify or combine certain of the cited references so as to render the claims obvious.

A. Anticipation

Cisco identifies below prior art references which anticipate one or more Asserted Claims, and/or render obvious one or more of the Asserted Claims, either alone or in combination with one or more other prior art references. The Asserted Claims are identified prior art references each qualify invalid as anticipated prior art under 35 U.S.C. § 102, including subsections pre-AIA 102(a), 102(b), 102 (e), 102(f) and/or 102(g) and AIA 102(a).

1. Patents And Patent Applications

Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Claim Chart Number	Production Number
Czerwiec ’102	6,314,102	U.S.	07-10-1997	11-06-2001	A-4	CISCO00002781
Quoc ’214	6,092,214	U.S.	11-06-1997	07-18-2000	A-5	CISCO00002688
Vink ’324	WO 91/14324	PCT	03-18-1991	09-19-1991	A-6	CISCO00002367
MacKay ’727	6,600,727	U.S.	05-27-1999	07-29-2003	A-7	CISCO00002784
Dowling ’499	6,636,499	U.S.	12-02-1999	10-21-2003	A-8	CISCO00002657

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Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Claim Chart Number	Production Number
Nattkemper ’318	5,953,318	U.S.	12-04-1997	09-14-1999	A-9	CISCO00002626
Doshi ’239	2004/0205239	U.S.	09-26-2003	10-14-2004	B-4	CISCO00002792
Sivabalan ’928	2005/0083928	U.S.	10-20-2003	04-21-2005	B-5	CISCO00061650
Zamfir ’948	2006/0250948	U.S.	05-09-2005	11-09-2006	B-6	CISCO00002732
Hilla	2006/0221974	U.S.	04-02-2005	10-05-2006	C-1	CISCO00002754
Devi	2003/0147387	U.S.	04-24-2002	08-07-2003	C-2	CISCO00002642
Bruckman ’278	2004/0228278	U.S.	05-13-2003	11-18-2004	C-6	CISCO00061641
Basso	2003/0210688	U.S.	05-13-2002	11-13-2003	C-7	CISCO00061703
Ghosh	2006/0039366	U.S.	08-20-2004	02-23-2006	C-8	CISCO00002140
Lebizay ’448	2004/0042448	U.S.	08-30-2002	03-04-2004	C-9	CISCO00061662
Wiher ’530	6,081,530	U.S.	11-24-1997	07-27-2000	C-10	CISCO00001673
Kempf	2012/0300615	U.S.	06-28-2012	11-29-2012	D-1	CISCO00002141
Swenson ’242	2013/0322242	U.S.	05-31-2013	12-05-2013	D-2	CISCO00061649
Chandrasekaran	2014/0140211	U.S.	11-16-2012	05-22-2014	D-3	CISCO00002142
Lin ’400	9,264,400	U.S.	12-02-2013	02-16-2016	D-4	CISCO00002629
Shieh ’088	2013/0291088	U.S.	04-10-2013	10-31-2013	D-5	CISCO00002636
Chua ’877	9,276,877	U.S.	03-15-2013	03-01-2016	D-8	CISCO00061713
Chua ’151	9,038,151	U.S.	03-15-2013	05-19-2015	D-9	CISCO00002762
Copeland	2005/0210533	U.S.	05-26-2005	09-22-2005	D-10	CISCO00061642
Uchida	2011/0310901	U.S.	07-26-2011	12-22-2011	D-11	CISCO00002123

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2. Non-Patent Literature[4]

Abbreviated Name	Title	Date of Publication	Claim Chart Number	Production Number
IEEE 802.3	IEEE 802.3 Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications	March 8, 2002	C-4	CISCO00002820

3. System Art

The following systems render the Asserted Patents invalid through prior public use, prior sale, derivation, and/or prior invention. The systems were publicly known, available, and used in the United States prior to the alleged inventions of the Asserted Patents. The systems disclosed below are described in various cited publications and other materials, which also independently form a basis for invalidity based upon their publication. Multiple versions or implementations of any of the disclosed systems may exist—Cisco expressly reserves the right to rely upon other versions and implementations of these systems. Cisco expects that discovery will yield more information relating to the disclosed systems and reserves the right to amend or supplement these First Amended Invalidity Contentions as discovery progresses in this matter. As an example, Cisco has served subpoenas seeking discovery on these systems, and Cisco anticipates that it will amend these First Amended Invalidity Contentions after receiving such discovery.

System	No.	Exemplary Publications Describing The System	Date Of Publication	Production Number
Catalyst XL Switches	A-1	1997 Cisco Catalyst 2900 Series XL Data Sheet	1997	CISCO00061726
		TrafficDirector v.5.2, SwitchProbe v4.2 Product Requirements Document	October 31, 1997	CISCO00002397

[4] This table only lists non-patent literature that is not also part of a charted system.

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System	No.	Exemplary Publications Describing The System	Date Of Publication	Production Number
		1998 Cisco Catalyst 2900 Series XL Overview	January 06, 1998	CISCO00061739
		1999 Cisco Quick Start Guide – Catalyst 2900 Series XL Switches	May 11, 1999	CISCO00061735
		1999 Cisco Catalyst 2900 Series XL ATM Modules Installation and Configuration Guide	April 1999	CISCO00061733
		1999 Cisco Catalyst 3500 Series XL Data Sheet	May 24, 1999	CISCO00061725
		1999 Cisco Quick Start Guide – Catalyst 3500 Series XL Switches	1999	CISCO00061737
		Cisco Introduces Next-Generation Stacking with New Catalyst 3500 Series XL	May 24, 1999	CISCO00061740
		Release Notes for Catalyst GigaStack Gigabit Interface Converter	June 11, 1999	CISCO00061729
		1999 Release Notes for Catalyst GigaStack Gigabit Interface Converter	July 6, 1999	CISCO00061738
		Release Notes for Catalyst GigaStack Gigabit Interface Converter	Oct. 25, 1999	CISCO00061728
		TrafficDirector 5.7 Maintenance Update Product Requirements	April 17, 1999	CISCO00002278
		Product Requirements Document – Zuma Software	July 23, 1998	CISCO00002330
		Hapuna Project Requirements Document	October 8, 1999	CISCO00002329
		Merlin Functional Specification	Nov. 12, 1999	CISCO00002821
Baystack 450 Switches	A-2	Nortel Networks Workgroup Products – BayStack 450 Switches – Bay Networks Data Sheet	Jan., 1999	CISCO00061727
		Nortel Networks User Manual – Using the BayStack 450 10/100/1000 Series Switch	July, 1999	CISCO00061731
		U.S. Patent No. 6,981,034 (“Ding ’034”)	Dec. 27, 2005	CISCO00061730

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System	No.	Exemplary Publications Describing The System	Date Of Publication	Production Number
TRENDnet Stackable Hubs	A-3	TRENDnet TE100-DM/DS Series Dual-Speed Hub User's Guide	May, 1998	TRENDNET000 0005; CISCO00002698
		TRENDnet TE100-DSM, TE100-DFXM, TE100-DTXM Hub Expansion Module User's Guide	Feb., 1998	TRENDNET000 0114
		TRENDnet Press Release, Introducing the TRENDnet LAN Cruiser 10/100Mbps Series: Dual Speed Stackable Hubs	Jan. 5, 1998	CISCO00002369
		DLink DFE-2600 Series Ethernet/Fast Ethernet Dual-Speed Managed/Unmanaged Stackable Hubs User's Guide	March, 1998	CISCO00061723
Cisco IOS System	B-1	Cisco IOS Multiprotocol Label Switching Configuration Guide Release 12.2SR	10-14-2009	CISCO00002639
		Cisco Press Release titled "Cisco Systems' MPLS-TE 'Fast Reroute'" Function Introduced To NTT Communications' Arcstart IP-VPN"	04-25-2003	CISCO00061736
		RFC 2328	April 1998	CISCO00061722
Juniper OS System	B-2	Juno OS Multiprotocol Label Switching Configuration Guide Release 11.1	02-11-2011	CISCO00002729
IETF MPLS-TP System	B-3	SD detection and protection triggering in MPLS-TP draft-rkhd-mpls-tp-sd-03.txt	May 31, 2011	CISCO00002618
		RFC 4872	May 2007	CISCO00002621
		MPLS-TP Linear Protection draft-ietf-mpls-tp-linear-protection-01.txt	March 7, 2010	CISCO00002619
Cisco EtherChannel System	C-3	Cisco Catalyst 6500 Data Sheet	July 2005	CISCO00002371
		Catalyst 6500/6000 Module	Sept. 1, 2005	CISCO00002133
		Layer 2 EtherChannel	Feb. 26, 2006	CISCO00001865
		Configuring EtherChannel	Dec. 15, 2005	CISCO00002137
		Load Balancing	August 10, 2005	CISCO00002385

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System	No.	Exemplary Publications Describing The System	Date Of Publication	Production Number
		Configuring LACP	Dec. 14, 2005	CISCO00000359
		Catalyst 3500 Series XL Hardware Installation Guide	May 2000	CISCO00002693
		Catalyst 3500 End of Sale	2005	CISCO00002133
		Catalyst 3560 Configuration Guide	July 2005	CISCO00002117
		Cisco's Fast EtherChannel	Mar. 18, 1997	CISCO00002379
		Configuring EtherChannel and 802.1Q Trunking	August 30, 2005	CISCO00002384
Cisco EtherSwitch System	C-5	Cisco IOS Interface and Hardware Component Configuration Guide	2005-2006	CISCO00002126
		Cisco EtherSwitch System Catalog	July 1995	CISCO00002743
		Cisco Product Quick Reference Guide	July 2005	CISCO00002701
Cisco IWAN System	D-6	IWAN –Intelligent WAN, Next Generation Branch Architecture	2013	CISCO00002609
		Cisco Performance Routing (PfR) Solution Guides	2012	CISCO00002127
		Cisco Intelligent WAN (IWAN): Right-Size Your Network without Compromise	2013	CISCO00002122
		Cisco Next Generation Branch Architecture	2013	CISCO00002609
		Cisco Intelligent WAN (IWAN)	2013	CISCO00002625
		Cisco Intelligent WAN (IWAN) – Uncompromised Experience over Any Link	2013	CISCO00002611
		Cisco Network Architecture Discovery, Planning, Design and Implementation Services for Intelligent WAN	2009	CISCO00002610
		https://www.youtube.com/watch?v=GQuRzr__N-c ("DMVPN QoS for Intelligent WAN")	March 3, 2014	CISCO00002634
		https://www.youtube.com/watch?v=XFsqTENxopo ("2014 March Webinar LiveAction IWAN Management")	March 28, 2014	CISCO00002637

System	No.	Exemplary Publications Describing The System	Date Of Publication	Production Number
		https://www.youtube.com/watch?v=8mWSXKIz2hk ("IWAN Management Technical Presentation and Demo")	Jan. 10, 2014	CISCO00002624
		Cisco Intelligent WAN	April. 2014	CISCO00002615
		Cisco IWAN and Akamai Intelligent Platform™: Maximize Your WAN Investment	2013	CISCO00002632
		Cisco Application Services Platform	2013	CISCO00002627
VMware NSX System	D-7	Introducing VMware NSX	Aug., 2013	CISCO00002368
		VMware Product Guide	Dec. 2013	CISCO00002808
		VMware NSX Network Virtualization Design Guide	2013	CISCO00002749
		VMware NSX: Helping Make the Software-Defined Data Center Real in 2014	Feb. 11, 2014	CISCO00002376
		NSX Design Guide	2013	CISCO00002731
		Distributed virtual and physical routing in VMware NSX for vSphere	Nov. 25, 2013	CISCO00002731
		Switching in VMware NSX	Nov., 2013	CISCO00002138
		Nicira NVP Control Plane	August 19, 2013	CISCO00002135

Cisco further reserves the right to rely on any prior art system referenced, embodied, or described in any of the prior art references identified herein, or which embodies any of the prior art references identified herein. For example, any physical embodiments of the prior art references and documents identified above, which physical embodiments were publicly available (*e.g.* made, used, offered for sale, or sold) before the claimed or actual priority dates of the Asserted Patents, constitute prior art. Cisco is not limited to the identified references, but also may rely on material that expressly identifies any physical embodiment of such reference as prior art.

Any citation to one or more of these prior art references/documents, should be construed to constitute not only a citation to the prior art reference/document itself (as a printed publication), but also a reference to the product or system itself. When a reference is a prior public use, offer for sale, or sale, the identified document(s) is being relied upon as exemplary evidence of the prior public use, sale, and/or offer for sale. For the prior art products or systems (*e.g*. prior public uses, offers for sale and/or sales), Cisco may rely on additional documents to demonstrate the products / system, testimony relating to the products / systems, and other information.

Further, Cisco contends that the identified prior art provides evidence of prior invention and making of the invention in the United States by another under 35 U.S.C. § 102(f) and/or 102(g), as evidenced by the named inventor(s), author(s), organization(s), and publisher(s) involved with each such reference, with the circumstances described and reflected in each reference including publications and system implementation references. Upon information and belief, one or more of the Asserted Claims is invalid because the Asserted Patent fails to list the true inventor(s) who contributed to the conception of the alleged invention recited in the Asserted Claim(s), and/or the claimed invention was made in this country by another who had not abandoned, suppressed, or concealed the alleged invention. Cisco therefore reserves the right to contend that one or more of the Asserted Claims is invalid under pre-AIA 35 U.S.C. § 102(f) and/or (g) to the extent that the named inventor did not invent the subject matter in the Asserted Claim(s), and/or the alleged invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it.

Also, to the extent not expressly stated herein, these First Amended Invalidity Contentions incorporate by reference (1) any and all prior art identified in documents produced by Cisco in this case; (2) any prior art of which a named inventor of the Asserted Claims is aware and/or on which

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he, and/or Orckit contends the alleged invention(s) of the Asserted Claims builds upon or improves; (3) any and all admissions by Orckit and/or a named inventor regarding the Asserted Patents including, but not limited to, admissions in the specification of the Asserted Patents the prosecution of the Asserted Patents and related patents and/or patent applications; and (4) all prior art and/or invalidity contentions that Orckit discloses, produces or is aware of in connection with any assertion, transfer of rights or contested proceeding concerning the Asserted Patents and related patents and/or patent applications.

In addition, much of the prior art identified in the First Amended Invalidity Contentions reflects common knowledge and the state of the art at the time of the earliest filing date of the Asserted Patents. Cisco may rely on additional citations, references, expert testimony, fact testimony and other corroborating evidence, and other material to provide context and background illustrating the knowledge of a person of ordinary skill in the art at the time of the claimed inventions and/or to aid in understanding the cited portions of the references and/or cited features of the systems. Cisco may also rely on fact or expert testimony explaining relevant portions of references, as well as additional documents, hardware or software products or systems, and other discovery regarding these subject matters, to provide context or to aid in understanding the cited portions of the prior art references and interpreting the teachings of the prior art and to establish bases for combinations of certain cited references that render the Asserted Claims obvious.

B. Obviousness Combinations

The Asserted Claims would have been obvious under 35 U.S.C. § 103 in light of one or more of the references disclosed in Exhibits A-1 through E-4 of Cisco's First Amended Invalidity Contentions. Exhibits A-1 through A-9, B-1 through B-6, and C-1 through C-10, D-1 through D-11 set forth obviousness combinations that invalidate the Asserted Claims. Exhibits E-1 through E-4 compile exemplary disclosures from prior art references and are referenced in Cisco's other

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claim charts for purposes of demonstrating the combinations that would have rendered each Asserted Claim obvious. When used in such combinations, Exhibits A-1 through E-4 demonstrate how the references listed below render obvious each Asserted Claim. For example, Exhibits A-1 through E-4 explain that each included reference alone or in combination with one or more other references renders every Asserted Claim obvious. The references disclosed in Exhibits A-1 through E-4 all relate to stacked switching (with respect to the ’904 Patent), methods and systems for link aggregation in a data communication network (with respect to the ’740 Patent), methods of selecting paths in a network and/or determining the cost of potential paths in a network (with respect to the ’821 Patent), or methods of managing network traffic based on matching criteria (with respect to the ’111 Patent). The benefits conferred by the references listed in Exhibits A-1 through E-4 are explained in detail within each reference. A person having ordinary skill in the art of the Asserted Patents would have been motivated to look to the references listed in Exhibits A-1 through E-4 in order to incorporate the benefits disclosed in those references into the communication networks described in the prior art. Some examples of these conferred benefits would include more fault-tolerant stacked switch networks, faster computer networks, more efficient link aggregation, link pairs with less likelihood of concurrent failure, enforcement of beneficial routing policies, and efficient packet inspection. Additionally, a person having ordinary skill in the art of the Asserted Patents would have had a reasonable expectation of successfully implementing the solutions described in the asserted combinations. Each claim chart provides additional detail regarding the motivation and ability of skilled artisans to combine the prior art references asserted in particular combinations, as well as an exemplary list of combinations.

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Below is a list of prior art references, that Cisco has identified to date, that are relevant to understanding state of the art and may provide relevant background information for one or more of the Asserted Patents.

1. Patents And Patent Applications

Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Production Number
Kraus ’019	7,809,019	U.S.	12-07-2006	10-05-2010	CISCO00061676
Wiher ’530	6,081,530	U.S.	11-24-1997	06-27-2000	CISCO00061673
Basso ’688	2003/0210688	U.S.	05-13-2002	11-13-2003	CISCO00061703
Basso ’527	7,280,527	U.S.	05-13-2002	10-09-2007	CISCO00061693
Copeland ’533	2005/0210533	U.S.	05-26-2005	09-22-2005	CISCO00061642
Balakrishnan ’167	2006/0083167	U.S.	10-14-2004	04-20-2006	CISCO00002635
Fulli ’415	9,154,415	U.S.	01-31-2013	10-06-2015	CISCO00061659
Bruckman ’329	6,892,329	U.S.	10-03-2001	05-10-2005	CISCO00061687
Harel ’755	7,961,755	U.S.	03-16-2009	06-14-2011	CISCO00061707
Bharathi ’834	WO 03/067834	PCT	01-31-2003	08-14-2003	CISCO00002633
Zelig ’391	WO 07/116391	PCT	03-27-2007	10-18-2007	CISCO00061734
Sundaresan ’726	7,602,726	U.S.	08-11-2003	10-13-2009	CISCO00061700
Nakagawa ’106	2006/0251106	U.S.	03-31-2006	11-09-2006	CISCO00061670
Solomon ’074	2006/0251074	U.S.	05-06-2005	11-09-2006	CISCO00061692
Dontu ’384	2006/0039384	U.S.	08-17-2004	02-23-2006	CISCO00061696
Bruckman ’278	2004/0228278	U.S.	05-13-2003	11-18-2004	CISCO00061641
Hickman ’148	2002/0110148	U.S.	03-26-2001	08-15-2002	CISCO00061644
Mark ’824	6,956,824	U.S.	06-14-2001	10-18-2005	CISCO00061654
Alexander ’749	6,501,749	U.S.	06-25-1999	12-31-2002	CISCO00061652
Zelig ’802	2006/0109802	U.S.	11-19-2004	05-25-2006	CISCO00061708
Bryant ’728	2009/0207728	U.S.	02-15-2008	08-20-2009	CISCO00061698
Vasseur ’391	2006/0291391	U.S.	06-27-2005	12-28-2006	CISCO00061657
Bryant ’819	2006/0187819	U.S.	02-22-2005	08-24-2006	CISCO00061685
Levit ’558	2005/0213558	U.S.	03-29-2004	09-29-2005	CISCO00061718
Katz ’209	2003/0026209	U.S.	01-25-2002	02-06-2003	CISCO00061677
Barsheshet ’449	2003/0103449	U.S.	08-02-2002	06-05-2003	CISCO00061671

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Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Production Number
Bonaventure ’795	2007/0091795	U.S.	10-20-2005	04-26-2007	CISCO00061684
Billings ’433	5,761,433	U.S.	07-31-1996	06-02-1998	CISCO00002751
Czerwiec ’102	6,314,102	U.S.	07-10-1997	11-06-2001	CISCO00002781
Friden ’379	WO 99/26379	PCT	11-18-1998	05-27-1999	CISCO00061704
Nattkemper ’318	5,953,318	U.S.	12-04-1997	09-14-1999	CISCO00002626
Kayser ’453	6,089,453	U.S.	07-17-1998	07-18-2000	CISCO00061647
Sheikh ’721	6,266,721	U.S.	10-01-1997	07-24-2001	CISCO00061672
Moody ’333	6,760,333	U.S.	02-18-2000	07-06-2004	CISCO00061688
Arato ’323	7,035,323	U.S.	08-02-2000	04-25-2006	CISCO00061686
Czerwiec ’622	7,609,622	U.S.	11-04-2003	10-27-2009	CISCO00061666
Franceschini ’880	WO 00/11880	PCT	08-18-1999	03-02-2000	CISCO00061655
Blank ’623	WO 00/72623	PCT	05-18-2000	11-30-2000	CISCO00061720
Tate ’607	5,933,607	U.S.	06-07-1994	08-03-1999	CISCO00002628
Mackay ’727	6,600,727	U.S.	05-27-1999	06-29-2003	CISCO00002784
Mackay ’230	6,973,230	U.S.	06-02-2003	12-06-2005	CISCO00002720
Mackay ’630	7,486,630	U.S.	06-02-2003	02-03-2009	CISCO00002659
Mackay ’474	7,880,474	U.S.	06-26-2004	02-01-2011	CISCO00002802
Dowling ’499	6,636,499	U.S.	12-02-1999	10-21-2003	CISCO00002657
Dowling ’959	7,554,959	U.S.	10-15-2003	06-30-2009	CISCO00002737
Slater ’796	6,654,796	U.S.	10-07-1999	11-25-2003	CISCO00002687
Slater ’433	6,895,433	U.S.	10-23-2003	05-17-2005	CISCO00002783
Duvvury ’626	6,917,626	U.S.	11-30-1999	06-12-2005	CISCO00002797
Duvvury ’820	7,545,820	U.S.	05-25-2005	06-09-2009	CISCO00002810
Daruwalla ’452	6,269,452	U.S.	04-27-1998	06-31-2001	CISCO00002796
Nederveen ’623	6,853,623	U.S.	03-05-1999	02-08-2005	CISCO00002643
Quoc ’214	6,092,214	U.S.	11-06-1997	06-18-2000	CISCO00002688
Slater ’421	6,952,421	U.S.	10-07-1999	10-04-2005	CISCO00002752
Petersen ’065	6,463,065	U.S.	06-28-1999	10-08-2002	CISCO00002656
Chua ’877	9,276,877	U.S.	03-15-2013	03-01-2016	CISCO00061713
Lin ’400	9,264,400	U.S.	12-02-2013	02-16-2016	CISCO00002629
Swenson ’242	2013/0322242	U.S.	05-31-2013	12-05-2013	CISCO00061649
Shieh ’088	2013/0291088	U.S.	04-10-2013	10-31-2013	CISCO00002636
Congdon ’167	10,057,167	U.S.	04-09-2015	08-21-2018	CISCO00061709
Mack-Crane ’465	2015/0256465	U.S.	03-02-2015	09-10-2015	CISCO00061721

Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Production Number
Chamdani ’416	7,133,416	U.S.	03-05-2002	11-07-2006	CISCO00061701
Alexander ’029	6,553,029	U.S.	07-09-1999	04-22-2003	CISCO00061712
Gupta ’051	6,345,051	U.S.	02-18-1998	02-05-2002	CISCO00061682
Lebizay ’448	2004/0042448	U.S.	08-30-2002	03-04-2004	CISCO00061662
Hsu ’319	6,363,319	U.S.	08-31-1999	03-26-2002	CISCO00061665
Li ’583	2009/0316583	U.S.	06-18-2008	12-24-2009	CISCO00061651
Dziong ’026	2005/0220026	U.S.	04-02-2004	10-06-2005	CISCO00061689
Doshi ’239	2004/0205239	U.S.	09-26-2003	10-14-2004	CISCO00002792
Shin ’752	2002-0096752	KR	06-21-2001	12-31-2002	CISCO00061702
Bachar ’882	6,670,882	U.S.	07-28-1999	12-13-2003	CISCO00061695
Hughes ’612	6,434,612	U.S.	12-10-1997	08-13-2002	CISCO00061699
Nattkemper ’518	5,999,518	U.S.	12-04-1997	12-07-1999	CISCO00061640
Jurkevich ’137	5,295,137	U.S.	02-12-1992	03-15-1994	CISCO00061645
Jones ’407	2,337,407	GB	05-11-1998	11-17-1999	CISCO00061717
Jones ’405	2,337,405	GB	05-11-1998	11-17-1999	CISCO00061705
Tornetta ’519	7,623,519	U.S.	06-21-2004	11-24-2009	CISCO00061715
Remedios ’268	7,441,268	U.S.	06-08-2004	10-21-2008	CISCO00061690
Viswanath ’742	6,757,742	U.S.	05-25-2000	06-29-2004	CISCO00061648
Viswanathan ’197	2004/0208197	U.S.	04-15-2003	10-21-2004	CISCO00061669
Kakadia ’993	2010/0149993	U.S.	12-15-2008	06-17-2010	CISCO00061706
Chauduri ’058	2005/0025058	U.S.	07-30-2003	02-03-2005	CISCO00061694
Buddhikot ’938	2004/0004938	U.S.	07-02-2002	01-08-2004	CISCO00061681
Huang ’950	2003/0117950	U.S.	12-26-2001	06-26-2003	CISCO00061656
Sikdar ’425	7,277,425	U.S.	10-21-2002	10-02-2007	CISCO00061661
Smith ’733	7,889,733	U.S.	04-28-2004	02-15-2011	CISCO00061646
Smith ’430	8,990,430	U.S.	02-19-2004	03-24-2015	CISCO00002723
Smith ’957	7,710,957	U.S.	06-01-2004	05-04-2010	CISCO00061679
Willhite ’217	2004/0213217	U.S.	04-23-2004	10-28-2004	CISCO00002715
Sivabalan ’928	2005/0083928	U.S.	10-20-2003	04-21-2005	CISCO00061650
Zamfir ’948	2006/0250948	U.S.	05-09-2005	11-09-2006	CISCO00002732
Uchida ’901	2011/0310901	U.S.	07-26-2011	12-22-2011	CISCO00002123
Madonna ’163	5,544,163	U.S.	03-08-1994	08-06-1996	CISCO00002654

Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Production Number
Dean ’957	5,914,957	U.S.	12-19-1996	06-22-1999	CISCO00002383
Sivabalan ’994	7,345,994	U.S.	10-20-2003	03-18-2008	CISCO00002670
Chua ’151	9,038,151	U.S.	03-15-2013	05-19-2015	CISCO00002762
Chua ’807	9,178,807	U.S.	03-15-2013	11-03-2015	CISCO00061691
Chua ’301	9,264,301	U.S.	03-15-2013	02-16-2016	CISCO00061660
Chua ’877	9,276,877	U.S.	03-15-2013	03-01-2016	CISCO00061713
Mack-Crane ’892	61/947,892	U.S.	03-04-2014	03-28-2014	CISCO00061714
Congdon ’588	61/977,588	U.S.	04-09-2014	04-29-2014	CISCO00061711
Wong ’278	2004/0037278	U.S.	08-07-2003	02-26-2004	CISCO00061716
Saad ’463	10,063,463	U.S.	12-16-2014	08-28-2018	CISCO00002748
Olofsson ’254	10,142,254	U.S.	09-16-2013	11-27-2018	CISCO00002809
Olofsson ’886	10,243,886	U.S.	11-07-2017	03-26-2019	CISCO00002779
Filsfils ’618	10,348,618	U.S.	10-09-2017	07-09-2019	CISCO00002733
Francois ’045	10,462,045	U.S.	02-13-2017	10-29-2019	CISCO00002655
Cheng ’957	10,608,957	U.S.	06-29-2017	03-31-2020	CISCO00002685
Bajaj ’982	10,700,982	U.S.	07-31-2017	06-30-2020	CISCO00002734
Raza ’402	10,742,402	U.S.	01-26-2018	08-11-2020	CISCO00002684
Blair ’992	10,797,992	U.S.	07-07-2015	10-06-2020	CISCO00002716
Filsfils ’755	10,868,755	U.S.	12-20-2018	12-15-2020	CISCO00002700
Kumar ’983	10,892,983	U.S.	07-27-2018	01-12-2021	CISCO00002795
Nainar ’197	11,032,197	U.S.	09-15-2016	06-08-2021	CISCO00002640
Shen ’005	11,071,005	U.S.	10-29-2019	07-20-2021	CISCO00002778
Sundararajan ’119	11,153,119	U.S.	10-15-2019	10-19-2021	CISCO00002750
Baveja ’671	11,196,671	U.S.	10-27-2016	12-07-2021	CISCO00002641
Chandramohan ’137	11,343,137	U.S.	08-23-2019	05-24-2022	CISCO00002763
Rustogi ’988	2011/024988	U.S.	04-05-2010	10-06-2011	CISCO00002136
Wetterwald ’046	2013/0219046	U.S.	02-21-2012	08-22-2013	CISCO00002124
Chandrasekaran ’211	2014/0140211	U.S.	11-16-2012	05-22-2014	CISCO00002142
Olofsson ’324	2016/0191324	U.S.	12-26-2014	06-30-2016	CISCO00002134
Pande ’385	2021/0314385	U.S.	04-07-2020	10-07-2021	CISCO00002372
Li ’599	5,473,599	U.S.	04-22-1994	12-05-1995	CISCO00002702
Fowler ’978	5,793,978	U.S.	12-29-1994	08-11-1998	CISCO00002719
Quoc ’214	6,092,214	U.S.	11-06-1997	07-18-2000	CISCO00002688
Daruwalla ’452	6,269,452	U.S.	04-27-1998	07-31-2001	CISCO00002796
Petersen ’207	6,484,207	U.S.	06-28-1999	11-19-2002	CISCO00002764

Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Production Number
Petersen ’065	6,463,065	U.S.	06-28-1999	10-08-2002	CISCO00002656
DeJager ’424	6,473,424	U.S.	12-02-1998	10-29-2002	CISCO00002672
Petersen ’452	6,526,452	U.S.	06-28-1999	02-25-2003	CISCO00002735
Mackay ’727	6,600,727	U.S.	05-27-1999	07-29-2003	CISCO00002784
Dowling ’499	6,636,499	U.S.	12-02-1999	10-21-2003	CISCO00002657
Slater ’796	6,654,796	U.S.	10-07-1999	11-25-2003	CISCO00002687
Goguen ’273	6,665,273	U.S.	01-11-2000	12-16-2003	CISCO00002813
Christy ’264	6,725,264	U.S.	02-17-2000	04-20-2004	CISCO00002658
Swallow ’190	6,751,190	U.S.	05-18-1999	06-15-2004	CISCO00002766
Charny ’492	6,778,492	U.S.	01-17-2002	08-17-2004	CISCO00002703
Nederveen ’623	6,853,623	U.S.	03-05-1999	02-08-2005	CISCO00002643
Ma ’591	6,856,591	U.S.	12-15-2000	02-15-2005	CISCO00002673
Salch ’627	6,856,627	U.S.	01-15-1999	02-15-2005	CISCO00002782
Chawla ’668	6,876,668	U.S.	05-24-1999	04-05-2005	CISCO0000281
Slater ’433	6,895,433	U.S.	10-23-2003	05-17-2005	CISCO00002783
Duvvury ’626	6,917,626	U.S.	11-30-1999	07-12-2005	CISCO00002797
Slater ’421	6,952,421	U.S.	10-07-1999	10-04-2005	CISCO00002752
Mackay ’230	6,973,230	U.S.	06-02-2003	12-06-2005	CISCO00002720
Charny ’394	6,978,394	U.S.	02-22-2002	12-20-2005	CISCO00002644
Vasseur ’262	7,031,262	U.S.	05-19-2004	04-18-2006	CISCO00002768
Edsall ’145	7,200,145	U.S.	05-05-2004	04-03-2007	CISCO00002798
Swallow ’569	7,233,569	U.S.	05-19-1999	06-19-2007	CISCO00002705
Cheng ’694	7,274,694	U.S.	01-09-2003	09-25-2007	CISCO00002645
Fallis ’622	7,336,622	U.S.	09-08-2003	02-26-2008	CISCO00002660
Goguen ’423	7,343,423	U.S.	10-07-2003	03-11-2008	CISCO00002767
Sivabalan ’994	7,345,994	U.S.	10-20-2003	03-18-2008	CISCO00002670
Provine ’119	7,370,119	U.S.	05-21-2004	05-06-2008	CISCO00002753
Vasseur ’213	7,428,213	U.S.	11-21-2003	09-23-2008	CISCO00002689
Anubolu ’366	7,433,366	U.S.	05-16-2003	10-07-2008	CISCO00002815
Charny ’966	7,433,966	U.S.	01-20-2002	10-07-2008	CISCO00002675
Kloth ’666	7,474,666	U.S.	09-03-2003	01-06-2009	CISCO00002765
Shuen ’258	7,480,258	U.S.	07-03-2003	01-20-2009	CISCO00002704
Mackay ’630	7,486,630	U.S.	06-02-2003	02-03-2009	CISCO00002659
Vasseur ’063	7,512,063	U.S.	12-14-2004	03-31-2009	CISCO00002785
Mackay ’154	7,539,154	U.S.	10-17-2000	05-26-2009	CISCO00002739
Duvvury ’820	7,545,820	U.S.	05-25-2005	06-09-2009	CISCO00002810
Li ’914	7,554,914	U.S.	03-24-2003	06-30-2009	CISCO00002707
Dowling ’959	7,554,959	U.S.	10-15-2003	06-30-2009	CISCO00002737
Swallow ’218	7,558,218	U.S.	08-01-2006	07-07-2009	CISCO00002816
Katz ’527	7,561,527	U.S.	05-03-2004	07-14-2009	CISCO00002799

Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Production Number
Ervin ’417	7,580,417	U.S.	08-07-2006	08-25-2009	CISCO00002373
Vasseur ’841	7,586,841	U.S.	05-31-2005	09-08-2009	CISCO00002674
Shuen ’120	7,590,120	U.S.	11-18-2005	09-15-2009	CISCO00002646
Dalal ’159	7,606,159	U.S.	08-30-2005	10-20-2009	CISCO00002690
Katukam ’584	7,616,584	U.S.	11-12-2004	11-10-2009	CISCO00002819
Hilla ’455	7,623,455	U.S.	04-02-2005	11-24-2009	CISCO00002754
Ma ’788	7,656,788	U.S.	02-14-2005	02-02-2010	CISCO00002786
Vasseur ’254	7,660,254	U.S.	02-20-2007	02-09-2010	CISCO00002740
Vasseur ’848	7,675,848	U.S.	07-15-2004	03-09-2010	CISCO00002718
Vasseur ’860	7,675,860	U.S.	02-26-2006	03-09-2010	CISCO00002769
Pande ’716	7,688,716	U.S.	05-02-2005	03-30-2010	CISCO00002661
Nadeau ’793	7,746,793	U.S.	06-18-2004	06-29-2010	CISCO00002800
Florit ’205	7,778,205	U.S.	08-30-2005	08-17-2010	CISCO00002817
Zamfir ’267	7,835,267	U.S.	05-09-2005	11-16-2010	CISCO00002770
Charny ’249	7,848,249	U.S.	07-14-2008	12-07-2010	CISCO00002787
La Faucheaur ’748	7,852,748	U.S.	03-23-2005	12-14-2010	CISCO00002742
Bryant ’751	7,852,751	U.S.	02-15-2008	12-14-2010	CISCO00002755
Mackay ’474	7,880,474	U.S.	07-26-2004	02-01-2011	CISCO00002802
Bryant ’179	7,885,179	U.S.	03-29-2006	02-08-2011	CISCO00002721
Vasseur ’466	7,920,466	U.S.	01-11-2011	04-05-2011	CISCO00002691
Ervin ’661	7,940,661	U.S.	06-01-2007	05-10-2011	CISCO00002709
Charny ’618	7,986,618	U.S.	06-12-2002	07-26-2011	CISCO00002676
Vasseur ’461	7,995,461	U.S.	08-24-2005	08-09-2011	CISCO00002677
Borgione ’125	8,155,125	U.S.	09-17-2004	04-10-2012	CISCO00002647
Sharma ’136	8,165,136	U.S.	04-25-2006	04-24-2012	CISCO00002788
Sane ’061	8,204,061	U.S.	07-23-2009	06-19-2012	CISCO00002663
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Astuto et al. 2014	A Survey of Software-Defined Networking: Past, Present, and Future of Programmable Networks	Third Quarter 2014	CISCO00061653
97’ 2900 Series XL DS	1997 Cisco Catalyst 2900 Series XL Data Sheet	1997	CISCO00061726

Abbreviated Name	Title	Date of Publication	Production Number
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98' 2900 Series XL Overview	1998 Cisco Catalyst 2900 Series XL Overview	Jan. 06, 1998	CISCO00061739
99' 2900 Series XL Switches	1999 Cisco Quick Start Guide – Catalyst 2900 Series XL Switches	May 11, 1999	CISCO00061735
99' 2900 Series XL ATM Modules Install and Config. Guide	1999 Cisco Catalyst 2900 Series XL ATM Modules Installation and Configuration Guide	April 1999	CISCO00061733
99' 3500 Series XL DS	1999 Cisco Catalyst 3500 Series XL Data Sheet	May 24, 1999	CISCO00061725
99' 3500 Series XL Switches	1999 Cisco Quick Start Guide – Catalyst 3500 Series XL Switches	1999	CISCO00061737
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June 99'RN Catalyst GigaStack Gigabit Interface Converter	Release Notes for Catalyst GigaStack Gigabit Interface Converter	June 11, 1999	CISCO00061729
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Nortel 450 Switches Bay Net DS	Nortel Networks Workgroup Products – BayStack 450 Switches – Bay Networks Data Sheet	January, 1999	CISCO00061727
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Abbreviated Name	Title	Date of Publication	Production Number
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Abbreviated Name	Title	Date of Publication	Production Number
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Cisco IOS Interface & Hardware Component Config Guide	Cisco IOS Interface and Hardware Component Configuration Guide	2005-2006	CISCO00002126
IWAN – Intelligent WAN, NGBA	IWAN –Intelligent WAN, Next Generation Branch Architecture	2013	CISCO00002609
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Abbreviated Name	Title	Date of Publication	Production Number
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Alvarez 2008	Chapter 4: Cisco MPLS Traffic Engineering	01-04-2008	CISCO00002128
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Cisco Catalyst 6500 & 6500-E DS	Cisco Catalyst 6500 and 6500-E Series Switch Data Sheet	2005	CISCO00002371
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Abbreviated Name	Title	Date of Publication	Production Number
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Sequeira 2013	Introducing VMware NSX - The Platform For Network Virtualization	08-26-2013	CISCO00002368
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Naguib 2014	VMware NSX: Helping Make the Software-Defined Data Center Real in 2014	Feb. 11, 2014	CISCO00002808
Reference Design: VMware NSX for vSphere (NSX) Network Virtualization Design Guide	Reference Design: VMware NSX for vSphere (NSX) Network Virtualization Design Guide	N/A	CISCO00002731

3. Exemplary ’904 Patent Obviousness Combinations

Below is a list of examples of certain combinations of prior art references that a person of ordinary skill in the art would have been motivated to combine around the time of the alleged invention of the ’904 Patent. The combinations listed below are meant to provide additional clarity on motivations to combine some of the references, but is not meant to list every possible combination and is not an admission that unlisted combinations would not have been obvious to a

person of ordinary skill in the art. Cisco reserves the right to amend or add exemplary obviousness combinations as discovery continues and after any change in Orckit's positions.

For example, skilled artisans would have been motivated to combine the BayStack 450 Switches (or the TRENDnet Stackable Hubs or Czerwiec or Mackay) with the Cisco XL Switches (or Quoc or Ding or Dowling or Vink) because the BayStack 450 Switches (or the TRENDnet Stackable Hubs or Czerwiec or Mackay) discloses stacked switch networks that include "master" and "slave" switches, and the Cisco XL Switches (or Quoc or Ding or Dowling or Vink) discloses designating specific switches within a stacked switch network to be "master" and "slave" switches. Skilled artisans would have understood that the BayStack 450 Switches (or the TRENDnet Stackable Hubs or Czerwiec or Mackay) and the Cisco XL Switches (or Quoc or Ding or Dowling or Vink) could be readily combined because both relate to stacked switched networks that include "master" and "slave" switches. The Cisco XL Switches (or Quoc or Ding or Dowling or Vink) discloses the benefits of designating specific switches in the network to be "masters" and "slaves" in order to allow a skilled artisan to control the specific location of master and slave switches within the network. Thus, a skilled artisan would have been motivated to include the specific designation of "master" and "slave" switches disclosed in the Cisco XL Switches (or Quoc or Ding or Dowling or Vink) into the stacked switch network disclosed in the BayStack 450 Switches (or the TRENDnet Stackable Hubs or Czerwiec or Mackay) and would have recognized that the results of this combination were predictable.

As another example, skilled artisans would have been motivated to combine the TRENDnet Stackable Hubs (or Czerwiec or Mackay or Dowling) with the Cisco XL Switches (or the BayStack 450 Switches or Quoc or Ding or Vink) because the TRENDnet Stackable Hubs (or Czerwiec or Mackay or Dowling) discloses stacked switch networks that are fault tolerant communicating over

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a communications network, and the Cisco XL Switches (or the BayStack 450 Switches or Quoc or Ding or Vink) discloses using a pre-switch in order to lower the amount of time needed to respond to a network fault. Skilled artisans would have understood that the TRENDnet Stackable Hubs (or Czerwiec or Mackay or Dowling) and the Cisco XL Switches (or the BayStack 450 Switches or Quoc or Ding or Vink) could be readily combined because both relate to stacked switch communications networks that are fault tolerant. The Cisco XL Switches (or the BayStack 450 Switches or Quoc or Ding or Vink) discloses the benefits of using a pre-switch in order to more quickly recover from faults and to re-route data in a stacked switched network without substantial reconfiguration of the switch. Thus, a skilled artisan would have been motivated to include the pre-switch disclosed in the Cisco XL Switches (or the BayStack 450 Switches or Quoc or Ding or Vink) into the stacked switch network disclosed in the TRENDnet Stackable Hubs (or Czerwiec or Mackay or Dowling) and would have recognized that the results of this combination were predictable.

As another example, skilled artisans would have been motivated to combine the TRENDnet Stackable Hubs (or Czerwiec or Quoc or Ding or Mackay or Dowling) with the Cisco XL Switches (or the BayStack 450 Switches or Vink) because the TRENDnet Stackable Hubs (or Czerwiec or Quoc or Ding or Mackay or Dowling) discloses stacked switch networks that are fault tolerant communicating over a communications network, and the Cisco XL Switches (or the BayStack 450 Switches or Vink) discloses responding to a fault within a stacked switch network by reversing upstream and downstream data packet flow. Skilled artisans would have understood that the TRENDnet Stackable Hubs (or Czerwiec or Quoc or Ding or Mackay or Dowling) and the Cisco XL Switches (or the BayStack 450 Switches or Vink) could be readily combined because both relate to stacked switch communications networks that are fault tolerant. The Cisco XL Switches

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(or the BayStack 450 Switches or Vink) discloses the benefits of allowing downstream and upstream traffic directions to be reversed in order to minimize disruptions after a network fault. Thus, a skilled artisan would have been motivated to include the reversible traffic disclosed in the Cisco XL Switches (or the BayStack 450 Switches or Vink) into the stacked switch network disclosed in the TRENDnet Stackable Hubs (or Czerwiec or Quoc or Ding or Mackay or Dowling) and would have recognized that the results of this combination were predictable.

4. Exemplary ’740 Patent Obviousness Combinations

Below is a list of examples of certain combinations of prior art references that a person of ordinary skill in the art would have been motivated to combine around the time of the alleged invention of the ’740 Patent. The combinations listed below are meant to provide additional clarity on motivations to combine some of the references, but is not meant to list every possible combination and is not an admission that unlisted combinations would not have been obvious to a person of ordinary skill in the art. Cisco reserves the right to amend or add exemplary obviousness combinations as discovery continues and after any change in Orckit’s positions.

For example, skilled artisans would have been motivated to combine Bruckman (or Devi or Hilla or Wiher or Ghosh) with Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) because Bruckman (or Devi or Hilla or Wiher or Ghosh) discloses selecting a first set of ingress links and selecting a second set of egress links on a network access device, and Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) discloses selecting both a first set of links and a second set of links in a single computation. Skilled artisans would have understood that Bruckman (or Devi or Hilla or Wiher or Ghosh) and Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) could be readily combined because both relate to selecting ingress and egress links on a network access device. Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) discloses the benefits of efficiently selecting both set of links with a single

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computation in order to more quickly route traffic across the network access device. Thus, a skilled artisan would have been motivated to include the single computation disclosed in Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) into the network access device disclosed in Bruckman (or Devi or Hilla or Wiher or Ghosh) and would have recognized that the results of this combination were predictable.

As another example, skilled artisans would have been motivated to combine Bruckman (or Devi or Hilla or Wiher or Ghosh) with Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) because Bruckman (or Devi or Hilla or Wiher or Ghosh) disclose selecting a first set of ingress links and selecting a second set of egress links on a network access device, and Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) discloses selecting a first set of links and a second set of links with a hashing function. Skilled artisans would have understood that Bruckman (or Devi or Hilla or Wiher or Ghosh) and Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) could be readily combined because both relate to selecting ingress and egress links on a network access device. Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) discloses the benefits of using a hashing function to select groups of links in order to efficiently load balance across a known number of links to choose from. Thus, a skilled artisan would have been motivated to include the hashing function disclosed in Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) into the network access device disclosed in Bruckman (or Devi or Hilla or Wiher or Ghosh) and would have recognized that the results of this combination were predictable.

As another example, skilled artisans would have been motivated to combine Bruckman (or Devi or Hilla or Wiher or Ghosh) with Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) because Bruckman (or Devi or Hilla or Wiher or Ghosh) discloses a network access

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device selecting sets of links and being connected to multiple other devices, and Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) discloses selecting a first set of ingress links and selecting a second set of egress links on a network access device. Skilled artisans would have understood that Bruckman (or Devi or Hilla or Wiher or Ghosh) and Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) could be readily combined because both relate to selecting links when connecting a network access device to other devices within the network. Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) discloses the benefits of selecting two groups of links*,.e.g.,* a first set and a second set, in order to control access to multiple types of network devices. Thus, a skilled artisan would have been motivated to include the multi-group selection disclosed in Basso (or Lebizay or Viswanathan or Singh or Solomon or Alexander) into the network access device disclosed in Bruckman (or Devi or Hilla or Wiher or Ghosh) and would have recognized that the results of this combination were predictable.

5. Exemplary ’821 Patent Obviousness Combinations

Below is a list of examples of certain combinations of prior art references that a person of ordinary skill in the art would have been motivated to combine around the time of the alleged invention of the ’821 Patent. The combinations listed below are meant to provide additional clarity on motivations to combine some of the references, but is not meant to list every possible combination and is not an admission that unlisted combinations would not have been obvious to a person of ordinary skill in the art. Cisco reserves the right to amend or add exemplary obviousness combinations as discovery continues and after any change in Orckit’s positions.

For example, skilled artisans would have been motivated to combine the Junos OS System (or Sivabalan or Zamfir or Vasseur ’125, Vasseur ’391, or Vasseur ’317 (collectively, the “Vasseur Publications”)) with the Cisco IOS System (or the IETF MPLS-TP System or Doshi) because the Junos OS System (or Sivabalan or Zamfir or the Vasseur Publications) discloses a communications

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network with working and protection paths for sending data traffic, and the Cisco IOS System (or the IETF MPLS-TP System or Doshi) discloses sending data traffic to both the working and protection path, *e.g.*, a 1+1 architecture, and selecting data traffic to send over either the working or protection path, *e.g.*, a 1:1 architecture. Skilled artisans would have understood that the Junos OS System (or Sivabalan or Zamfir or the Vasseur Publications) and the Cisco IOS System (or the IETF MPLS-TP System or Doshi) could be readily combined because both relate to sending data traffic over working and protection data paths. The Cisco IOS System (or the IETF MPLS-TP System or Doshi) discloses the benefits of using 1+1 and 1:1 architectures in order to provide faster failover in response to a device or network failure. Thus, a skilled artisan would have been motivated to include the 1+1 and 1:1 architectures disclosed in the Cisco IOS System (or the IETF MPLS-TP System or Doshi) into the communications network disclosed in the Junos OS System (or Sivabalan or Zamfir or the Vasseur Publications) and would have recognized that the results of this combination were predictable.

As another example, skilled artisans would have been motivated to combine the IETF MPLS-TP System (or Doshi or Sivabalan) with the Cisco IOS System (or the Junos OS System or Zamfir or the Vasseur Publications) because the IETF MPLS-TP System (or Doshi or Sivabalan) discloses a communications network that uses Open Shortest Path First (OSPF) in order to determine the cost associated with a potential data path, and the Cisco IOS System (or the Junos OS System or Zamfir or the Vasseur Publications) discloses using Shared Risk Link Groups (SRLG) as a modification to OSPF in order to identify network risks common to multiple network paths. Skilled artisans would have understood that the IETF MPLS-TP System (or Doshi or Sivabalan) and the Cisco IOS System (or the Junos OS System or Zamfir or the Vasseur Publications) could be readily combined because both relate to determining the best data paths in

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a communication network to use, and both are based upon the OSPF protocol. The Cisco IOS System (or the Junos OS System or Zamfir or the Vasseur Publications) discloses the benefits of using SRLG in order to spread risks across a communication network. Thus, a skilled artisan would have been motivated to include the SRLG disclosed in the Cisco IOS System (or the Junos OS System or Zamfir or the Vasseur Publications) into the communications network disclosed in the IETF MPLS-TP System (or Doshi or Sivabalan) and would have recognized that the results of this combination were predictable.

As another example, skilled artisans would have been motivated to combine the Junos OS System (or Doshi or Sivabalan or Zamfir or the Vasseur Publications) with the Cisco IOS System (or the IETF MPLS-TP System) because the Junos OS System (or Doshi or Sivabalan or Zamfir or the Vasseur Publications) discloses a communications network that determines working and protection paths for sending data traffic, and the Cisco IOS System (or the IETF MPLS-TP System) discloses determining the concurrent probability of failure between two selected data paths. Skilled artisans would have understood that the Junos OS System (or Doshi or Sivabalan or Zamfir or the Vasseur Publications) and the Cisco IOS System (or the IETF MPLS-TP System) could be readily combined because both relate to determining the cost related to data paths within a communications network. the Cisco IOS System (or the IETF MPLS-TP System) discloses the benefits of determining the probability of concurrent failure between various network devices in order to choose pairs of working and protections paths with a lower chance of concurrent failure, and thus lower the amount of potential network downtime. Thus, a skilled artisan would have been motivated to include the concurrent probability calculations disclosed in the Cisco IOS System (or the IETF MPLS-TP System) into the data path determinations disclosed in the Junos

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OS System (or Doshi or Sivabalan or Zamfir or the Vasseur Publications) and would have recognized that the results of this combination were predictable.

6. Exemplary ’111 Patent Obviousness Combinations

Below is a list of examples of certain combinations of prior art references that a person of ordinary skill in the art would have been motivated to combine around the time of the alleged invention of the ’111 Patent. The combinations listed below are meant to provide additional clarity on motivations to combine some of the references, but is not meant to list every possible combination and is not an admission that unlisted combinations would not have been obvious to a person of ordinary skill in the art. Cisco reserves the right to amend or add exemplary obviousness combinations as discovery continues and after any change in Orckit’s positions.

For example, skilled artisans would have been motivated to combine Kempf (or Swenson or Chua ’877 or Chua ’151 or Lin) with Shieh (Chandrasekaran or Copeland or Uchida) because Kempf (or Swenson or Chua ’877 or Chua ’151 or Lin) discloses a network device that is under the control of a controller and that sends packets responsive to the controller’s instructions, and Shieh (Chandrasekaran or Copeland or Uchida) discloses sending and/or mirroring data packets to a controller to perform packet inspections. Skilled artisans would have understood that combine Kempf (or Swenson or Chua ’877 or Chua ’151 or Lin) and Shieh (Chandrasekaran or Copeland or Uchida) could be readily combined because both relate to using a controller to control data packet flow in a network, and enforcing that control via packet inspection. Shieh, Chandrasekaran, Copeland, and Uchida discloses the benefits of using the controller to analyze packets because the controller can use packet insights to globally update the instructions sent to all connected network devices, and thus allows control policy changes to be implemented faster. Thus, a skilled artisan would have been motivated to include send packets to the controller for analysis as disclosed in Shieh (Chandrasekaran or Copeland or Uchida) into the communications network disclosed in

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combine Kempf (or Swenson or Chua ’877 or Chua ’151 or Lin) and would have recognized that the results of this combination were predictable.

As another example, skilled artisans would have been motivated to combine combine Kempf (or Swenson or Chua ’877 or Chua ’151 or Lin) with Shieh (Chandrasekaran or Copeland or Uchida) because Kempf (or Swenson or Chua ’877 or Chua ’151 or Lin) discloses a network device working under the control of a controller that that sends a packet to an intended destination if its header does not satisfy a criterion within the controller’s policy, and Shieh (Chandrasekaran or Copeland or Uchida) discloses a network device working under the control of a controller that that sends a packet to an intended destination if its header satisfies a criterion within the controller’s policy. Skilled artisans would have understood that Kempf (or Swenson or Chua ’877 or Chua ’151 or Lin) and Shieh (Chandrasekaran or Copeland or Uchida) could be readily combined because both compare packet headers to a controller’s policy, and both use that comparison to decide whether or not to forward a packet to an intended destination. Shieh (Chandrasekaran or Copeland or Uchida) discloses the benefits of having a flexible policy that can be implemented in multiple ways. Thus, a skilled artisan would have been motivated to include making forwarding decisions based upon both meeting or failing to meet a policy as disclosed in Shieh (Chandrasekaran or Copeland or Uchida) into the communications network disclosed in combine Kempf (or Swenson or Chua ’877 or Chua ’151 or Lin) and would have recognized that the results of this combination were predictable.

IV. INVALIDITY BASED UPON INDEFINITENESS, LACK OF SUFFICIENT WRITTEN DESCRIPTION, LACK OF ENABLEMENT, AND LACK OF PATENT SUBJECT MATTER ELIGIBILITY

The Asserted Claims are invalid based on indefiniteness under 35 U.S.C. § 112 ¶ 2 and/or based on failure to meet the enablement and written description requirements under 35 U.S.C. § 112 ¶ 1. Cisco’s theories are based upon the positions and apparent claim constructions taken by

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Orckit in its Infringement Disclosures—none of Cisco's indefiniteness, lack of enablement, lack of written description, lack of patent eligible subject matter, or improper inventorship positions concede that any of Orckit's positions or apparent constructions are correct. Cisco reserves the right to amend these First Amended Invalidity Contentions as discovery continues and after any change in Orckit's positions.

1. Indefiniteness

Title 35 U.S.C. § 112 ¶ 2 requires that a patent claim "particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention." Claim terms that fail to inform those skilled in the art "with reasonable certainty . . . about the scope of the invention" fail the definiteness requirement of § 112 ¶ 2. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). Furthermore, having "a single claim cover[] both an apparatus and method of use of that apparatus . . . renders [that] claim indefinite under section 112, paragraph 2." *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005) (citing *Ex parte Lyell*, 17 U.S.P.Q.2d 1548 (B.P.A.I. 1990)).

Every Asserted Claim of the '904 Patent is invalid as indefinite because, at a minimum, the following limitations, read in light of the intrinsic evidence, fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions:

- "mutually connected in series by the physical interface lines therebetween";
- "each daisy chain comprising at least … a second slave unit connected to the first slave unit but not to the first or second master unit";
- "in normal operation";
- "a protection interface";
- "the respective physical interface";

- "the bicast upstream data packets"
- "a pre-switch" / "pre-switching";
- "re-routes at least a portion of the data packets exchanged with one or more of the slaves in the daisy chain";
- "the data packets exchanged"
- "substantially no reconfiguration of the switch is required responsive to the fault" / "substantially no reconfiguration of the switch fabric is required in response to the reversal";
- "wherein in normal operation, downstream data packets received from the network are passed from the first master unit to each of the daisy chains via the first slave unit in each chain,"
- "preceding and succeeding units";
- "sort the packets in like manner";
- "multicast packet addressed to one or more of the ports"; and
- "a fabric of one or more switches" / "a switch fabric comprising one or more switches".

Every Asserted Claim of the '740 Patent is invalid as indefinite because, at a minimum, the following limitations, read in light of the intrinsic evidence, fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions:

- "a data frame having frame attributes sent between the communication network and the network node";
- "selecting, in a single computation based on at least one of the frame attributes";
- "sending comprising communicating";
- "the network node comprises a user node";

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- "balancing a frame data rate among at least some of the first and second physical links" / "balance a frame data rate among at least some of the first and second physical links";
- "applying a mapping function to the at least one of the frame attributes" / "apply a mapping function to the at least one of the frame attributes";
- "responsively to respective first and second subsets of bits in a binary representation of the modulo";
- "specifying bandwidth requirements comprising at least one of a committed information rate (CIR), a peak information rate (PIR) and an excess information rate (EIR) of a communication service provided by the communication network to the network node" / "specified bandwidth requirements comprising at least one of a committed information rate (CR), a peak information rate (PIR) and an excess information rate (EIR)";
- "the first and second groups of physical links being dimensioned to provide an allocated bandwidth for the communication service responsively to the bandwidth requirements";
- "determining a hashing size responsively to a number of at least some of the first and second physical links" / "determine a hashing size responsively to a number of at least some of the first and second physical links"; and
- "the backplane trace"

Every Asserted Claim of the '821 Patent is invalid as indefinite because, at a minimum, the following limitations, read in light of the intrinsic evidence, fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions:

- "determining an overall cost for each entity pair of said plurality of entities";

- "overall cost function";
- "reselecting said entity pair from the group consisting of said entity pair and a replacement entity pair comprising at least one entity distinct from the entities of said entity pair";
- "a group consisting of adding an entity to said plurality of transport entities, removing an entity from said plurality of transport entities, an operational status change for one of said plurality of transport entities, and a change in overall cost for one of said plurality of transport entities";
- "working entity";
- "protection entity";
- "active entity";
- "selecting an active entity from the set consisting of said working entity and said protection entity";
- "substantially minimizing" / "substantially minimum";
- "if said subset comprises at least two entity pairs, selecting an entity pair from said subset that minimizes an entity cost function";
- "predefined entity cost metric";
- "revertive";
- "logic configured to …" terms; and
- "the group consisting of interior gateway protocol (IGP) and traffic engineering (TE)".

Every Asserted Claim of the '111 Patent is invalid as indefinite because, at a minimum, the following limitations, read in light of the intrinsic evidence, fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions:

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- "over the packet network";
- "an instruction";
- "a packet-applicable criterion";
- "the packet not satisfying the criterion";
- "the packet satisfying the criterion";
- "an entity that is included in the instruction and is other than the second entity";
- "the instruction is 'probe', 'mirror', or 'terminate' instruction";
- "blocking, by the network node, the packet from being sent to the second entity and to the controller";
- "identification of the consecutive bytes in the packet";
- "applying security or data analytic application";
- "firewall or intrusion detection functionality";
- "wherein the packet-applicable criterion is that one or more of the flag bits is set";
- "wherein the one or more flag bits comprises comprise a SYN flag bit, an ACK flag bit, a FIN flag bit, a RST flag bit, or any combination thereof";
- "the header comprises at least the first and second entities addresses in the packet network";
- "Deep Packet Inspection (DPI)" / "a DPI engine";
- "the network node communication with the controller serves as a control plane";
- "a standard protocol"; and
- "Software Defined Network (SDN)".

2. Lack of Written Description and Enablement

The specifications of the Asserted Patents do not provide adequate written description to

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support the claim scope asserted by Orckit in furtherance of its infringement theories. 35 U.S.C. § 112 ¶ 1 requires a patent specification to contain "a written description of the invention." To fulfill the written description requirement, the patent "must clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed." *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (citation and internal quotation marks omitted). To satisfy the written description requirement, "the applicant must 'convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention,' and demonstrate that by disclosure in the specification of the patent." *Carnegie Mellon Univ. v. Hoffmann-La Roche Inc.*, 541 F.3d 1115, 1122 (Fed. Cir. 2008) (quoting *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991)). The Asserted Patents do not meet that requirement.

Additionally, the Asserted Patents do not enable the claim scope contended in Orckit's Infringement Disclosure. 35 U.S.C. § 112 ¶ 1 requires the specification to describe "the manner and process of making and using [the invention], in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains … to make and use the" invention. The enablement requirement is separate from and in addition to the written description requirement. *Ariad*, 598 F.3d at 1344–45. This "requirement is satisfied when one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation." *AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1244 (Fed. Cir. 2003) (citation omitted).

The '904 Patent fails to (1) demonstrate the inventors' possession of the claimed invention; or (2) enable a person of ordinary skill in the art to make and use the claimed invention without undue experimentation, for example:

- any purported interpretation of a claim that would cover embodiments with only a single "master unit" because the '904 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "first and second master units" because the '904 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "a plurality of slave units" because the '904 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "one or more daisy chains" because the '904 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "mutually connected in series by the physical interface lines therebetween" because the '904 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "respective subscriber lines" because the '904 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures; and
- "an additional daisy chain" because the '904 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures.

The '740 Patent fails to (1) demonstrate the inventors' possession of the claimed invention; and (2) enable a person of ordinary skill in the art to make and use the claimed invention without undue experimentation, for example:

- "first group of first physical links arranged in parallel" / "second group of second physical links arranged in parallel" because the '740 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;

- "selecting, in a single computation based on at least one of the frame attributes" because the '740 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "a first physical link out of the first group and a second physical link out of the second group" because the '740 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "single computation" because the '740 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "responsively to respective first and second subsets of bits in a binary representation of the modulo" because the '740 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures; and
- "a control module" because the '740 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures.

The '821 Patent fails to (1) demonstrate the inventors' possession of the claimed invention; and (2) enable a person of ordinary skill in the art to make and use the claimed invention without undue experimentation, for example:

- "determining an overall cost for each entity pair of said plurality of entities" because the '821 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "overall cost function" because the '821 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;

- "selecting an entity pair from said plurality of transport entities" because the '821 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "reselecting said entity pair from the group consisting of said entity pair and a replacement entity pair comprising at least one entity distinct from the entities of said entity pair" because the '821 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "logic configured to …" terms because the '821 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "Non-transitory computer readable media configured to …" of Claim 17 because the '821 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures; and
- "determine a probability of concurrent failure of said working entity and said protection entity" because the '821 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures.

The '111 Patent fails to (1) demonstrate the inventors' possession of the claimed invention; and (2) enable a person of ordinary skill in the art to make and use the claimed invention without undue experimentation, for example:

- any purported interpretation of a claim that would cover embodiments with a "controller" that is not configured to perform deep packet inspection, because the '111 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;

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- "an entity that is included in the instruction and is other than the second entity" because the '111 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "blocking, by the network node, the packet from being sent to the second entity and to the controller" because the '111 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "analyzing the packet, by the controller" because the '111 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "applying security or data analytic application" because the '111 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures;
- "firewall or intrusion detection functionality" because the '111 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures; and
- "Deep Packet Inspection (DPI)" / "a DPI engine" because the '111 Patent fails to provide description raising to the breadth of Orckit's Infringement Disclosures.

3. Lack of Patentable Subject Matter

Cisco contends that the '740, '821, and '111 Patents are invalid for claiming unpatentable subject matter. Pursuant to the Court's Standing Order Regarding Subject Matter Eligibility Contentions Applicable to All Patent Infringement Cases Assigned to Chief District Judge Rodney Gilstrap and the Court's Docket Control Order (D.I. 39), the detailed factual and legal bases for Cisco's contentions are set forth in Cisco's Preliminary Subject Matter Eligibility Contentions, served on February 2, 2023. Cisco reserves the right to later amend its Subject Matter Eligibility Contentions.

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V. INVALIDITY BASED UPON IMPROPER INVENTORSHIP

Cisco contends that at least the '740 Patent is invalid for improper inventorship under 35 U.S.C. § 102(f). As explained in Exhibit C-6, every claim limitation of all of the Asserted Claims of the '740 Patent were disclosed by U.S. Patent Publication No. 2004/0228278 to Bruckman *et al*. Moreover, as explained in Exhibit C-6, U.S. Patent Publication No. 2004/0228278 to Bruckman *et al*. is prior art to the '740 Patent. However, Mr. Bruckman is improperly not joined as an inventor of the '740 Patent. Because the '740 Patent fails to list the proper set of inventors, the '740 Patent is invalid for improper inventorship.

To date, Orckit has not produced any notes or other documents from any of the inventors of the Asserted Patents, and Cisco has not yet deposed the inventors of the Asserted Patents. Cisco plans on conducting discovery regarding the inventorship of the Asserted Patents consistent with the Court's Scheduling order, and Cisco reserves its right to supplement its contention that the Asserted Patents are invalid under 35 U.S.C. § 102 (f) for improper inventorship as discovery progresses.

VI. ACCOMPANYING DOCUMENT PRODUCTION

Subject to the terms of the Court's Protective Order, Cisco has produced—or will be producing—the documents required by Local Patent Rule 3-4(a).

Pursuant to Local Patent Rule 3-4(b), and subject to the Court's Orders, Cisco has produced—or will be producing—a copy of each item of prior art identified pursuant to Local Patent Rule 3-3(a) which does not appear in the file history of the patents at issue.

VII. ACCOMPANYING SOURCE CODE PRODUCTION

Subject to the terms of the Court's Protective Order, Cisco has made available for inspection—or will be making available for inspection—source code sufficient to show the

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operation of the accused features disclosed in Orckit's Infringement Disclosures, as required by Local Patent Rule 3-4(a).

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Dated: April 12, 2023

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via email on April 12, 2023.

Dated: April 12, 2023

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