

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,
Petitioner

v.

ORCKIT CORPORATION,
Patent Owner.

Case IPR2023-00401
Patent No. 7,545,740

PATENT OWNER'S PRELIMINARY RESPONSE

TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION	1
II. BACKGROUND	3
A. Procedural History	3
B. The History Behind Orckit Corporation’s Patents.....	4
C. The ’740 Patent.....	6
D. Prosecution History	14
E. Petitioner’s Cited References	15
1. Bruckman (Ex. 1005)	15
2. Basso (Ex. 1006).....	17
3. Holdsworth (Ex. 1007).....	19
III. CLAIM CONSTRUCTION.....	19
IV. PERSON OF ORDINARY SKILL IN THE ART.....	20
V. NO COMBINATION OF THE CITED REFERENCES TEACHES OR SUGGESTS EVERY LIMITATION OF ANY CHALLENGED CLAIM.....	21
A. Claims 1-13 and 17-28.....	21
1. Ground 1	23
2. Ground 2	26
B. Claims 14-16 and 29-31.....	31

VI. THE BOARD SHOULD DENY INSTITUTION UNDER 35 U.S.C. § 325(d)	34
A. <i>Becton, Dickinson</i> Factors (a), (b) and (d)	35
B. <i>Becton, Dickinson</i> Factors (c), (e) and (f)	40
VII. THE BOARD SHOULD EXERCISE DISCRETION UNDER SECTION 314 AND DENY INSTITUTION	42
A. Factor 1.....	45
B. Factor 2.....	46
C. Factor 3.....	49
D. Factor 4.....	51
E. Factor 5.....	55
F. Factor 6.....	55
VIII. CONCLUSION	57

TABLE OF AUTHORITIES

Page(s)

Cases

<i>Harmonic Inc. v. Avid Tech.</i> , 815 F.3d 1356 (Fed. Cir. 2016)	42
--	----

Statutes

35 U.S.C. § 314	2, 43, 49
35 U.S.C. § 325	2, 34, 42

Agency Decisions

<i>Apple Inc. v. Fintiv, Inc.</i> , IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020)	43
<i>Apple Inc. v. Fintiv, Inc.</i> , IPR2020-00019, Paper 15 (PTAB May 13, 2020)	44
<i>Becton Dickinson v. B. Braun Melsungen</i> , IPR2017- 01586, Paper 8 (PTAB Dec. 15, 2017)	2, 35, 40, 42
<i>CommScope Techs. LLC v. Dali Wireless, Inc.</i> , IPR2022- 01242, Paper 23 (PTAB Feb. 27, 2023)	44
<i>General Plastic Indus. Co., Ltd. v. Canon Kabushiki Kaisha</i> , IPR2016-01357, Paper 19 (PTAB Sept. 6, 2017)	49
<i>Google LLC v. EcoFactor Inc.</i> , IPR2021-00454, Paper 9 (PTAB July 22, 2021)	52
<i>LG Elecs., Inc. v. Ancora Techs., Inc.</i> , IPR2021-00581, Paper 16 (PTAB June 10, 2021)	52, 54
<i>NHK Spring Co. v. Intri-Plex., Inc.</i> , IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018)	43, 48

<i>OpenSky Indus., LLC v. VLSI Tech. LLC,</i> IPR2021-01064, Paper 102 (PTAB Oct. 4, 2022).....	44
<i>Roku, Inc. v. IOENGINE, LLC,</i> IPR2022-01554, Paper 11 (PTAB May 5, 2023)	53
<i>Samsung Electronics Co. Ltd. v. California Institute of Tech.,</i> IPR2023-00130, Paper 10 (PTAB May 4, 2023)	53, 55
<i>Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC,</i> IPR2019-01393, Paper 24 (PTAB June 16, 2020)	52, 54

Patent Procedures

Katherine K. Vidal, <i>Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation</i> (June 21, 2022)	44
MPEP §2143.03.III	37

EXHIBIT LIST	
2001	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 46 (E.D. Tex., Jan. 15, 2023), First Amended Docket Control Order (“First Amended Docket Control Order”)
2002	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 28 (E.D. Tex., Nov. 4, 2022), Notice of Compliance (“11-4-2022 Notice of Compliance”)
2003	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 47 (E.D. Tex., Jan. 19, 2023), Notice of Compliance (“1-19-2023 Notice of Compliance”)
2004	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 55 (E.D. Tex., Mar. 23, 2023), Defendant’s Motion To Stay
2005	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 56 (E.D. Tex., Mar. 29, 2023), Order Denying Motion to Stay
2006	United States District Courts National Judicial Caseload Profile For the 12 Months Ending March 31, 2023 (available at https://www.uscourts.gov/sites/default/files/data_tables/fcms_na_distprof_ile0331.2023.pdf) (“March 23 Judicial Caseload Statistics”)
2007	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 50 (E.D. Tex., Feb. 3, 2023), Notice of Compliance (“2-3-2023 Notice of Compliance”)
2008	U.S. Pat. No. 6,963,578 (“Akahane”)
2009	December 11, 2008 Final Rejection (U.S. Appl. No. 11/123,801) (“’801 Application Final Rejection”)
2010	July 28, 2008 Claim Amendments (U.S. Appl. No. 11/123,801) (“’801 Application Pending Claims”)
2011	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 59 (E.D. Tex., Mar. 30, 2023), Order Granting Motion To Amend Invalidity Contentions
2012	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 61 (E.D. Tex., April 13, 2023), Order Granting Motion To Amend Invalidity Contentions
2013	“About Orckit-Corrigent: Executive Summary,” 2011.
2014	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (Cover Pleading)

2015	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (Exhibit A - ’904 Patent Charts)
2016	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (Exhibit B - ’821 Patent Charts)
2017	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (Exhibit C - ’740 Patent Charts)
2018	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (Exhibit D - ’111 Patent Charts)
2019	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (Exhibit E - Combination Charts)
2020	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (SME Contentions)
2021	United States District Courts National Judicial Caseload Profile For the 12 Months Ending December 31, 2022 (available at https://www.uscourts.gov/sites/default/files/data_tables/fcms_na_distprofile1231.2022.pdf) (“December 22 Judicial Caseload Statistics”)

I. INTRODUCTION

Orckit Corporation (“Orckit” or “Patent Owner”) submits this Preliminary Response to Cisco Systems, Inc.’s (“Petitioner”) Petition challenging Claims 1-31 of U.S. Patent No. 7,545,740 (“740 Patent”).

The Board should deny institution for several reasons. First, the asserted grounds of Bruckman or Bruckman and Basso do not teach or suggest each limitation of the independent claims. Independent claims 1, 4, 5, 13, 17, 19, 20 and 28 require selecting both (1) a first physical link out of a first group of physical links and (2) a second physical link out of a second group of physical links. Bruckman and Basso both fail because they teach only one selection—of the port used. There is no selection of a second physical link from a group because each port is connected to only one second physical link. The limitation—selecting a second physical link out of a second group of physical links—is completely missing from each of the Petition’s proposed combinations.

Independent claims 14, 15, 29 and 30 have similar limitations, requiring a selection between “two or more backplane traces.” Bruckman and Basso only teach selecting the port used, not selecting a backplane trace, and each port is connected to only one backplane trace; thus, there is no selection between two or more backplane traces. The limitation—selecting between two or more backplane traces—is completely missing from each of the Petition’s proposed combinations.

Thus, the Petition has failed to show a reasonable likelihood of succeeding if instituted.

Further, the Board should exercise its discretion to deny institution under 35 U.S.C. §§ 325(d) and 314(a).

Concerning § 325(d), the Petition relies on the Bruckman reference for nearly every element of every ground. Bruckman was reviewed and considered by the examiner during prosecution and discussed at length in a rejection of another of the applicant's co-pending applications, and the examiner considered that rejection (along with Bruckman) during prosecution. Further, the Bruckman and Basso references asserted here are cumulative of the other references considered during prosecution, including the Akahane reference that the examiner discussed in an October 2, 2008 rejection. The issues raised in the Petition are substantially the same as the issues discussed by the examiner. The Board should therefore exercise its discretion and deny institution under § 325(d) and the *Becton, Dickinson* factors.

Concerning § 314(a), this proceeding is well behind the related district court litigation, where trial is expected to begin in early 2024 and discovery and claim construction are already well underway. A final written decision in this proceeding will be due in September 2024, by which point the jury will have long since rendered its verdict on invalidity issues raised here and the litigation will already

be on appeal. Accordingly, *Fintiv*'s efficiency considerations overwhelmingly favor denying institution here. This is even more true since the prior art and issues discussed in the petition are substantially the same as those discussed and considered by the examiner during prosecution.

Accordingly, the Board should deny institution.

II. BACKGROUND

A. Procedural History

This proceeding is one of four IPRs filed by Petitioner against Patent Owner. The other IPRs are IPR2023-00402 (U.S. Pat. No. 8,830,821), IPR2023-00554 (U.S. Pat. No. 10,652,111) and IPR2023-00714 (U.S. Pat. No. 6,680,904). Each of the '740, '821, '111 and '904 Patents is currently asserted by Patent Owner against Petitioner in *Orckit Corporation v. Cisco Systems, Inc.*, Case No. 2:22-cv-00276 (E.D. Tex. July 22, 2022).

The parties in the district court litigation are currently briefing claim construction, with the hearing scheduled for September 7, 2023. Ex. 2001 [First Amended Docket Control Order], 3-4. Discovery is well underway. Infringement contentions and accompanying disclosures under the local patent rules were served on November 3, 2022 and Supplemental Infringement Contentions were served on January 19, 2023. Exs. 2002, 2003 [11-4-2022 and 1-19-2023 Notices of Compliance]. Invalidity contentions and accompanying disclosures under the local

patent rules were served on February 3, 2023 and have already been supplemented several times, including most recently on April 13. Exs. 2001 [First Amended Docket Control Order], 4-5; 2011 [March 30, 2023 Order]; 2012 [April 13, 2023 Order]. The district court trial is scheduled to begin March 4, 2024. Ex. 2001 [First Amended Docket Control Order], 1.

Petitioner filed a motion to stay the district court litigation pending completion of these IPRs on March 23, 2023. Ex. 2004, 1. The district court denied that motion *sua sponte* on March 29, 2023. Ex. 2005, 3. Accordingly, the district court litigation continues to progress in parallel with this proceeding.

B. The History Behind Orckit Corporation's Patents

Orckit Corporation is the current assignee of the '740 patent, which originated from the significant research and development conducted by Orckit Communications Ltd. (also known as Corrigent-Systems Ltd., referred to herein as "Orckit-Corrigent").

Orckit was founded in 1990 by Izhak Tamir and Eric Paneth. In September 1996, Orckit announced an Initial Public Offering (IPO) of 3.3 million ordinary shares at a public offering price of \$16.00; but its initial public offering on the Nasdaq over-the-counter exchange was postponed due to oversubscription because of excess public demand for its shares. See <https://en.wikipedia.org/wiki/Orckit-Corrigent>).

Over the years, Orckit-Corrigent and its subsidiaries developed and sold products in a variety of telecommunications areas, including DSL, Packet Transport Networks (PTN), Carrier Ethernet technologies, PWE (Pseudo-Wire Emulation) technology, and Resilient Packet Ring (RPR) technology, which was developed and introduced to the market as the IEEE 802.17 Standard, part of the company's packet transport technology. In 2007, Orckit-Corrigent launched its CM4000 PTN line of products, which were purchased and deployed by telecom providers worldwide, including leading Indian carrier Bharat Sanchar Nigam Ltd. (BSNL); T-Systems (Deutsche Telekom) in Germany; Tele2, a leading Pan-European Scandinavian Service Provider; redIT (formerly MetroNet) in Mexico, and others. At one time, Orckit-Corrigent had offices in Israel, US, India, Japan, Korea, Germany, Russia, Brazil, Mexico, Thailand, and the Philippines.

Over the years, Orckit-Corrigent invested over \$200M in research and development and developed an extensive patent portfolio practiced by its products, notably, the CM-4000 product family, which was a series of packet transport network switches (consisting of, among other products, the CM-4140, CM-4206 and CM-4314T/4314 models), and the CM-401x portfolio of switches that included the CM-4011, CM-4012 and CM-4013 products. Ex. 2013, [Orckit-Corrigent Executive Summary].

Orckit-Corrigent's products offered networking infrastructure for the delivery

of residential, business, and mobile backhauling services in packet-based networks. By the early 2000s, Orckit-Corrigent was a pioneer in telecommunications, with revenues some years exceeded \$500M from sales to various tier 1 global telecommunications providers.

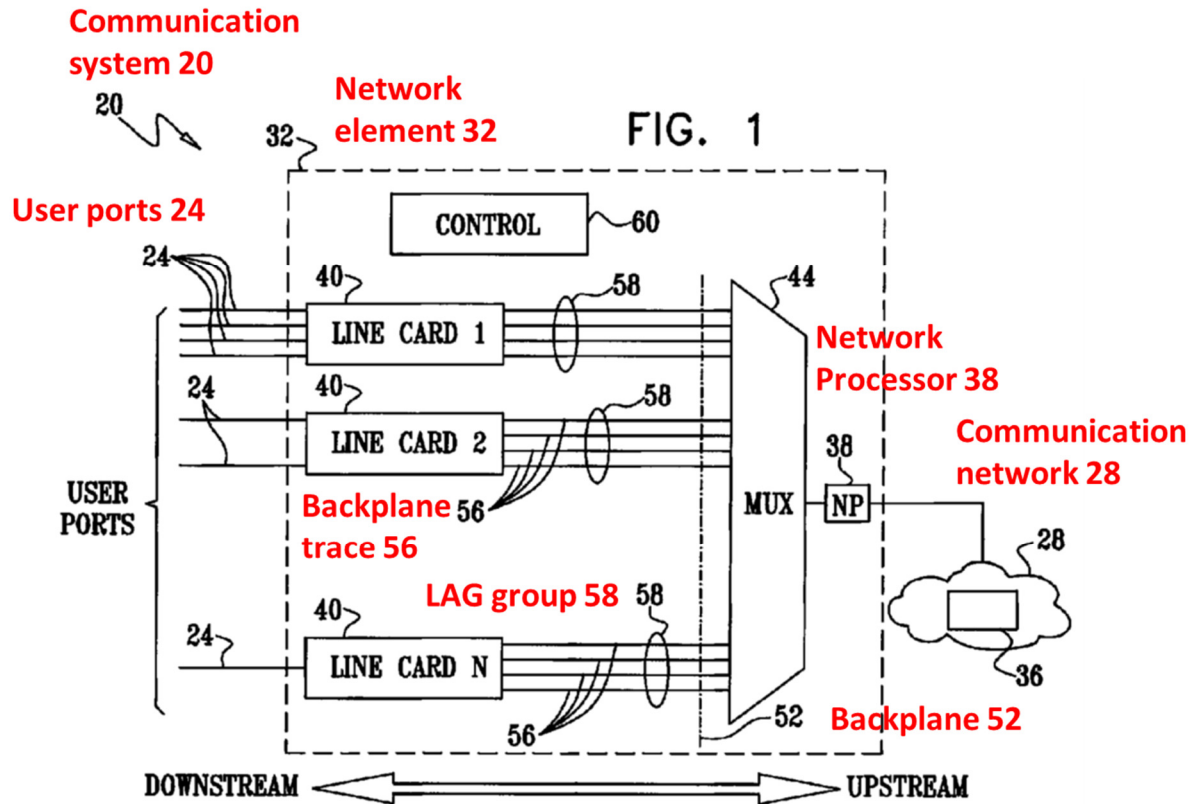
Despite its early success, following the “dot-com bust,” Orckit-Corrigent found itself amassing ever increasing debt. In 2012, Orckit-Corrigent was ultimately forced to enter into debt restructuring/bankruptcy proceedings in Israel. In 2016, Orckit IP purchased all of Orckit-Corrigent’s patents, including the ’740 patent, through those proceedings. Orckit Corporation subsequently acquired a smaller set of Orckit-Corrigent’s patents, including the ’740 patent.

C. The ’740 Patent

The ’740 Patent is directed to two-way “link aggregation” in network elements of communication networks. Ex. 1001 [’740 Patent], Title, Abstract, 1:5-7. “Link aggregation (LAG) is a technique by which a group of parallel physical links between two endpoints in a data network can be joined together in a single logical link.” Ex. 1001 [’740 Patent], 1:11-13. Users may connect to a communication network “through a network element, such as an access concentrator or aggregator for obtaining different data services.” Ex. 1001 [’740 Patent], 1:34-36.

Figure 1 of the ’740 Patent (annotated below) schematically illustrates a communication system in accordance with one embodiment. Ex. 1001 [’740 Patent],

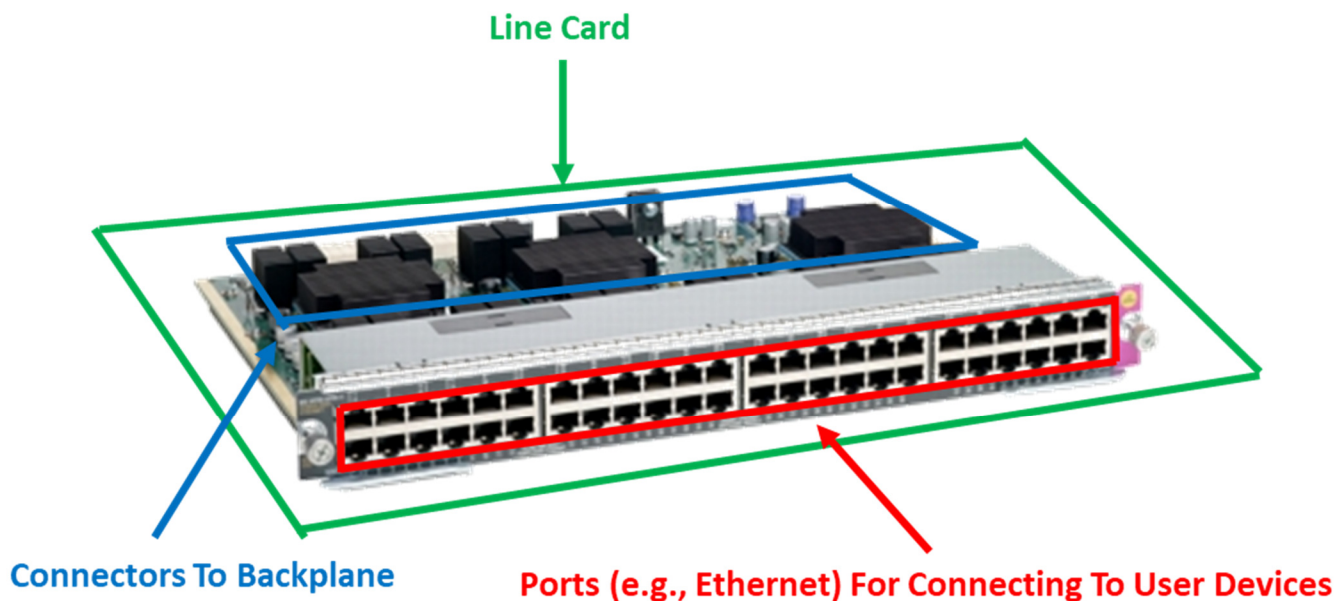
4:5-7:



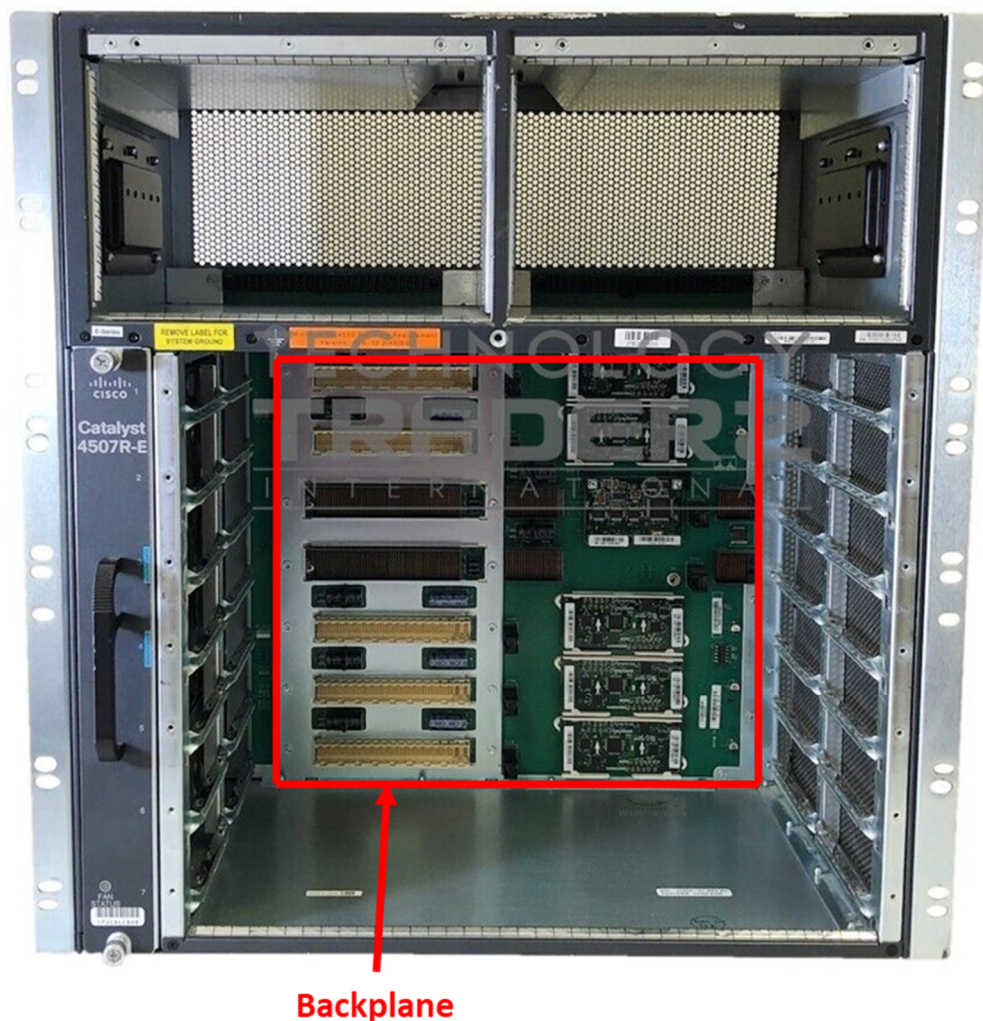
User ports 24 (e.g., the ports that connect to PCs or other user devices) are shown on the left. Each user port is connected to a line card 40. Ex. 1001 [’740 Patent], 4:29-30. Each line card 40 processes data frames from one or more user ports. *Id.* The line cards (also referred to as User Interface Modules or “UIMs”) are coupled to a backplane 52. Ex. 1001 [’740 Patent], 4:28-33. “Backplane 52 comprises physical links, such as backplane traces 56, typically in the form of printed circuit board (PCB) conductors.” Ex. 1001 [’740 Patent], 4:34-36. These traces are connected to the line cards 40, which connect to user ports. Thus, the line cards 40 (or User Interface Modules) are each connected to one group of user ports 24 and to

a second group of backplane traces 56 and serve to connect one port out of the first group of user ports 24 to one backplane trace out of the group of backplane traces 56 connected to the line card.

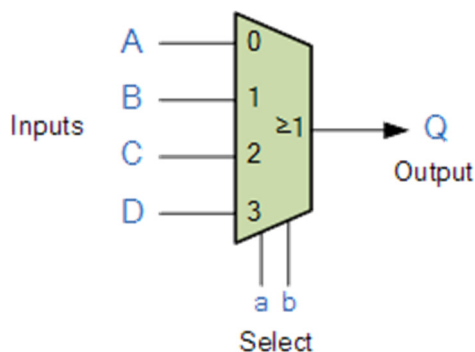
For reference, a real-world example of a line card is shown below with some of the elements discussed in the '740 Patent highlighted:



A similar example of a switch chassis containing a backplane (where the line cards connect) is shown below. Multiple line cards can be plugged into the backplane:



In the '740 Patent, the backplane 52 may be connected to a multiplexer (MUX) 44. Ex. 1001 ['740 Patent], 4:38. Multiplexers receive data through a number of inputs and combine those inputs onto a single output, as seen in the example multiplexer schematic below:

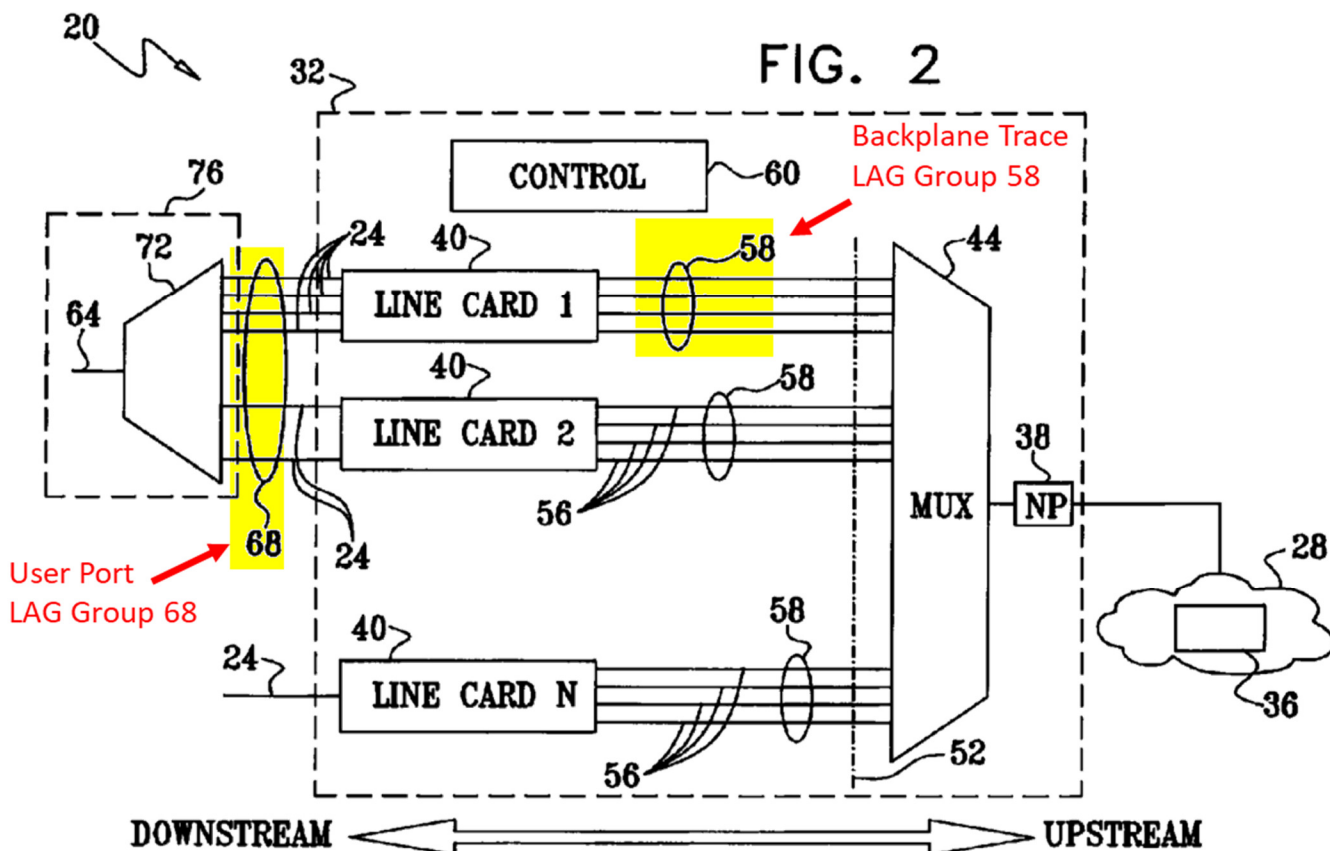


In some embodiments of the invention claimed in the '740 Patent, in the upstream direction (i.e., from user ports 24 to communication network 28), the multiplexer combines the frames received separately from each backplane trace onto a single upstream output that is sent to network processor 38 and then further upstream to node 36 of communication network 28. Ex. 1001 ['740 Patent], 4:39-42. “In the downstream direction, network processor 38 of network element 32 accepts a downstream input comprising downstream frames addressed to user ports 24 from node 36 through connection 48” and “MUX 44 sends each frame to the appropriate user port via the appropriate line-card.” Ex. 1001 ['740 Patent], 4:43-47.

In order to increase bandwidth and quality of service, the '740 Patent discloses link aggregation for both a first and second group of physical links. Ex. 1001 ['740 Patent], 2:47-49 (“In yet another embodiment, at least one of the first and second groups of physical links include an Ethernet link aggregation (LAG) group.”). These first and second LAG groups may comprise user ports and backplane traces, respectively. Ex. 1001 ['740 Patent], 2:5-8 (“In some embodiments, two or more

physical user ports are aggregated into a LAG group external to the network element, so as to form an aggregated user port having a higher bandwidth.”); 2:44-46 (“In another embodiment, the second physical links include backplane traces formed on a backplane to which the one or more interface modules are coupled.”). Further, the frames are distributed among different ports in a first group of ports and different backplane traces in a second group of backplane traces in order to balance the load, thereby increasing bandwidth and quality of service across the network. “The frames to and from the aggregated user port are distributed among the physical user ports of the external LAG group to balance the load and enable higher bandwidth and [quality of service].” Ex. 1001 [’740 Patent], 2:8-11.

An example of these two separate LAG groups is shown below with respect to annotated Fig. 2:



The '740 Patent discusses that “[i]n general, the processing of [] frames in network element 32 comprises two consecutive mapping operations.” Ex. 1001 [’740 Patent], 6:54-55. “First, each frame is mapped to one of user ports 24 in external LAG group 68.” Ex. 1001 [’740 Patent], 6:54-55. The user port 24 corresponds to a single line card, so “[d]etermining the user port implicitly determines through which line card 40 the frame will pass.” Ex. 1001 [’740 Patent], 6:57-58. “Then, the same frame is mapped to one of backplane traces 56 in the appropriate LAG group 58.” Ex. 1001 [’740 Patent], 6:58-60.

The '740 Patent teaches that the load-balancing operation can be performed

with suitable mapping functions, including, for example, hashing functions. Ex. 1001 [’740 Patent], 1:60-62, 5:22-24, 7:17-24. “The mapping function distributes the frames among the different backplane traces so as to balance the load between the traces.” Ex. 1001 [’740 Patent], 5:25-27. “[T]he mapping function hashes one or more frame attributes, such as header fields of the Ethernet frame, to produce a hashing key. The hashing key corresponds to an index of the backplane trace over which the frame is to be sent.” Ex. 1001 [’740 Patent], 5:27-31.

Examples of mapping functions are discussed in the specification, where, for example, mapping functions index both the user port and backplane trace onto four bits by using two bits for the port index and two bits for the trace index. Ex. 1001 [’740 Patent], 7:60-8:5 (“the four bit mapping index is partitioned so that two bits encode the user port and two bits encode the backplane trace.”). So, for example, in a LAG comprised of four ports and four backplane traces, each of the four ports is mapped to two bits and each of the four backplane traces is mapped to two bits.

The independent claims of the ’740 Patent require “selecting, in a single computation based on at least one of the frame attributes, a first physical link out of the first group and a second physical link out of the second group” to transmit each frame over. *See, e.g.*, Ex. 1001 [’740 Patent], claim 1. For example, for each frame being transmitted, the method selects not only a user port (first physical link) from a group of potential user ports, but also separately selects a backplane trace (second

physical link) as part of a single computation. The dependent claims require additional functionality such as multiplexing, load balancing, and the use of hashing and other mapping functions. *See, e.g., id.*, claims 6-11, 21-26.

D. Prosecution History

U.S. Pat. Appl. No. 11/279,045 was filed on April 7, 2006. Ex. 1002 ['740 File History], 205. On October 2, 2008, the Examiner issued a non-final rejection rejecting as-filed claims 1-3, 6-12, 14, 16-18, 21-27, 29 and 31 as anticipated by Akahane (U.S. Pat. No. 6,963,578) and objecting to the remaining claims as being dependent on a rejected base claim. *Id.*, 82-85.

On December 31, 2008, the Applicant filed a response amending independent claims 1, 14, 17 and 29 to clarify that the claimed physical links and interface modules operated in a bi-directional (i.e., upstream and downstream) manner and rewriting the objected-to dependent claims 4-5, 13, 15, 19-20, 28 and 30 as independent. *Id.*, 76-77. Based on these amendments, the applicant distinguished Akahane's teachings of "separate and dedicated input lines and output lines" that are not bi-directional. *Id.*, 77.

On January 19, 2009, the applicant filed a Supplemental Informational Disclosure Statement disclosing several references including Bruckman. Ex. 1002 ['740 Patent File History], 55. In addition, the applicant disclosed for the examiner's consideration a Final Rejection dated December 11, 2008, which issued during the

prosecution of applicant's U.S. Patent Application Number 11/123,801. *Id.*, 54. This Office Action discussed Bruckman in detail as the basis for a final rejection on similar claims. Ex. 2009 ['801 Application Final Rejection].

On January 27, 2009, the Examiner initialed the IDS, indicating they had considered Bruckman, along with the other references disclosed in the IDS. *Id.*, 44. On February 2, 2009, the Examiner issued a notice of allowance. *Id.*, 38-40. The '045 Application issued as the '740 Patent on June 9, 2009. *Id.*, 32.

E. Petitioner's Cited References

The Petition asserts four grounds, as shown below:

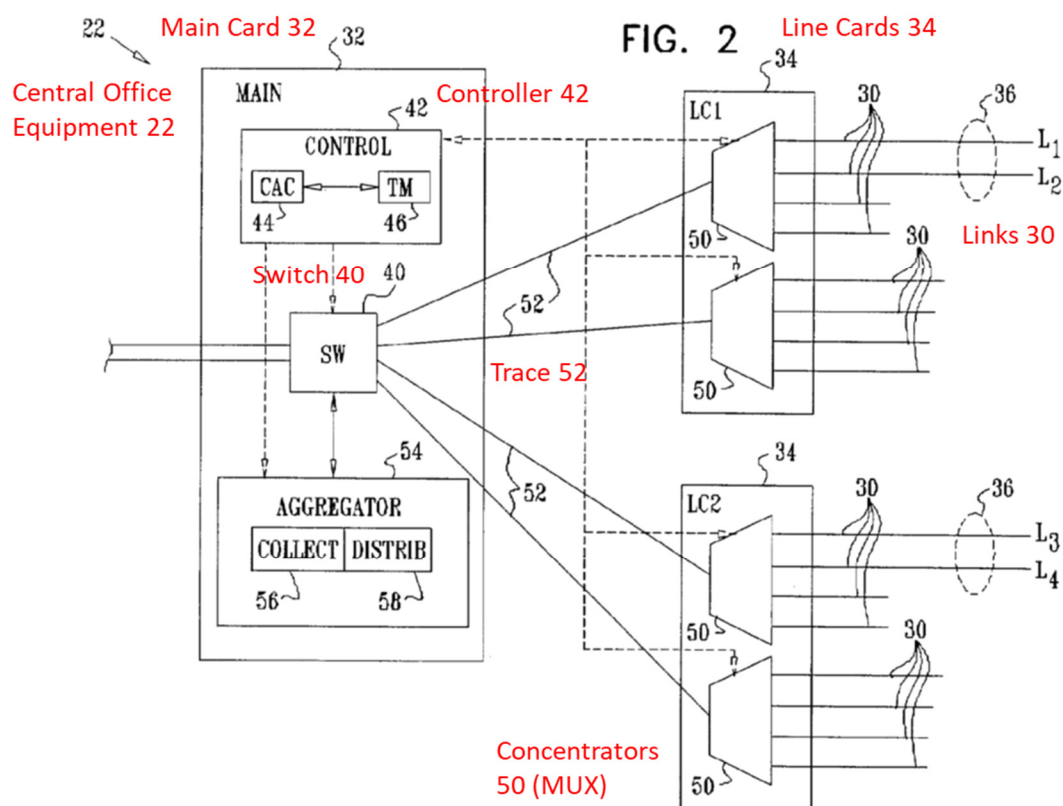
Grounds	Claims	Basis
#1	1-31	35 U.S.C. § 103 (Pre-AIA) over Bruckman
#2	1-31	35 U.S.C. § 103 (Pre-AIA) over Bruckman and Basso
#3	11 and 26	35 U.S.C. § 103 (Pre-AIA) over Bruckman and Holdsworth
#4	11 and 26	35 U.S.C. § 103 (Pre-AIA) over Bruckman, Basso, and Holdsworth

Pet., 21. In each ground, Bruckman is the primary reference.

1. Bruckman (Ex. 1005)

Bruckman (Pat. Publ. No. US2004/0228278) is directed to "Bandwidth Allocation for Link Aggregation." Ex. 1005 [Bruckman], Title. Bruckman Fig. 2 (annotated below) is a block diagram that schematically shows details of communication equipment with link aggregation capability in accordance with one

embodiment of Bruckman. Ex. 1005 [Bruckman], ¶[0045].

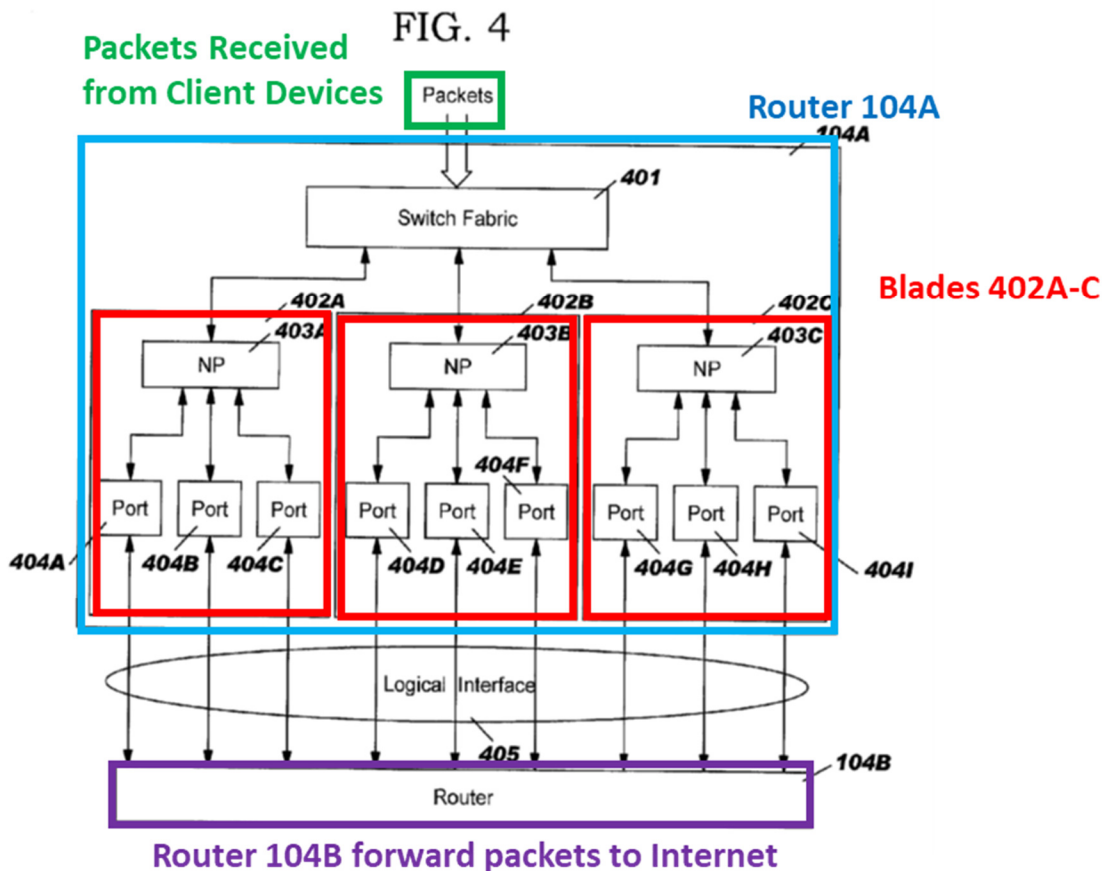


In Bruckman, switch 40 “switches traffic to and from line cards 34” via traces 52. Ex. 1005 [Bruckman], ¶[0049]. “The operation of switch 40 is managed by a controller 42.” *Id.* “Each line card 34 comprises one or more concentrators 50, which comprise multiple ports that serve respective links 30.” *Id.*, ¶[0056]. Concentrators 50 “multiplex data traffic between links 30 and traces 52.” *Id.* That is, as a packet passes over a trace 52, it arrives at the multiplexer on a concentrator 50, which determines which link 30 of the links connected to that concentrator should forward the packet. Links 30 are connected to customer nodes. *Id.*, ¶[0047]. “[D]istributor 58

determines the link over which to send each frame based on information in the frame header”, preferably by using a predetermined hash function. *Id.*, ¶[0058]. Since each link has only one corresponding trace election of a specific link 30 determines a specific trace 52 to be used—that is each link 30 has one trace 52 that is always associated with it.

2. Basso (Ex. 1006)

Basso (Pat. Pub. US2003/0210688) is directed to “logically grouping physical ports into logical interfaces to expand bandwidth.” Ex. 1006 [Basso], Title. Basso Fig. 4 (annotated below) illustrates an embodiment of a router with logical groupings of its physical ports. Ex. 1006 [Basso], ¶[0018]:



In Basso Fig. 4, packets are received from client devices at switch fabric 401. Ex. 1006 [Basso], ¶[0030]. “[N]etwork processor 403 may be configured to receive a packet of data from switch fabric 401.” Ex. 1006 [Basso], ¶[0031]. “Network processor 403 may then transmit the processed packet to a particular network device” such as router 104B, “through a port 404 connected to that network device.” *Id.*

However, “the rate at which the processed packets are transmitted is limited to the bandwidth of the physical connection between the port [e.g., 404A-I] and the network device [e.g., router 104B].” Ex. 1006 [Basso], ¶[0032]. Basso discloses

transmitting packets of data “across multiple physical ports to a particular network device from a particular network processor” to increase the bandwidth available. Ex. 1006 [Basso], ¶[0033]. Thus, Basso discloses a particular network processor chooses one of the physical ports attached to it to transmit packets of data.

Basso teaches that hash values may be used to identify “an appropriate blade/port combination.” Ex. 1006 [Basso], ¶[0012]. These blade/port combinations are stored as entries in a table with each port having a corresponding blade assigned to it. Ex. 1006 [Basso], ¶[0043]. That is, each blade has the same ports integrated onto it.

3. Holdsworth (Ex. 1007)

Holdsworth appears to be excerpted portions of the book “Digital Logic Design” by Brian Holdsworth and Clive Woods. Ex. 1007 [Holdsworth]. The excerpted portions comprise several single, non-sequential pages that purport to discuss multiplexers and decoders. *Id.*, 3-7.

III. CLAIM CONSTRUCTION

Petitioner states that no claim terms require express construction, but nevertheless addresses the terms “interface module” and “selecting, in a single computation” “for clarity.” Pet., 18-20. Neither term appears necessary to construe for this Preliminary Response, and for purposes of this Preliminary Response only, PO proposes no express constructions. PO reserves the right to address these claim

terms later in this proceeding or in other proceedings.

With respect to the claim term “selecting, in a single computation,” Petitioner argues that “the [claimed] ‘single computation’ does not refer to performing the *selecting* process in a single step, but rather to a single computational result of a hashing function (e.g., single value) that *selects* the outcome.” Pet., 19-20 (emphasis in original). To clarify, the ’740 Patent discloses one embodiment in which a hashing function produces a four-bit value whereby the first two bits define the user port and the last two bits define the backplane trace. Ex. 1001 [’740 Patent], 7:60-8:5 (“the four bit mapping index is partitioned so that two bits encode the user port and two bits encode the backplane trace... . The user port index and the backplane trace index jointly define the combined mapping operation for determining how the particular downstream frame is to be handled.”). The ’740 Patent is not limited to that embodiment. However, in that embodiment, the “single computation” of the hashing function produces two values (*i.e.*, two pairs of bits in a single four-bit sequence), one of which is used to select a user port from a group of user ports (*i.e.*, a “user port index”) and the other to select a backplane trace from a group of backplane traces (*i.e.*, a “backplane trace index”). *Id.*, 7:60-8:5, 8:10-14. Regardless, the ’740 Patent is not limited to that embodiment.

IV. PERSON OF ORDINARY SKILL IN THE ART

Petitioner defines a POSITA as follows:

A Person of Ordinary Skill in The Art (“POSITA”) in April 2006 would have had a working knowledge of computer networking, including such commonly used technologies as Ethernet and the internet protocol / transmission control protocol (TCP/IP) suite. A POSITA would have had a bachelor’s degree in electrical engineering, or an equivalent, and two years of professional experience in the field of communication networks, including link aggregation in communication networks. Lack of professional experience can be remedied by additional education, and vice versa.

Pet. 18.

For purposes of this Preliminary Response only, Patent Owner does not dispute Petitioner’s definition, except (1) other majors, such as computer engineering, telecommunication engineering, computer science and other similar majors could also be appropriate backgrounds and (2) a POSITA with two years of experience in the field of communication networks would not necessarily have experience in “link aggregation.”

V. NO COMBINATION OF THE CITED REFERENCES TEACHES OR SUGGESTS EVERY LIMITATION OF ANY CHALLENGED CLAIM

A. Claims 1-13 and 17-28

Independent method claims 1, 4, 5 and 13 contain the limitation “selecting, in a single computation based on at least one of the frame attributes, a first physical

link out of the first group and a second physical link out of the second group”. Ex. 1001 [’740 Patent], claims 1, 4, 5, 13. Independent apparatus claims 17, 19, 20 and 28 claim control modules with the same functionality. Ex. 1001 [’740 Patent], claims 17, 19, 20, 28. The claims that depend from these claims (i.e., claims 2-3, 6-12, 18 and 21-27) also require this functionality.

Thus, these claims each require a single computation that (a) selects a first physical link out of a first group of physical links (e.g., a user port) and (b) selects a second physical link out of the second group of physical links (e.g., a backplane trace). That is, the claims expressly require two separate selections occurring in a single computation. *See, e.g.,* Ex. 1001 [’740 Patent], 7:60-8:5 (“the four bit mapping index is partitioned so that two bits encode the user port and two bits encode the backplane trace. . . . The user port index and the backplane trace index jointly define the combined mapping operation for determining how the particular downstream frame is to be handled.”). *See also id.*, 5:22-31 (“Ethernet frames are mapped to individual backplane traces in the LAG group in accordance with a suitable mapping function, such as a hashing function. The mapping function distributes the frames among the different backplane traces so as to balance the load between the traces.”). Thus, the user port (e.g., a first physical link) is selected from a group of user ports and the backplane trace (e.g., a second physical link) is independently selected from a group of backplane traces.

The Petition relies on Bruckman and/or Basso for this limitation. Pet., 41-45, 49-50, 64, 71-72, 74. Neither Bruckman nor Basso teach or suggest this limitation because at best, the asserted references select a single physical link that is connected to a single second physical link—that is, there is no selection of a second physical link out of a second group of links because the first physical link is only connected to a single second physical link.

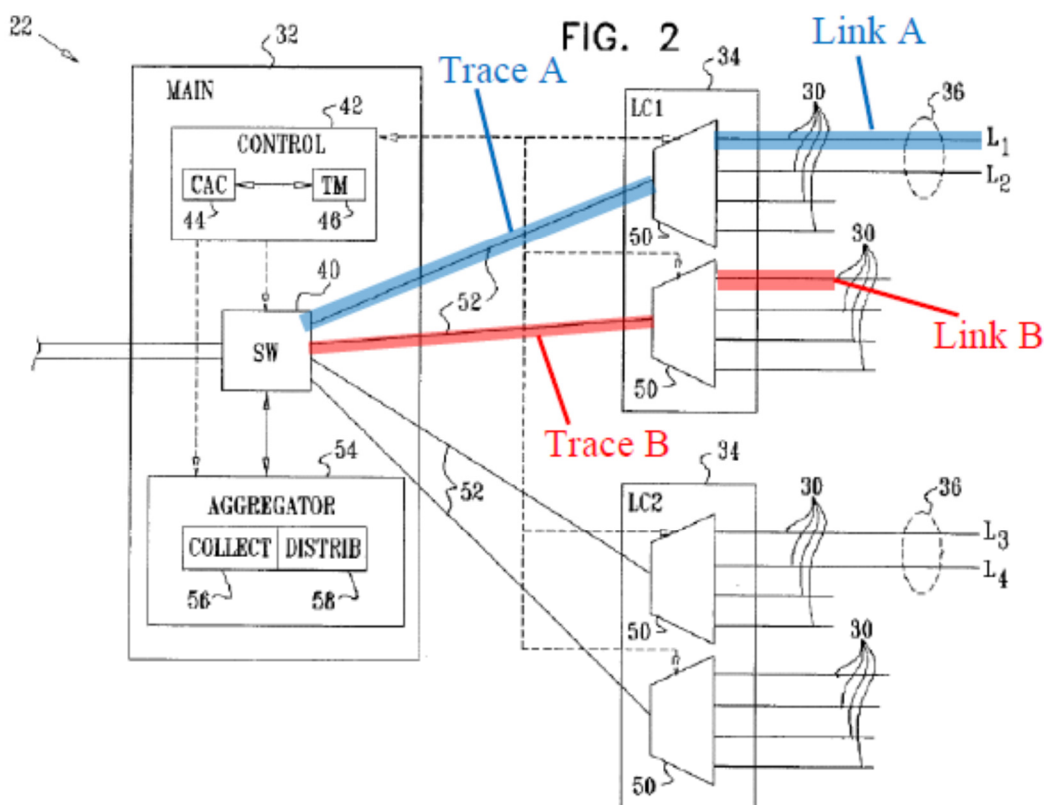
1. Ground 1

With respect to Bruckman (Ground 1), the Petition argues that “a POSITA would have found it obvious that Bruckman’s hashing function selects both which link 30 (*‘first physical link out of the first group’*) and which trace 52 (*‘second physical link out of the second group’*) will transmit the data frame from the core network to the customer node.” Pet., 42. Petitioner concedes, however, that the hashing function in Bruckman is at best a computation that selects only the first physical link. Pet., 42 (“the hash function determines which link 30 receives the data frame.”), 42-43 (“Bruckman provides limited [i.e., no] description of how the hash computation is used to select a trace.”).

Petitioner argues that “[a] POSITA would have recognized [] that Bruckman’s selection of a link 30 also determines which trace 52 will transmit the data frame.” Pet., 43. But this would not mean trace 52 is “selected” out of a second group. In Bruckman, each link 30 is associated with only a single trace 52, not a

group of traces. There is no second “selection” because whichever link 30 is selected requires a specific trace 52 to be used. Thus, Bruckman at best teaches selection of a link 30. In other words, there is no “second physical link out of [a] second group” of physical links to select as required by the claims—there is only one backplane trace that can be used for any single port because each port has only one associated backplane trace.

The Petition’s annotation of Bruckman Fig. 2 (below), demonstrates that the only selection occurring is the selection of a link 30. Pet., 43. In the example below, if Link A is selected, then Trace A must be used. If Link B is selected, then Trace B must be used. There is no selection of one trace out of a group of traces as required by the claims.



Put another way, once Bruckman's link 30 is selected, there is only one trace 52 that can be used. The claims require that once a first link is selected from a group, a second link is selected from a second group—that is, there must be multiple second links to select from.

Petitioner repeatedly acknowledges that in Bruckman only link 30 can be selected. Pet., 43 (“A POSITA would have recognized ... that Bruckman's selection of a link 30 also determines which trace 52 will transmit the data frame ... selection of a specific link 30 [in Bruckman] also determines a specific trace 52”); 43-44 (“A POSITA would have found it obvious that selection of a link 30 also determines

which trace 52 will transmit the data frame because each link 30 is associated with only a single trace 52.”). On their face, these quotes indicate the link 30 is being selected from a group, not the trace 52. Indeed, there is no “second group” of traces 52 to select from, since each link 30 is associated with only a single trace 52.

Petitioner argues that “[t]races 52 are part of a link aggregation group because Bruckman describes how ‘aggregation group extends over a number of concentrators 50’”. Pet., 38 (quoting Bruckman ¶[0066]). But Bruckman is clear that the “aggregation group” is an “aggregation group of N links” (Ex. 1005 [Bruckman], ¶[0066]). That is, the aggregation group is defined by Bruckman as a group of links 30, not traces 52. *See, also* Ex. 1005 [Bruckman], ¶¶[0057] (“In the example shown in Fig. 2, aggregation group 36 comprises links L1 and L2 and L3 and L4 ...”). While different links 30 may require use of different traces 52, only the links 30 can be argued to be “selected;” each link 30 corresponds to a single trace and thus. The trace 52 used is controlled by the selection of link 30 and therefore is not selected from a second group of links. Thus, Bruckman does not teach “selecting ... a second physical link out of [a] second group” as required by the claims.

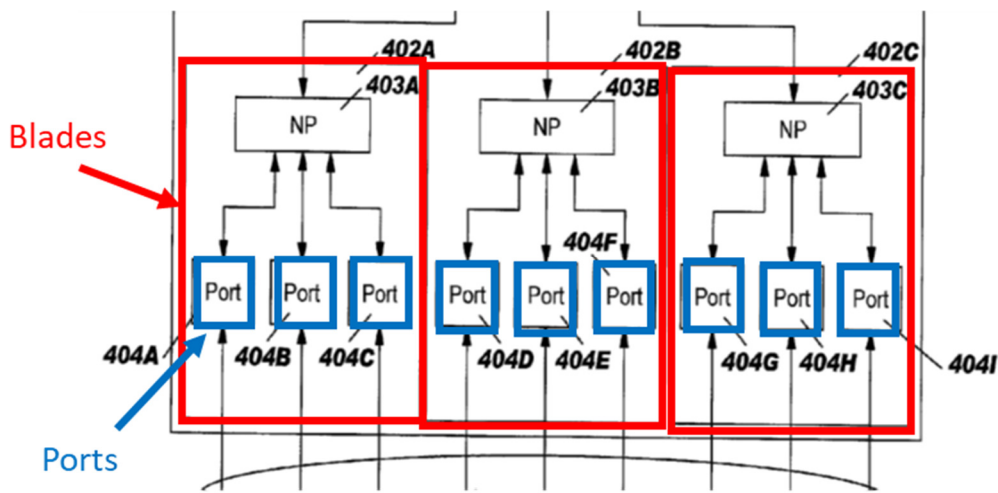
2. Ground 2

For ground 2, the Petition argues that Basso discloses this limitation. Pet., 44-45. Petitioner argues as follows:

Basso describes using a single hash computation to select a blade/port combination. Upon receipt of a packet, “a hash function may be performed on the source and destination address in the packet header to generate a hash value.” Ex.1006, [0011]. Using that single hash value, Basso’s network device selects “an appropriate **blade/port combination** ... identified to transmit the received packet of data.” Ex.1006, [0012]. Basso thus uses a single hash computation to select both a first-level line (one of the ports) and second-level line (one of the blades)—a blade/port combination.

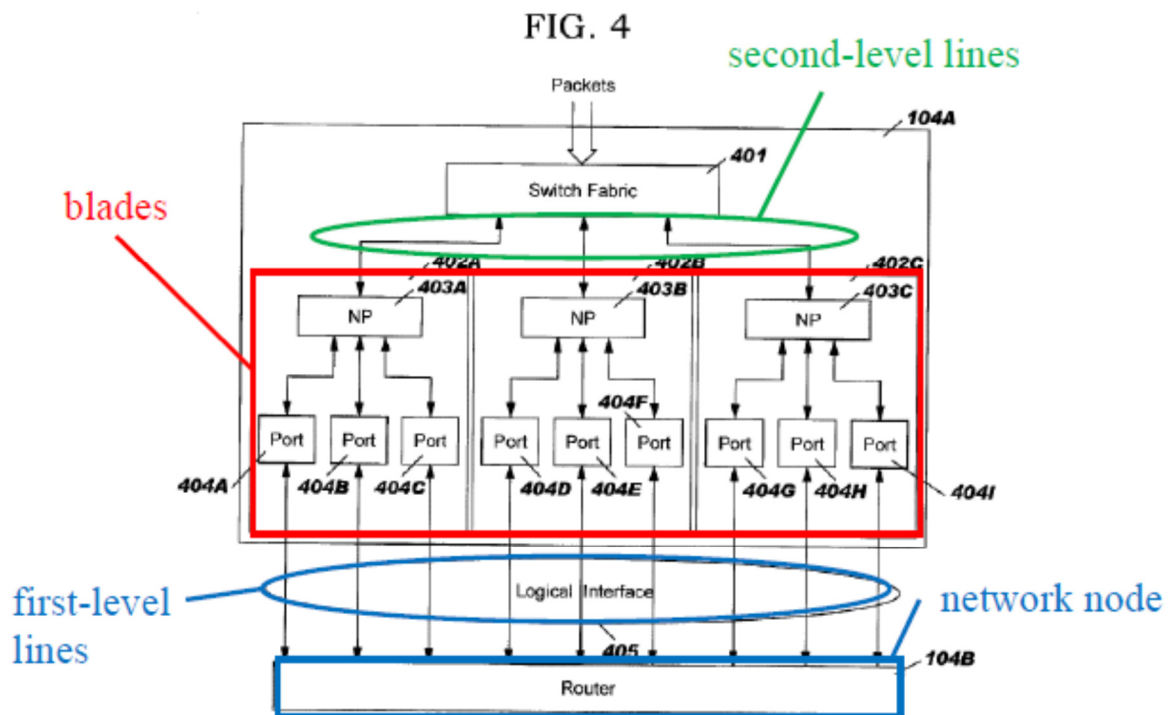
Pet., 45 (emphasis in original).

Petitioner’s argument fails for similar reasons as Bruckman. First, Basso’s ports are part of its blades. Ex. 1006 [Basso], ¶[0030] (“Blade 402A may comprise ... one or more ports 404A-C”). *See, e.g.*, Basso Fig. 4 (excerpted and annotated below to show ports are part of a blade).



Thus, when Basso discusses a “blade/port combination,” it is referring to one port within a particular blade (e.g., port 404A on blade 402A in Fig 4 above), not two separate physical links.

The Petition is consistent with this interpretation, as it appears to allege the physical links in Basso are the links between (a) the ports 404 and router 104B and (b) the connection between blades 402 and switch fabric 401 in Basso Fig. 4. Pet., 44. This is shown below in Petitioner’s annotated Basso Fig. 4 (below) where Petitioner alleges the circle labeled “first-level lines” corresponds to the claimed first physical links and the circle labeled “second-level lines” corresponds to the claimed second physical links. Note Basso does not use the terms “first-level lines” or “second-level lines;” instead, these are terms coined by Petitioner:

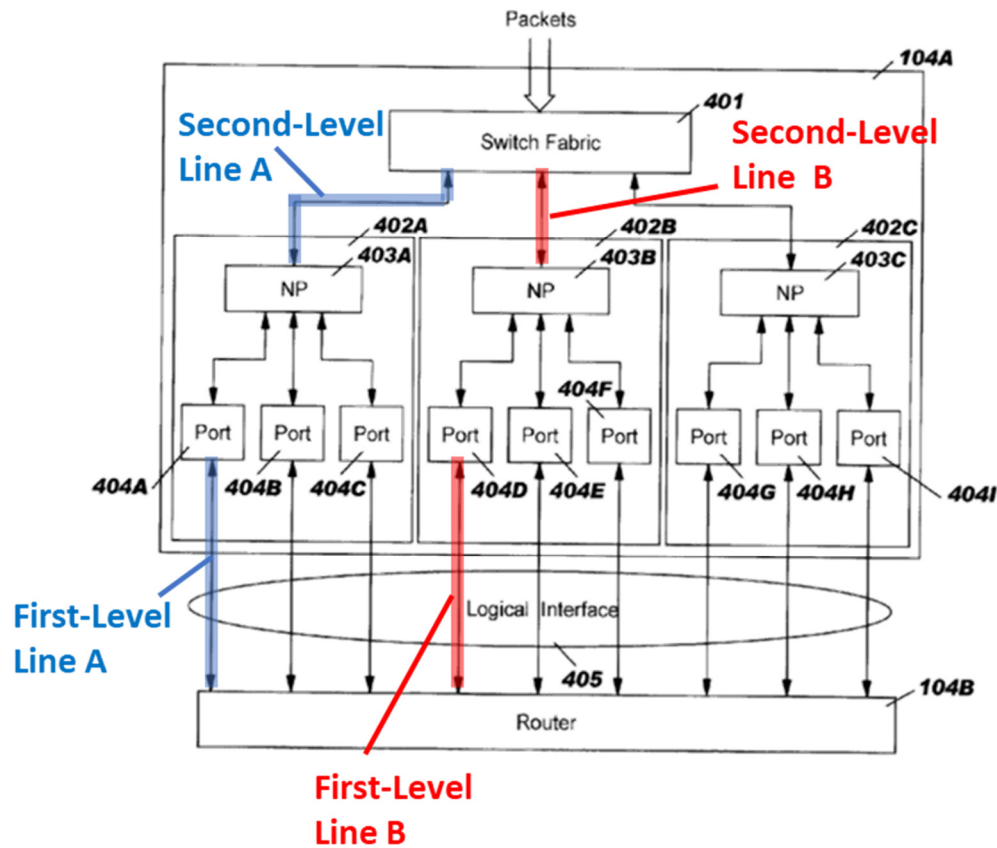


Ex.1006, Fig. 4 (annotated); Ex.1003, ¶82.

See Pet., 44. The Petition does not explain how the “first-level lines” or “second-level lines” in its annotated version of Basso Fig. 4 are selected because the physical connections used in Basso are not selected; instead, they are both based on the port selected.

Second, Basso fails for the same reasons discussed above for Bruckman because Basso Fig. 4 (annotated by Patent Owner below) shows each of Basso’s first physical connections (labeled “first-level line” for consistency with Petition) is associated with only one second physical connection (labeled “second-level line” for consistency with Petition):

FIG. 4



At best, Basso teaches one selection—a selection of which port to use. That is, if Port 404A is selected, then First-Level Line A and Second-Level Line A must be used. If Port 404D is selected, then First-Level Line B and Second-Level Line B must be used. There is no second selection of a “blade” or a second physical link because the selected port is part of the blade. The selection of a port therefore dictates which “blade” and which “second-level line” are used. Even considering the selection of a port to be the selection of “a first physical link out of the first group” as required by the claims, there is no second selection because each port

corresponds to only one blade and therefore only one “second level line” as annotated in Basso Fig. 4 above. Thus, Basso does not teach “selecting ... a second physical link out of [a] second group” as required by the claims.

B. Claims 14-16 and 29-31

Independent method claims 14 and 15 contain the limitation “for each data frame, selecting responsively to at least one of the respective frame attributes a backplane trace from the two or more backplane traces.” Ex. 1001 [’740 Patent], claims 14 and 15. Independent apparatus claims 29 and 30 claim control modules with the same functionality. *Id.*, claims 29 and 30. Claims 16 and 31 (which depend from claims 14 and 29 respectively) also require this functionality.

Thus, these claims require a selection between “two or more backplane traces.” *Id.* Further, both the backplane traces and user ports must be coupled to a “user interface module.” *Id.* Finally, the selection of backplane traces must be based on “the respective frame attributes” of the “data frame”—that is, the system looks at frame attributes such as “header fields” (Ex. 1001 [’740 Patent], 1:62-64) and, based on that information, chooses which backplane trace to use. None of the asserted references teach or suggest this element because the asserted references at best disclose selecting user ports, not backplane traces.

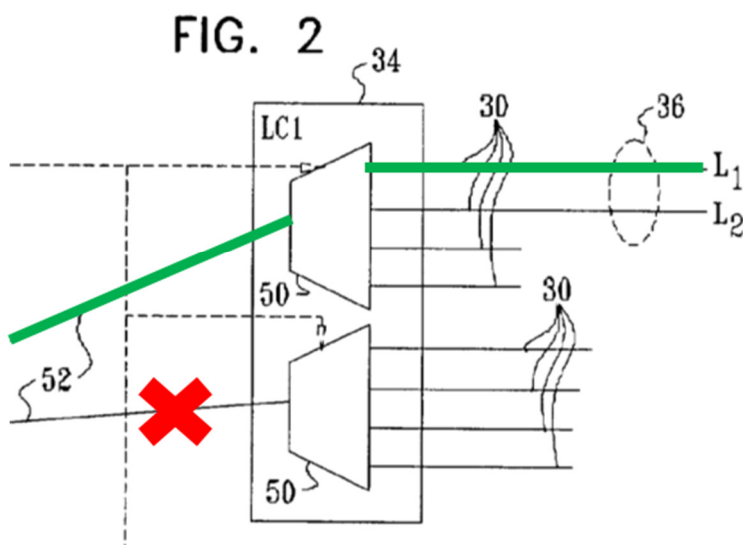
The Petition relies on Bruckman and/or Basso for this limitation, ultimately relying on the Petition’s analysis of limitation 1.6 (i.e., “selecting, in a single

computation based on at least one of the frame attributes, a first physical link out of the first group and a second physical link out of the second group”). Pet., 41-45 (claim 1), 68-69 (claims 14 and 15), 74-75 (claims 29 and 30). Thus, the Petition’s analysis for this limitation is identical to the analysis discussed above for claim 1.

The Petition admits that “Bruckman provides limited description of how the hash computation is used to select a trace.” Pet., 42-43. That is because Bruckman’s hash computation does not select a trace as required by the claim. As discussed above for claim 1, Bruckman’s hash computation at best discloses selecting link 30, which “determines which [backplane] trace 52 will transmit the data frame.” *See supra*, §V.A; Pet., 43. That is, Bruckman selects the physical link 30 between a port and customer node, with each port corresponding to a single trace 52. Because Bruckman must use the trace 52 that corresponds to physical link 30 (*Id.*), there is no selection of a trace.

Put another way, claims 14-16 and 29-31 require selecting a backplane trace from a plurality of backplane traces without regard to which physical link 30 is selected. Ex. 1001 [’740 Patent], claims 14-16, 29-31. As illustrated by the excerpt below from Bruckman Fig. 2, each port 30 is connected to a “concentrator”/“multiplexer” 50 that multiplexes traffic from ports 30 onto trace 52. Ex. 1005 [Bruckman], ¶[0056]. However, once a port is selected, the trace 52 connected to that port must be used. In the example below, once the port 30 that is

highlighted in green is selected, Bruckman must use the corresponding trace 52 that is also highlighted in green. Bruckman cannot select the trace 52 marked with the large red X because that trace is connected to a different concentrator/multiplexer 50.



This is different from claim 14 and the '740 patent, where multiple ports and multiple traces are each connected to an interface module and the interface module. *See, e.g.*, Ex. 1001 ['740 Patent], claim 14 (“coupling the user ports to one or more user interface modules ... coupling each user interface module ... via a backplane using two or more backplane traces arranged in parallel”). Thus, Bruckman does not allow for “selecting ... a backplane trace from the two or more backplane traces” as required by the claim because only a single backplane trace can be used. Accordingly, Bruckman does not teach this limitation.

The Petition argues that Basso selects a “blade/port combination” to incorrectly imply that Basso selects both a blade and a port. Pet., 45. But as discussed above, in Basso, the port is part of the blade and any selection is of only a port, not a trace (*see supra*, §I.A), since the blade used corresponds directly to the port selected. *Id.* Thus, for reasons similar to Bruckman, in Basso there is no selection of a “backplane trace from [] two or more backplane traces” as required by the claims—once the port is selected, there is only a single backplane trace (i.e., not “two or more backplane traces” as required by the claims) that can be used.

Moreover, the backplane trace must be selected “responsively to at least one of the respective frame attributes.” *Id.* The Petition completely fails to explain how Bruckman or Basso considers frame attributes in selecting a backplane trace. Pet., 41-45. Accordingly, neither Bruckman nor Basso teach or suggest this limitation.

VI. THE BOARD SHOULD DENY INSTITUTION UNDER 35 U.S.C. § 325(d)

35 U.S.C. § 325(d) states that “[i]n determining whether to institute . . . the Director may take into account whether . . . the same or substantially the same prior art or arguments previously were presented to the Office.” Thus, if the same or substantially the same prior art or arguments have previously been presented to the Board, the Board may exercise its discretion to deny institution. The Board has weighed the following non-exclusive factors in determining whether to exercise its

discretion:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
- (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
- (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton Dickinson v. B. Braun Melsungen, IPR2017- 01586, Paper 8 at 17-18 (PTAB Dec. 15, 2017) (prec.).

A. *Becton, Dickinson* Factors (a), (b) and (d)

Petitioner concedes that factors (a), (b) and (d) favor denying institution. Pet., 83 (“Petitioner acknowledges that Bruckman was ‘previously presented to the

Office.”). Petitioner is correct that factors (a), (b) and (d) favor discretionary denial.

Under factor (a), the prior art involved during examination is nearly identical to the prior art asserted in this IPR. Bruckman, the Petition’s primary reference for all grounds, was disclosed during prosecution in an information disclosure statement dated January 20, 2009. Ex. 1002 [’740 File History], 55. On January 27, 2009, the examiner initialed the entry for Bruckman, indicating they had reviewed and considered Bruckman. *Id.*, 44 (initialing “SH” to indicate the reference was considered). On February 2, 2009, the examiner issued a notice of allowance. *Id.*, 41.

Bruckman was discussed at length in a rejection of another of the applicant’s co-pending applications, and the examiner considered that rejection (along with Bruckman) during prosecution. Ex. 1002 [’740 File History], 54-55.

Bruckman is the sole reference in ground 1. Ground 2 adds Basso as a secondary reference combined with Bruckman, but the ground is nearly identical to ground 1. *See* Pet., 23 (“Analysis for Grounds 1 and 2 is very similar ... Ground 2 differs from Ground 1 by relying on additional obviousness teachings from Basso in limitation [1.6].”). For claim element [1.6] (the only element Petitioner uses Basso for), Petitioner even argues that “[s]election of Bruckman’s [sic—Basso’s] blade/port combination is analogous to selection of a trace 30 and link 52 in Bruckman.” Pet., 45. Thus, Petitioner affirmatively argues that the teachings relied

on in Basso are analogous to those relied on in Bruckman.

Grounds 3 and 4 add the Holdsworth reference for dependent claims 11 and 26. Pet., 21, but the independent claims rely on the teachings of Bruckman. And for grounds 3 and 4, Petitioner does not even rely on teachings specific to Holdsworth, but instead argues that claims 11 and 26 would be obvious in view of Bruckman because “Holdsworth shows background knowledge of a POSITA” related to multiplexing. Pet., 33. Bruckman and the other prior art considered by the examiner (including the Akahane reference that was the basis of the examiner’s Oct. 2, 2008 rejection (Ex. 2008 [Akahane])) were examined from the perspective of a POSITA, taking into account the “background knowledge” of a POSITA. *See* MPEP §2143.03.III (“The examiner must ascertain what would have been obvious to one of ordinary skill in the art at the time the invention was made...”). Factor (a) therefore favors denying institution.

Factor (b) is the cumulative nature of the asserted art and the prior art evaluated during examination. As with Factor (a), the Petition relies almost entirely on Bruckman, which was reviewed and considered by the examiner. Further, like Bruckman, the Akahane reference relied on in the examiner’s October 2, 2008 rejection relates to routers to route IP packets more efficiently across communications networks. Ex. 2008 [Akahane], 1:9-13 (“The present invention relates to ... to routers and routing methods capable of transmitting packets

according to a dynamic distribution ratio and responsive to a fault state in an output line.”). Basso similarly relates to improvements in router efficiency. Ex. 1006 [Basso], ¶[0001] (“The present invention relates to ... logically grouping physical ports of a network device, e.g., router, into logical interfaces thereby expanding the bandwidth capacity of transmitting packets from that network device to another network device.”). The Holdsworth reference—which, according to Petitioner, demonstrates background knowledge of a POSITA—would necessarily be cumulative as it allegedly discloses information already known and considered by a POSITA. Accordingly, Factor (b) favors denying institution.

Factor (d) is the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art. As discussed above for factor (a), the Bruckman reference that forms the basis of each ground was considered by the Examiner with respect to the same claims challenged in the Petition. Further, as discussed above for Factor (b), both Bruckman and Basso are cumulative of the Akahane reference discussed by the Examiner in their October 2, 2008 rejection and subsequently overcome by applicant. Ex. 1002 [’740 Patent File History], 83-86.

Moreover, the examiner not only reviewed and considered Bruckman, the examiner also reviewed a rejection over Bruckman over similar claims in one of applicant’s co-pending applications. In the January 19, 2009 supplemental

information disclosure statement identifying Bruckman along with several other references, Applicant also identified a December 11, 2008 Non-Final Rejection from prosecution of Applicant's co-pending U.S. Patent Application Number 11/123,801 (the '801 Application). Ex. 1002 ['740 Patent File History], 54. *See* Ex. 2009 ['801 Application Non-Final Rejection]. While the '801 Application is not directly related to the '740 Patent, its then-pending claims were similar to certain claims of the '740 Patent in that they claimed selecting ports from a link aggregation group. For example, then-pending claim 1 of the '801 Application read as follows:

1. (Currently amended) A method for processing data packets in a communication network, comprising:
 - establishing a path for a flow of the data packets through the communication network;
 - at a node along the path, which is connected to a subsequent node along the path by a Link Aggregation (LAG) group comprising having a plurality of aggregated physical ports, selecting a port from ~~among the plurality~~ LAG group to serve as part of the path;
 - choosing a label responsively to the selected port;
 - attaching the label to the data packets in the flow at a point on the path upstream from the node; and
 - upon receiving the data packets at the node, switching the data packets to the subsequent node through the selected port responsively to the label.

Ex. 2010 ['801 Application Pending Claims], 1.

This claim is similar to the '740 Patent claims, except it had only a single “selection” of a port out of a LAG group, instead of two selections (of both a first physical link (e.g., a port out of a first LAG group) and a second physical link (e.g.,

a backplane trace out of a second LAG group)) as required by claim 1 of the '740 Patent. Given that Bruckman does not select a second physical link as required by the claims, it is not surprising the examiner discussed it during prosecution of the '801 Application but not during prosecution of the '740 Patent.

Thus, this is not a case where the asserted reference was buried among numerous other references and could have slipped by the examiner's notice. Here, the applicant specifically called out a rejection from the prosecution of a similar application with similar claims that used Bruckman as the primary reference. Ex. 1002 ['740 Patent File History], 54. The examiner was aware of both Bruckman and its related rejection and still allowed the claims of the '740 Patent. Under these circumstances, this factor favors discretionary denial.

B. *Becton, Dickinson* Factors (c), (e) and (f)

Petitioner argues that *Becton, Dickinson* Factors (c), (e) and (f) favor institution. For the reasons discussed below, Petitioner is incorrect.

Factor (c) is the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection. Here, primary reference Bruckman was considered by the examiner. The similar Akahane reference was the basis for a non-final rejection that the applicant overcame. *See supra*, §II.C; Ex. 1002 ['740 Patent File History], 82-85. Further, Applicant submitted a rejection from the '801 Application where Bruckman was relied on to

reject similar claims. *See* Factor (d), above; Ex. 1002 ['740 Patent File History], 54.

Petitioner argues that the examiner “overlooked” Bruckman and that Bruckman “received—at most—only insufficient, cursory attention during prosecution.” Pet., 84-85. But Petitioner has no way to know this. Further, as discussed above for factor (d), applicant submitted a rejection from the '801 Application that rejected similar claims based on Bruckman. At a minimum, the examiner reviewed Bruckman and its related rejection discussing Bruckman and determined the current claims were patentable over Bruckman notwithstanding the '801 Application rejection. Accordingly, this factor favors denying institution.

Factor (e) is whether Petitioner has pointed out sufficiently how the examiner erred in its evaluation of the asserted prior art. Petitioner argues that the examiner erred by overlooking Bruckman’s alleged teachings that its links may be “full duplex” and therefore teach “specific limitations the examiner had previously deemed allowable.” Pet., 85-86. But as discussed above in §V, Bruckman fails to teach a number of limitations in the '740 Patent. The examiner did not err in allowing the claims where Bruckman clearly does not disclose several claim limitations. Accordingly, Petitioner has not shown any error by the examiner and this factor favors denial.

Factor (f) is the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments. As discussed above at

§VII.A (for Factor (a)), almost every claim element relies on Bruckman, which was considered during prosecution of the '740 Patent and discussed by the examiner in the predecessor '801 Application. Basso is cumulative of Bruckman and the Akahane reference discussed as part of a rejection during prosecution, and Holdsworth is used simply as evidence of a POSITA's background knowledge. *See supra*, §VI.A (discussing Factor (a)). Petitioner generically references its expert declaration as “explaining how a POSITA would have understood Bruckman and the obviousness of combining its teachings with those of Basso and Holdsworth” (Pet., 86-87) but provides no specifics as to how the declaration adds any new evidence that was not cumulative of the prior art in front of the examiner and previously discussed by the Office. Accordingly, factor (f) favors denying institution.

Each *Becton, Dickinson* factor favors denying institution. The Board should therefore deny institution pursuant to 35 U.S.C. § 325(d).

VII. THE BOARD SHOULD EXERCISE DISCRETION UNDER SECTION 314 AND DENY INSTITUTION

There is no requirement that the Board institute IPR. *See, e.g., Harmonic Inc. v. Avid Tech.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016). “[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.” *Id.* Rather, the decision to institute is delegated to the Board and is purely discretionary.

35 U.S.C. § 314(a) gives the Board discretion to deny institution because of efficiency considerations stemming from parallel proceedings on the same patent. *See NHK Spring Co. v. Intrix-Plex, Inc.*, IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) (precedential, designated May 7, 2019) (“*NHK Spring*”). The PTAB has set forth six factors for determining whether discretionary denial due to efficiency considerations relating to parallel proceedings is appropriate (the “*Fintiv* factors”):

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner(s) and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv I*”), 6; *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15

(PTAB May 13, 2020) (order denying institution) (informative, designated July 13, 2020) (“*Fintiv II*”), 7-8.

The Director has issued additional guidance on the application of *Fintiv*. See Katherine K. Vidal, *Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation* (June 21, 2022)¹ (“*Fintiv Memo*”). See also *OpenSky Indus., LLC v. VLSI Tech. LLC*, IPR2021-01064, Paper 102, 49–50 (PTAB Oct. 4, 2022) (precedential) (“*OpenSky*”) and *CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022- 01242, Paper 23 (PTAB Feb. 27, 2023) (precedential) (“*CommScope*”). Under the interim *Fintiv* Memo, if the Board “determines that the information presented at the institution stage presents a compelling unpatentability challenge, that determination alone demonstrates that the PTAB should not discretionarily deny institution under *Fintiv*.” *Interim Fintiv Memo*, 4–5. However, *OpenSky* and *CommScope* make clear that the compelling merits standard is a significantly higher standard than the institution standard, requiring that it be “highly likely that the petitioner would prevail with respect to at least one challenged claim.” *OpenSky*, 49; *CommScope*, 3–4. Further, “compelling

¹ Available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf

merits” should be considered only after a determination that the first five *Fintiv* factors favor discretionary denial. *CommScope*, 4–5. Further still, the currently pending Advance Notice of Proposed Rulemaking (ANPRM) should eliminate the “compelling merits” aspect of the interim *Fintiv* memo.

Here, all six *Fintiv* factors weigh in favor of discretionary denial and there are no “compelling merits” or a *Sotera*-type stipulation. Accordingly, the Board should exercise its discretion and deny institution.

A. Factor 1

The first *Fintiv* factor—regarding whether a motion to stay has been granted or denied without prejudice pending an institution decision—weighs in favor of denial. The Petition argues that this factor is neutral because “[n]o motion to stay has been filed.” Pet., 80. This statement is no longer true. Shortly after filing IPRs against each of Patent Owner’s patents, Petitioner *did* file a motion to stay. That motion to stay was promptly denied. Accordingly, because Petitioner’s motion to stay was actually rejected by the court, this factor strongly favors discretionary denial.

In particular, on March 23, 2023, the Petitioner filed a motion to stay the district court litigation pending *inter partes* review. Petitioner argued the court “should stay this case because [Petitioner] filed IPR petitions on every asserted claim in this case.” Ex. 2004, 1. Six days later, on March 29, 2023, the district court *sua*

sponte denied Petitioner’s motion to stay, noting that trial is set for March 4, 2024, which is six months before the earliest expected final written decision. Ex. 2005, 3. That reasoning would be equally applicable if IPR were instituted and Petitioner were to renew its rejected motion to stay. There is no reason to suspect the court would change its mind if review were instituted. The first *Fintiv* factor weighs in favor of denying institution.

B. Factor 2

The second *Fintiv* factor—the proximity of the court’s trial date to the Board’s projected statutory deadline for a Final Written Decision—weighs in favor of denial. Trial is scheduled to begin March 4, 2024. Ex. 2001, [First Amended Docket Control Order], 1. Based on the Notice of Filing Date Accorded in this proceeding (March 13, 2023), a Final Written Decision is expected no later than September 13, 2024. Thus, a Final Written Decision is not expected until roughly six months after the jury verdict.

Petitioner argues “the Board now uses median time-to-trial statistics in the relevant venue to determine a projected trial date for *Fintiv* purposes.” Pet., 80. Petitioner alleges that the median time-to-trial in the Eastern District of Texas is 24.5 months. However, for that allegation, Petitioner cites Ex. 1013, which contains summary caseload information for the period ending June 30, 2022. At best, Petitioner’s allegation is outdated. At worst, it presents a carefully selected outlier

data point taken out of context. The most recent statistics (for the period ending March 31, 2023) indicate a time-to-trial in the Eastern District of Texas of 19.0 months—nearly six months less than the date advanced by Petitioner. Ex. 2006 [March 23 Judicial Caseload Statistics], 35; *see also* Ex. 2021 [December 22 Judicial Caseload Statistics], 35 (same).

Not only is Petitioner's single data point outdated, but it is also an extreme outlier for the Eastern District of Texas. The 24.5 month median-time-to-trial cited by Petitioner is the single longest time to trial listed for any reported period and over four months longer than the next-closest median value for any year other than 2022. Ex. 1013 [June 2022 Judicial Caseload Statistics], 35, Ex. 2006 [March 23 Judicial Caseload Statistics], 35, Ex. 2021 [December 22 Judicial Caseload Statistics], 35. The 19 month median time-to-trial given in the most recent statistics is in line with historical time-to-trial statistics for the Eastern District of Texas. *See* Ex. 2006, 35 (indicating median time-to-trial ending on March 31 of 20.2 months for 2018, 18.3 months for 2019, 17.7 months for 2020 and 19.5 months for 2021); Ex. 1013 (indicating median time-to-trial for year ending on June 30 of 22.0 months for 2017, 19.2 months for 2018, 17.5 months for 2019, 17.7 months for 2020 and 20.4 months for 2021); Ex. 2021 (indicating median time-to-trial for year ending on December 31 of 20.4 months for 2017, 19.0 months for 2018, 17.8 months for 2019, 17.5 months for 2020 and 23.0 months for 2021).

Nor is it surprising that statistics for the year ending June 30, 2022 would be an outlier. The unusually high median time-to-trial for this period likely reflects the fact that Covid-19 caused delays and closures to the court systems during 2020 and 2021; the spike in time-to trial in 2021 and early 2022 (and subsequent return to historical norms) probably reflects the reality that the Eastern District of Texas was catching up with a backlog of cases caused by those delays.

Using the current median time-to-trial for the Eastern District of Texas (19.0 months), and based on the district court filing date of July 22, 2022, the projected trial date in the district court litigation would fall somewhere around February 2024. This is roughly 7 months before an expected final written decision in this IPR and roughly a month before the currently scheduled trial date. Accordingly, using either the actual scheduled trial date in this matter or the median time-to-trial statistics for the Eastern District of Texas, trial is expected to conclude at least six or seven months before a final written decision is due in this matter.

Under *Fintiv* factor 2, this weighs heavily in favor of discretionary denial. *See Fintiv I*, 9 (“If the court’s trial date is earlier than the projected statutory deadline, the Board generally has weighed this factor in favor of exercising authority to deny institution under *NHK*.”). Further, granting institution here would frustrate one of the primary objectives of the AIA, which is “to provide an effective and efficient alternative” to parallel litigation. *NHK Spring*, 19-20 (*quoting General Plastic Indus.*

Co., Ltd. v. Canon Kabushiki Kaisha, IPR2016-01357, Paper 19, 15-19 (PTAB Sept. 6, 2017) (precedential, designated Oct. 18, 2017). If IPR were instituted, any potential FWD would issue well after trial concludes. Thus, instituting IPR here cannot be viewed as an “alternative” to litigation. Rather, it would simply be more litigation. Accordingly, factor 2 weighs in favor of denying institution.

C. Factor 3

The third *Fintiv* factor—which relates to “the amount and type of work already completed in the parallel litigation by the court and the parties at the time of the institution decision”—also favors denial. *Fintiv I*, 9-12. An institution decision in this IPR is not expected until September 2023. 35 U.S.C. § 314(b). Significant work in the parallel litigations has already taken place and will continue to take place until that time. Indeed, the parties are already actively pursuing discovery, and the parties have collectively produced over 2.4 million pages in discovery to date. The parties have already served interrogatories and received responses. Infringement contentions and accompanying disclosures under the local patent rules were served on November 3, 2022 and Supplemental Infringement Contentions were served on January 19, 2023. Exs. 2002, 2003 [11-4-2022 and 1-19-2023 Notices of Compliance]. Invalidity contentions and accompanying disclosures under the local patent rules were served on February 2, 2023, and have already been supplemented several times. Exs. 2007 [2-3-2023 Notice of Compliance]; 2011 [March 30, 2023

Order]; 2012 [April 13, 2023 Order]. These contentions consist of dozens of charted references totaling over 7,500 pages of claim charts, along with hundreds of additional background references. Ex. 2014 [First Amended Invalidity Contentions Cover Pleading], 8-14, 18-35; Exs. 2015-2020 [Invalidity Contention Claim Charts].

The *Markman* hearing in this matter is scheduled for September 7, 2023. Ex. 2001 [First Amended Docket Control Order], 3. The typical practice of the judge assigned to the district court litigation is to provide preliminary constructions at the time of the *Markman* hearing; thus, the claims of the '740 Patent will likely be construed by the district court by early September—around the time an institution decision is expected.

By the time of the institution decision in this IPR, discovery in the district court litigation will be nearly complete. The deadline to substantially complete document production and exchange privilege logs is July 27, 2023, and all fact discovery closes on October 19, 2023.² Ex. 2001 [First Amended Docket Control Order], 3-4. Expert discovery will close on November 20, 2023, and summary judgment motions are due November 27, 2023. Ex. 2001 [First Amended Docket

² This date is based on the expected *Markman* hearing date but will not change even if the *Markman* hearing is delayed. Ex. 2007 [Standing Order Governing Proceedings], 12 n. 8.

Control Order], 3-4.

Thus, Factor 3 favors discretionary denial because significant substantive work will have already been completed in the district court litigation by the time of the institution decision. *See Fintiv II* (“Based on the level of investment and effort already expended on claim construction and invalidity contentions in the District Court, this factor weighs somewhat in favor of discretionary denial in this case.”).

Petitioner argues this factor favors institution because of its alleged diligence in filing this IPR after Petitioner “learned which claims were being asserted.” Pet., 81. But the litigation was filed on July 22, 2022. Petitioner did not file this IPR until January 9, 2023. Further, the Petition challenges each claim of the ’740 Patent. Pet., 21. There was nothing preventing Petitioner from filing a Petition challenging all claims much earlier. Thus, Petitioner waited almost six months to file its Petition. Accordingly, Factor 3 weighs in favor of discretionary denial.

D. Factor 4

The fourth *Fintiv* factor—which relates to overlap between issues raised in the petition and in the parallel proceeding—also weighs in favor of denying institution. Each claim at issue in the parallel litigation is also at issue in the Petition. Further, the primary references at issue in the Petition—Bruckman and Basso—are identified and charted in Petitioner’s invalidity contentions. Ex. 2014 [First Amended Invalidity Contentions Cover Pleading], 9; Ex. 2017 [’740 Patent Charts],

969-1237. Only Holdsworth (which is used only as “evidence of the background knowledge of a POSITA” (Pet., 76) for a single limitation in dependent claims 11 and 26) has not yet been disclosed in Petitioner’s invalidity contentions. Thus, the issues in this IPR are a subset of the issues presented in Petitioner’s contentions. *Fintiv I*, 12 (“if the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial.”).

On June 5, 2023, Petitioner stipulated that “[i]f the Board institutes trial, Petitioner will cease asserting in the co-pending litigation the combination of references on which trial is instituted for the claims on which trial is instituted, to the extent Petitioner even asserts the same combination in the litigation against it.” Paper 6. The PTAB has classified such stipulations as “*Sand Revolution*”-style stipulations after the stipulation filed in *Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 (PTAB June 16, 2020), where Petitioner filed a stipulation that it “will not pursue the same grounds in district court litigation.” *Id.* at 11-12. The PTAB has routinely found similar stipulations weigh only “marginally in favor of not exercising discretion to deny institution.” *Id.*, 12; *LG Elecs., Inc. v. Ancora Techs., Inc.*, IPR2021-00581, Paper 16, 9-10 (PTAB June 10, 2021) (same); *Google LLC v. EcoFactor Inc.*, IPR2021-00454, Paper 9 (PTAB July 22, 2021) (same); *Samsung Electronics Co. Ltd. v.*

California Institute of Tech., IPR2023-00130, Paper 10, 19-20 (PTAB May 4, 2023) (same); *Roku, Inc. v. IOENGINE, LLC*, IPR2022-01554, Paper 11, 13-14 (PTAB May 5, 2023) (same).

In short, the Board routinely assigns almost no weight to *Sands Revolution* style stipulations such as the one Petitioner filed here. This is because *Sands Revolution*-style stipulations do little to eliminate overlap with the district court litigations. Here, Petitioner's stipulation merely agrees not to assert the exact same combination of references in the district court as it asserts in the Petition if this IPR is instituted. Paper 6. But Petitioner could still use different combinations of the same references in the district court (e.g., Basso and Holdsworth), or substitute in cumulative secondary references that still use the same primary reference (Bruckman) used in every ground in the Petition. Indeed, Petitioner's invalidity contentions argue that numerous pieces of identified prior art are duplicative of Bruckman and Basso. *See, e.g.*, Ex. 2014 [First Amended Invalidity Contentions Cover Pleading], 38 ("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."). Thus, Petitioner's stipulation does almost nothing to eliminate the potential overlap with the district court litigation.

Further, Petitioner's stipulation is not even as strong as the marginally relevant stipulation from *Sands Revolution* because it would allow Petitioner in certain circumstances to assert the exact same combinations in district court as it does in the Petition. To the extent only certain combinations were instituted, Petitioner would be free to use the non-instituted combinations in district court, and to the extent only certain claims were instituted, Petitioner would be free to use instituted combinations against non-instituted claims. And Petitioner has not yet filed this stipulation in the district court litigation.

Further, the Board has routinely denied institution in situations like the present where the other factors clearly favored non-institution, even where Petitioners offered stronger stipulations than the one offered here. For example, in *LG Elecs., Inc. v. Ancora Techs., Inc.*, No. IPR2021-00581, Paper 16, 9-10 (PTAB June 10, 2021), the Board denied institution despite Petitioner's stipulation "it will not subsequently assert invalidity in the district court on the same grounds asserted in the IPR or on the basis of the Hellman reference, either alone or in combination with any other reference." *Id.* Unlike Petitioner's stipulation here, the Petitioner in *Ancora* agreed to a blanket stipulation not to assert the primary referenced Hellman under any circumstance. The Board there agreed with Patent Owner that, even with Petitioner's stipulation, "there is significant overlap between the issues raised in the Petition and in the parallel district court proceeding." *Id.* Similarly, in *Samsung*

Electronics Co., LTD. v. California Institute of Technology, IPR2023-00130, Paper 10 (PTAB May 4, 2023), the Board denied institution notwithstanding a stipulation it characterized as “broader to some degree than the stipulation discussed in *Sand Revolution*” because “the trial in the Underlying Litigation would commence several months before the expected date of our final written decision” and the fact that there had been significant investment in the litigation. *Id.*, 16-20.

The facts here are similar to *Ankora* and *Samsung* except Petitioner has filed a weaker stipulation than in *Ankora* or *Samsung*. Accordingly, any marginal weight Petitioner’s stipulation is entitled to does not outweigh the other factors.

E. Factor 5

The fifth *Fintiv* factor—whether the petitioners and the defendant in the parallel proceedings are the same parties—weighs in favor of discretionary denial. There is no dispute that the parties here are the same as the parties in the litigations. *Fintiv II*, 15 (“Because the petitioner and the defendant in the parallel proceeding are the same party, this factor weighs in favor of discretionary denial.”). Thus, this factor weighs in favor of discretionary denial.

F. Factor 6

The sixth *Fintiv* factor—relating to other circumstances that impact the Board’s exercise of discretion, including the merits—weighs in favor of discretionary denial. As demonstrated in Section V above, the merits of Petitioner’s

arguments are weak and Petitioner has failed to show a reasonable likelihood of success for any ground, much less a high likelihood of prevailing as required to show “compelling merits.” *See Fintiv I*, 15 (“if the merits of the grounds raised in the petition are a closer call, then that fact has favored denying institution when other factors favoring denial are present”); *Commscope Technologies LLC, v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23, 5 (precedential) (“Merely pointing to [] analysis under the lower institution standard is insufficient to demonstrate that the Petition presents a compelling unpatentability challenge.”). In particular, neither Bruckman nor Basso teach selection of a second physical link from a group as required by independent claims 1, 4, 5, 13, 17, 19, 20 and 28 because each port is connected to only one second physical link. Similarly, neither Bruckman nor Basso teach selecting a backplane trace as required by independent claims 14, 15, 29 and 30.

Petitioner’s allegations that the Petition shows “compelling merits” (Pet., 82-83) are the type of unsupported attorney argument rejected by *Commscope*. In particular, Petitioner’s allegations merely “point[] to its analysis under the lower § 314 standard.” *Commscope*, IPR2022-01245, Paper 23. *See* Pet., 82-83 (“Here, the petition plainly shows that the ’740 patent claims no more than known concepts of bi- directional link aggregation.”). Thus, this factor favors discretionary denial.

Accordingly, all six *Fintiv* factors weigh in favor of discretionary denial. The

Board should use its discretion to deny institution of this IPR.

VIII. CONCLUSION

For the foregoing reasons, the Board should not institute this IPR.

Date: June 13, 2023

Respectfully submitted,

/Stephen P. McBride/

Stephen P. McBride

Reg. No. 78,396

James T. Carmichael

Reg. No. 45,306

Carmichael IP, PLLC

Counsel for Patent Owner

CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITS

This Patent Owner's Preliminary Response ("POPR") consists of 10,973 words, excluding table of contents, table of authorities, certificate of service, this certificate, or table of exhibits. The POPR complies with the type-volume limitation of 14,000 words as mandated in 37 C.F.R. § 42.24. In preparing this certificate, counsel has relied on the word count of the word-processing system used to prepare the paper (Microsoft Word).

Dated: June 13, 2023

/Stephen P. McBride/
Stephen P. McBride
Reg. No. 78,396

Counsel for Patent Owner

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the following documents were served
by electronic service, by agreement between the parties, on the date below:

**PATENT OWNER'S PRELIMINARY AMENDMENT
EXHIBITS 2001-2010**

The names and email addresses of the parties being served are as follows:

Theodore M. Foster	ipr.theo.foster@haynesboone.com
David L. McCombs	David.mccombs.ipr@haynesboone.com
Gregory P. Huh	Gregory.huh.ipr@haynesboone.com
Calmann J. Clements	Calmann.clements.ipr@haynesboone.com

Respectfully submitted,

/Stephen P. McBride/

Date: June 13, 2023