

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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JUNIPER NETWORKS, INC.,  
Petitioner,

v.

ORCKIT CORPORATION,  
Patent Owner.

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IPR2024-00026  
Patent 7,545,740 B2

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Before KRISTEN L. DROESCH, NATHAN A. ENGELS, and  
BRENT M. DOUGAL, *Administrative Patent Judges*.

DROESCH, *Administrative Patent Judge*.

DECISION

Granting Institution of *Inter Partes* Review  
35 U.S.C. § 314, 37 C.F.R. § 42.4  
Granting Motion for Joinder  
35 U.S.C. § 315(c); 37 C.F.R. § 42.122

## I. INTRODUCTION

### *A. Background*

Juniper Networks Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–31 of U.S. Patent No. 7,545,740 B2 (Ex. 1001, “’740 Patent”). Paper 3 (“Pet.”). Petitioner filed a Declaration of Henry Houh, Ph.D., with its Petition. Ex. 1003. Petitioner also filed a Motion for Joinder seeking to be joined as a party to *Cisco Systems, Inc., v. Orckit Corp.*, IPR2023-00401 (“Cisco IPR”), which involves the same claims of the ’740 Patent, and for which an *inter partes* review was instituted on September 11, 2023. Paper 2 (“Motion” or “Mot.”); *see also* IPR2023-00401, Paper 10. Orckit Corporation (“Patent Owner”) did not file a preliminary response or an opposition to the Motion.

We have authority to determine whether to institute review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). For the reasons provided below, we determine that institution of *inter partes* review is warranted on the same grounds instituted in the Cisco IPR, and we grant Petitioner’s Motion for Joinder.

### *B. Related Matters*

Patent Owner identifies the following related proceedings: *Orckit Corporation v. Juniper Networks, Inc.*, No. 1:23-cv-00822 (D. Del.); *Orckit Corporation v. Cisco Systems, Inc.*, No. 2:22-cv-00276 (E.D. Tex.); and *Orckit Corporation v. Arista Networks, Inc.*, No. 1:23-cv-00821 (D. Del.). Paper 5, 1.

### *C. Overview of the ’740 Patent (Ex. 1001)*

The ’740 Patent “relates generally to communication networks, and particularly to methods and systems for link aggregation in network

elements.” Ex. 1001, 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 into a single logical link (referred to as the ‘LAG group’).” *Id.* at 1:11–14.

“For Ethernet™ networks, link aggregation is defined by Clause 43 of IEEE Standard 802.3ad, Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications (2002 Edition), which [the ’740 Patent] incorporate[s] . . . by reference.”

Ex. 1001, 1:17–21. “Clause 43 defines a link aggregation protocol sub-layer, which interfaces between the standard Media Access Control (MAC) layer functions of the physical links in a link aggregation group and the MAC clients that transmit and receive traffic over the aggregated links.” *Id.* at 1:21–26. “The link aggregation sub-layer comprises a distributor function, which distributes data frames submitted by MAC clients among the physical links in the group, and a collector function, which receives frames over the aggregated links and passes them to the appropriate MAC clients.” *Id.* at 1:26–30.

“[T]wo 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.” Ex. 1001, 2:5–8. “Upstream data frames sent from the user ports to the communication network and downstream data frames sent from the communication network to the user ports are distributed among the parallel physical links, so as to balance the traffic load among the links.” *Id.* at 1:48–52.

A “network element comprises one or more user interface modules (UIMs), each serving one or more user ports” and “[i]n some embodiments, each UIM is connected to the communication network using two or more

physical links arranged in parallel.” Ex. 1001, 1:42–45. “[T]he UIMs are coupled to a backplane of the network element and the parallel physical links comprise backplane traces” and “are configured as an Ethernet. . . LAG[] group.” *Id.* at 1:56–60.

Unlike some known network element configurations, in which each user port is fixedly assigned to a specific backplane trace, the load balancing operation . . . of the present invention enables statistical multiplexing of the frames[ whereby] there is no direct relationship or connection between user ports and backplane traces.

*Id.* at 1:66–2:4.

Figure 2 of the '740 Patent is reproduced below.

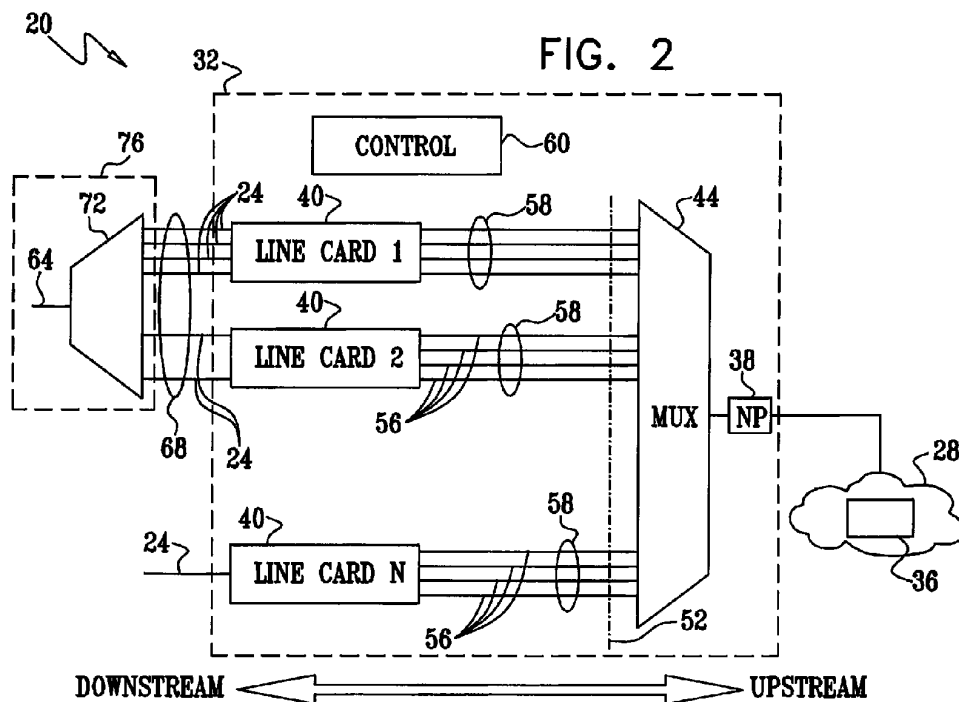


Figure 2 depicts a block diagram of communication system 20. *See* Ex. 1001, 3:55–57, 6:15–17. “System 20 interconnects a plurality of user ports 24 to a communication network 28.” *Id.* at 4:5–8. “[S]ystem 20 provides data services to users via network element 32 . . . [and] us[ing] a Layer 2 communication protocol . . . in which data is transferred . . . using

Ethernet frames.” *Id.* at 4:19–23. “[N]etwork element 32 . . . connects user ports 24 to a node 36 in network 28 . . . [and] via a network processor (NP) 38.” *Id.* at 4:12–14. “[A] number of user ports 24 are configured to form an aggregated user port 64” because “a particular user requires a bandwidth higher than the bandwidth of a single user port 24.” *Id.* at 6:17–21. “Network element 32 comprises one or more user interface modules (UIMs), such as line cards 40[, where e]ach . . . is assigned to process data frames of one or more user ports.” *Id.* at 4:28–30. “[B]ackplane 52 . . . distributes . . . the frames to and from line cards 40.” *Id.* at 4:32–33. “Backplane 52 comprises physical links such as backplane traces 56.” *Id.* at 4:34–35.

“A multiplexer (MUX) 44 is coupled to backplane traces 56.”  
Ex. 1001, 4:38. “MUX 44 multiplexes upstream frames coming out of line cards 40 to produce an upstream output . . . provided to network processor 38 . . . [and] then sent by network processor 38 via a network connection 48 to network 28.” *Id.* at 4:38–43. “[N]etwork processor 38 . . . accepts . . . downstream frames addressed to user ports 24 from node 36” and “MUX 44 sends each frame to the appropriate user port via the appropriate line-card.” *Id.* at 4:43–48.

“Ethernet frames are statistically multiplexed so as to balance the load among the backplane traces.” Ex. 1001, 5:19–21. “[T]o achieve load balancing, each group of backplane traces belonging to a particular line card is configured as an Ethernet link aggregation (LAG) group 58” and “considered by the relevant line card and [MUX] 44 to be a single logical link having an aggregated bandwidth (i.e., capacity) equal to the sum of the bandwidths of the individual backplane traces in the group.” *Id.* at 5:10–16. “As a result, there is no pre-assigned relationship or connection between any

given user port 24 and a specific backplane trace 56.” *Id.* at 5:17–19.  
“Ethernet frames are mapped to individual backplane traces in the LAG group in accordance with a . . . mapping function [that] distributes the frames . . . so as to balance the load between the traces.” *Id.* at 5:22–26.

“User ports 24 forming port 64 are configured as an Ethernet LAG group[ constituting] an external LAG group 68.” Ex. 1001, 6:21–23. “Thus, the bandwidth of port 64 is generally equal to the sum of bandwidths of the individual user ports 24 in external LAG group 68[ and] in both upstream and downstream directions.” *Id.* at 6:23–26. “[A] particular line card 40 may have some of its user ports 24 assigned to an external LAG group and other user ports 24 used individually or assigned to another external LAG group.” *Id.* at 6:29–31.

#### *D. Illustrative Claim*

Claims 1, 4, 5, 13–15, 17, 19, 20, and 28–30 are independent, and remaining claims 2, 3, 6–12, 16, 18, 21–27, and 31 depend directly or indirectly therefrom, respectively. *See* Ex. 1001, 10:64–16:35. Claim 1 is reproduced below:

1. A method for communication, comprising:
  - coupling a network node to one or more interface modules
    - using a first group of first physical links arranged in parallel
    - at least one of said first physical links being a bi-directional link operative to communicate in both an upstream direction and a downstream direction;
  - coupling each of the one or more interface modules to a communication network using a second group of second physical links arranged in parallel, at least one of said second physical links being a bi-directional link operative to communicate in both an upstream direction and a downstream direction;
  - receiving 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, a first physical link out of the first group and a second physical link out of the second group; and sending the data frame over the selected first and second physical links,  
said sending comprising communicating along at least one of said bi-directional links.

*Id.* at 10:65–11:20.

*E. Asserted Patentability Challenges and Asserted Prior Art*

Petitioner asserts that claims 1–31 are unpatentable on the following grounds (Pet. 2):

| Claim(s) Challenged | 35 U.S.C. §         | Reference(s)/Basis                |
|---------------------|---------------------|-----------------------------------|
| 1–31                | 103(a) <sup>1</sup> | Bruckman <sup>2</sup>             |
| 1–31                | 103(a)              | Bruckman, Basso <sup>3</sup>      |
| 11, 26              | 103(a)              | Bruckman, Holdsworth <sup>4</sup> |
| 11, 26              | 103(a)              | Bruckman, Basso, Holdsworth       |

II. ANALYSIS

Joinder for purposes of an *inter partes* review is governed by 35 U.S.C. § 315(c), which states:

JOINDER.—If the Director institutes an *inter partes* review, the Director, in his or her discretion, may join as a party to that *inter partes* review any person who properly files a petition under section 311 that the Director, after receiving a preliminary response under section 313 or the expiration of the

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<sup>1</sup> The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. § 103 effective March 16, 2013. Because the '740 Patent claims an effective filing date prior to March 16, 2013, we refer to the pre-AIA version of § 103.

<sup>2</sup> US 2004/022827 A1, published Nov. 18, 2004 (Ex. 1005).

<sup>3</sup> US 2003/021068 A1, published Nov. 13, 2003 (Ex. 1006).

<sup>4</sup> Holdsworth et al., *Digital Logic Design*, Elsevier Science, 2002 (ISBN 0 7506 45882) (Ex. 1007).

time for filing such a response, determines warrants the institution of an inter partes review under section 314.

“To join a party to an instituted [*inter partes* review (IPR)], the plain language of § 315(c) requires two different decisions.” *Facebook, Inc. v. Windy City Innovations, LLC*, 973 F.3d 1321, 1332 (Fed. Cir. 2020). “First, the statute requires that the Director (or the Board acting through a delegation of authority . . . ) determine whether the joinder applicant’s petition for IPR ‘warrants’ institution under § 314.” *Id.* “Second, to effect joinder, § 315(c) requires the Director to exercise [her] discretion to decide whether to ‘join as a party’ the joinder applicant.” *Id.* The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless the information presented in the petition and any preliminary response shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

The patentability challenges in the Cisco IPR met the “reasonable likelihood” standard of § 314(a). IPR2023-00401, Paper 10, 30–31. The Petition here presents the same patentability challenges as those for which a trial was instituted in the Cisco IPR. *See* Mot. 4 (“[This] Petition is substantively identical to the Cisco IPR and relies on identical exhibits.”); *compare* Pet. 1–74, *with* IPR2023-00401, Paper 2, 9–79. According to Petitioner, the “[t]he same claims of the same patent are challenged under the same unpatentability grounds as the Cisco IPR.” Mot. 4. In the present proceeding, Patent Owner did not file a preliminary response to dispute the merits of Petitioner’s patentability challenges.

For the reasons set forth in the Cisco IPR, we conclude that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to the

challenged claims of the '740 Patent. *See* IPR2023-00401, Paper 10, 19–37. We accordingly determine that the Petition warrants institution under § 314, and turn to Petitioner's request for joinder.

As the moving party, Petitioner has the burden of proof in establishing entitlement to the requested relief. 37 C.F.R. §§ 42.20(c), 42.122(b).

Petitioner filed the Motion on October 10, 2023, within one month of institution of the Cisco IPR. *See* 37 C.F.R. § 42.122(b). Petitioner asserts that the Motion should be granted because the joinder “won't impact the Cisco IPR trial schedule in any meaningful way.” Mot. 5. Petitioner also agrees to take an “understudy” role in the Cisco IPR. *See* Mot. 5–7.

Specifically, Petitioner agrees to the following: (1) Petitioner “won't make any substantive filings, and . . . agrees that Cisco alone will be responsible for all substantive petitioner filings in the joined proceeding;” (2) “to be bound by all filings by Cisco in the joined proceeding, except for filings regarding termination and settlement;” (3) Petitioner “must obtain prior Board authorization to file any paper or to take any action on its own in the joined proceeding;” (4) Petitioner “shall not be permitted to raise any new grounds not already instituted by the Board in the Cisco IPR, or introduce any argument or discovery not already introduced by Cisco;” (5) Petitioner “shall be bound by any agreement between Patent Owner and Cisco concerning discovery and depositions;” (6) Petitioner “will not cross-examine or defend any witness at deposition;” (7) “Cisco will be responsible for any oral hearing presentation, including the preparation of demonstrative exhibits”; and (8) “Should Cisco cease participation in the proceeding[, Petitioner] would assume a primary role, meaning it would take over the role previously filled by Cisco.” Mot. 6. As mentioned before, Patent Owner did not file an opposition to the Motion.

Because Petitioner will take an understudy role that will not impact the Cisco IPR which was instituted on identical grounds, we determine that it is appropriate under these circumstances to join Petitioner as a party to the Cisco IPR.

### III. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–31 of the '740 Patent is instituted with respect to all of the grounds set forth in the Petition; and

FURTHER ORDERED that Petitioner's Motion for Joinder with IPR2023-00401 is granted, and Petitioner is hereby joined as a petitioner in IPR2023-00401;

FURTHER ORDERED that the grounds on which trial in IPR2023-00401 were instituted are unchanged, and no other grounds are added in IPR2023-00401;

FURTHER ORDERED that the Scheduling Order entered in IPR2023-00402 (Paper 11) and the schedule changes agreed to by the parties in IPR2023-00402 (Paper 20) shall govern the trial schedule in IPR2023-00401;

FURTHER ORDERED that Petitioner's role in IPR2023-00401 shall be limited as stated by Petitioner in the Motion for Joinder (Paper 2, 5–7) unless and until Cisco is terminated from that proceeding;

FURTHER ORDERED that the case caption in IPR2023-00401 shall be changed to reflect joinder of Juniper Networks, Inc. in accordance with the attached example;

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FURTHER ORDERED that a copy of this Decision be entered into the record of IPR2023-00401; and

FURTHER ORDERED that all further filings shall be made in IPR2023-00401.

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CISCO SYSTEMS, INC. AND JUNIPER NETWORKS, INC.,<sup>5</sup>  
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<sup>5</sup> Juniper Networks, Inc. filed a motion for joinder and a petition in IPR20240-00034, which were granted. Accordingly, Juniper Networks, Inc has been joined as a petitioner in this proceeding.