

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

DYNAMIC MESH NETWORKS, INC.  
D/B/A MESH DYNAMICS

Plaintiff,

v.

CISCO SYSTEMS, INC.,

Defendant.

Civil Action No. 2:25-cv-781-JRG  
**(LEAD CASE)**

DYNAMIC MESH NETWORKS, INC.  
D/B/A MESH DYNAMICS

Plaintiff,

v.

CISCO SYSTEMS, INC.,

Defendant.

Civil Action No. 2:25-cv-783-JRG  
**(MEMBER CASE)**

**DEFENDANT CISCO SYSTEMS, INC.’S PRELIMINARY INVALIDITY  
CONTENTIONS**

Pursuant to Local Patent Rules 3-3 and 3-4 and the Court’s Scheduling Order (Dkt. No. 40), Defendant Cisco Systems, Inc. (“Cisco” and/or “Defendant”) hereby sets forth its Preliminary Invalidity Contentions concerning U.S. Patent No. 7,420,952 (“the ’952 Patent”), U.S. Patent No. 7,885,243 (“the ’243 Patent”), U.S. Patent No. 7,894,385 (“the ’385 Patent”), U.S. Patent No. 8,477,762 (“the ’762 Patent”), U.S. Patent No. 8,514,852 (“the ’852 Patent”), U.S. Patent No. 8,520,691 (“the ’691 Patent”), and U.S. Patent No. 9,049,000 (“the ’000 Patent (collectively, the “Asserted Patents”).

In the lead case, Plaintiff Dynamic Mesh Networks, Inc. (“Dynamic Mesh”) asserts that Cisco infringes Claims 1–21 of the ’952 Patent; Claims 1–13 of the ’243 Patent; Claims 1–3 of the ’385 Patent; and Claims 1, 9–11, 15–16, 18–19, and 35 of the ’691 Patent; and in the member case, Dynamic Mesh asserts that Cisco infringes Claims 1–4, 7–9, 10, 12–13, and 15–17 of the ’762 Patent; Claims 1, 5, and 7 of the ’852 Patent; and Claims 1, 6, and 7 of the ’000 Patent (collectively, the “Asserted Claims”). Cisco contends that each of the Asserted Claims is invalid under at least one or more of 35 U.S.C. §§ 101, 102, 103, and 112.

These Preliminary Invalidity Contentions: (i) identify each prior art reference that Defendant is currently aware of that either anticipates or renders obvious one or more of the Asserted Claims; (ii) specify whether each such reference anticipates or renders obvious the applicable claims, and in the event a combination with one or more other such references renders obvious the applicable claims, identify each such combination and the motivation to combine such references; (iii) include charts, for illustrative prior art references, citing exemplary disclosures in those references that anticipate or render obvious each of the elements of the applicable claims; and (iv) identify grounds for invalidating asserted claims based on lack of patentable subject matter under 35 U.S.C. § 101, or indefiniteness, enablement, or written description under 35 U.S.C. § 112. These contentions relate only to invalidity, and do not include any contention or position beyond the issue of invalidity (e.g., non-infringement or claim construction).

Defendant’s discovery and investigation in this lawsuit is ongoing, and these contentions are based only on the information Defendant has obtained to date. For example, Defendant has not had the opportunity to complete third-party discovery relating to various third-party prior art and expressly reserves the right to amend these contentions subject to third-party discovery. These third parties may include, without limitation, the authors, inventors, or assignees of prior art

references identified in these contentions. Defendant also reserves the right to amend the contentions due to Dynamic Mesh's failure to produce prior art known to it, including prior art identified by its own investigations, other accused infringers or third parties as to the Asserted Patents or related patents. To date, Dynamic Mesh has not produced any prior art to Defendant. Defendant reserves the right to supplement and/or amend these contentions consistent with the Federal Rules of Civil Procedure, the Local Rules, and any orders from the Court.

Similarly, Defendant has not had the opportunity to take any depositions of the patent applicants named on the face of the Asserted Patents or other persons having relevant information. Defendant reserves the right to revise, amend or supplement these Invalidity Contentions pursuant to Federal Rule of Civil Procedure 26(e) and the Local Rules to the extent appropriate in light of further investigation and discovery regarding the defenses, the review and analysis of expert witnesses, or supplemental contentions by Dynamic Mesh.

These Preliminary Invalidity Contentions are based upon Defendant's present understanding of the Asserted Claims and Dynamic Mesh's November 11, 2025 Local Patent Rules 3-1 and 3-2 Initial Disclosures ("Initial Infringement Contentions") served in both 2:25-cv-781-JRG and 2:25-cv-783-JRG cases (collectively Dynamic Mesh's "Infringement Contentions"). Defendant does not concede that any (apparent) claim constructions are correct. Even though Defendant contends that the Asserted Claims are indefinite, Defendant has disclosed which prior art render those claims invalid based upon Dynamic Mesh's contention that those claims are definite. Defendant's assertion of prior art is not a concession as to the meaning, definiteness, written description support for, or enablement of any of the Asserted Claims, or that the Asserted Patents properly claim patent eligible subject matter. If Dynamic Mesh amends its Infringement Contentions, Defendant reserves the right to amend its Preliminary Invalidity Contentions, and

Defendant notes that Dynamic Mesh's Infringement Contentions fail to provide sufficient notice of Dynamic Mesh's infringement theories as required by the Local Rules.

Defendant takes no position on any matter of claim construction in its Preliminary Invalidity Contentions. Any statement herein describing or tending to describe any claim element is provided solely for the purpose of understanding the relevant prior art. Defendant expressly reserves the right to propose any claim construction it considers appropriate and/or to contest any claim construction it considers inappropriate. Moreover, Defendant's Preliminary Invalidity Contentions are made in some instances based upon Dynamic Mesh's apparent interpretation of the Asserted Claims in its Infringement Contentions and should be viewed accordingly. Further, by including in these contentions prior art that would be anticipatory or render a claim obvious based on a particular scope or construction of the claims, Defendant's Preliminary Invalidity Contentions herein are not, and should in no way be seen as, adoptions or admissions as to the accuracy of such scope or construction. The Court has not yet construed the Asserted Claims, and Defendant reserves the right to amend these Preliminary Invalidity Contentions in accordance with the local patent rules, including after the issuance of the Court's claim construction order.

Defendant contends that portions of the Asserted Claims, relating to an intended use or result, printed matter, non-functional descriptive material, and certain preamble language, are entitled to no patentable weight, at least for purposes of §§101–103. Mapping of a portion of an asserted claim to a prior art reference does not represent that such portion of the claim is entitled to patentable weight when comparing the claimed subject matter to the prior art.

By submitting these Preliminary Invalidity Contentions, Defendant does not waive any of its claims or defenses in this case, including those relating to lack of patentable subject matter, written description, enablement, indefiniteness, anticipation, and obviousness. References not

included in these Preliminary Invalidity Contentions, whether known or not now known, may become relevant based on the claim constructions adopted by the Court, based on any amendment or supplement that Dynamic Mesh may be permitted to make to its Infringement Contentions, and/or based on discovery in this case.

Defendant reserves the right to further amend or supplement these disclosures and the subsequent document production should Dynamic Mesh: 1) provide any information that it failed to provide pursuant to the Docket Control Order, Local Rules, and the Local Patent Rules; 2) amend its contentions or disclosures in any way; or 3) attempt to rely upon any information at trial, in a hearing or during a deposition which it failed to provide in its contentions or disclosures. Defendant further reserves the right to amend or supplement these Invalidity Contentions for any other reason permitted by the Court and/or the applicable statutes and rules.

**I. Priority Dates Of The Asserted Patents And Claims**

Dynamic Mesh asserts the following alleged priority dates for the Asserted Patents:

- '952 Patent: October 28, 2002
- '243 Patent: October 28, 2002
- '691 Patent: October 28, 2002
- '385 Patent: June 19, 2006
- '762 Patent: November 4, 2005
- '852 Patent: November 24, 2008
- '000 Patent: November 24, 2008

It is Dynamic Mesh's burden to show that each Asserted Claim is entitled to the alleged priority date. Pursuant to Local Patent Rule 3-2(b), Dynamic Mesh is required to disclose "[a]ll documents evidencing the conception, reduction to practice, design, and development of each

claimed invention, which were created on or before the date of application for the patent in suit ...” Dynamic Mesh alleges that MeshD00052044-63 at MeshD00052048-49 and source code evidence the conception, reduction to practice, design, and development of each claimed invention on or before the date of application for the Patent-in-Suit or the priority date identified pursuant to L.P.R. 3-1(e). *See* Dynamic Mesh’s Infringement Disclosures at 10. Defendant disagrees that those documents evidence the conception, reduction to practice, design, and development of each claimed invention on or before the date of application for the Patent-in-Suit or the priority date identified pursuant to L.P.R. 3-1(e), and presently contends that Dynamic Mesh has failed to meet its burden to establish its asserted priority dates as outlined below.

**a) The ’952 Patent Is Not Entitled To Plaintiffs’ Alleged Priority Date.**

Dynamic Mesh asserts that the ’952 Patent is entitled to a priority date of October 28, 2002 based on U.S. Provisional Patent Application No. 60/421,930 (the “’930 provisional”). But the ’930 provisional fails to disclose adequate support for any Asserted Claim of the ’952 Patent sufficient to meet the requirements of 35 U.S.C. § 112. For example, the ’930 provisional fails to disclose, as required by 35 U.S.C. § 112, at least the following claim elements:

- “determining that a first one of the plurality of relay nodes in the wireless mesh network requires a channel selection change”
- “making a channel selection change”
- “making a channel selection includes making a channel selection”
- “wherein making a channel selection includes making a channel selection change to meet a latency requirement”
- “wherein making a channel selection includes making a channel selection change to meet a throughput requirement”
- “wherein determining that the first node requires a channel selection change includes determining that the channel selection change is required due to a performance requirement change”

- “wherein determining that the first node requires a channel selection change includes determining that the channel selection change is required due to congestion”
- “wherein the channel selection change is made to avoid channel interference”
- “receiving a monitoring signal that includes information about available nodes from which the second node is selected”

**b) The '243 Patent Is Not Entitled To Plaintiffs' Alleged Priority Date.**

Dynamic Mesh asserts that the '852 Patent is entitled to a priority date of October 28, 2002 based on U.S. Provisional Patent Application No. 60/421,930 (the “'930 Provisional”) and the '952 Patent. But the '930 Provisional fails to disclose adequate support for any Asserted Claim of the '243 Patent sufficient to meet the requirements of 35 U.S.C. § 112. For example, the '930 provisional fails to disclose, as required by 35 U.S.C. § 112, at least the following claim elements:

- “wherein one of the datasets contained in an AP node comprises a route path dataset comprising an identifier for the associated parent node appended to the route path dataset for the associated parent node;”
- “wherein the communication criteria further comprises instructions for the AP node to associate with a single suitable parent node wherein the route path dataset of the parent node is the shortest route path dataset of all available parent nodes;”
- “wherein the access server functioning parameters includes a latency modifier wherein the AP node means for switching from the first associated parent node to a second associated parent node result in selection of the second associated parent wherein the route path of the second associated parent node is shorter than the first associated route path by a value related to the latency modifier.”

**c) The '691 Patent Is Not Entitled To Plaintiffs' Alleged Priority Date.**

Dynamic Mesh asserts that the '691 Patent is entitled to a priority date of October 28, 2002 based on U.S. Provisional Patent Application No. 61/148,803 (the “'803 Provisional”), the '762 Patent, U.S. Patent App. No. 11/084,330 (the “'330 Application”), and the '952 Patent. But the '762 Patent, '330 Application, and '952 Patent fail to disclose adequate support for any Asserted Claim of the '691 Patent sufficient to meet the requirements of 35 U.S.C. § 112. For example, the

'762 Patent, '330 Application, and '952 Patent fail to disclose, as required by 35 U.S.C. § 112, at least the following claim elements:

- “said client connectivity is uninterrupted during any transition from the isolated configuration to the first connected configuration”
- “in the second isolated configuration none of the structured mesh nodes’ uplink radio comprises a connection to an external network, and one of the structured mesh nodes acts as an isolated network root of the isolated configuration and all remaining nodes connect to the isolated network root node as isolated root children [and descendant] nodes forming a tree configuration”

**d) The '762 Patent is Not Entitled to Plaintiff’s Alleged Priority Date.**

Dynamic Mesh asserts that the '762 Patent is entitled to a priority date of November 4, 2005 based on U.S. Application No. 11/266,884 (the “'884 application”). But the '884 application fails to disclose adequate support for any Asserted Claim of the '762 Patent sufficient to meet the requirements of 35 U.S.C. § 112. During prosecution of the '762 Patent, the applicant stated: “[w]hether the claims of the present application are entitled to the benefit of the filing date of the parent application is irrelevant to the determination of whether the present application properly claims status as a continuation-in-part of the parent application . . . As such, given that it is not necessary to overcome the prior art of record applications will not address whether the previously-allowable claims are entitled to the priority claim.” '762 File History, January 25, 2013 Applicant Remarks, at 8. Accordingly, the effective priority date of the '762 Patent is its actual filing date, January 12, 2009, because the '884 application does not provide written description support for numerous limitations in the '762 Patent. For example, the '884 provisional fails to disclose, as required by 35 U.S.C. § 112, at least the following claim elements:

- “a VoIP-capable network comprising:”
- “one or more VoIP client devices;”
- “two or more VoIP nodes forming an isolated cluster wherein the two or more VoIP nodes in the isolated cluster are in communication with one another;”

- “wherein each of the VoIP nodes further comprises a local SIP registry built by exchanging SIP information with the remaining VoIP nodes in the isolated cluster; and”
- “wherein a first VoIP client device in communication with a first VoIP node establishes a communication with a second VoIP device in communication with a second VoIP node using the local SIP registries of the first VoIP node and the second VoIP node.”
- “The VoIP-capable network of claim 1, wherein the local SIP registries of the isolated VoIP nodes are updated as the VoIP nodes and the VoIP client devices begin communication with the isolated cluster and end communication with the isolated cluster.”
- “The VoIP-capable network of claim 1, wherein updates to the local SIP registry of a VoIP node are communicated to remaining VoIP nodes in the isolated cluster by broadcasting one or more information packets containing local SIP registry information of the VoIP node.”
- “The VoIP-capable network of claim 1, wherein the local SIP registry of a VoIP node is updated according to information received from another VoIP nodes in the isolated cluster in special information packets that each contain local SIP registry information of another VoIP node.”
- “The VoIP-capable network of claim 1, further comprising means of connecting the isolated cluster to an external network, wherein upon connection to an external network, the SIP registry of an external SIP server connected to the external network is updated to include SIP registry information from the VoIP nodes.”
- “The VoIP-capable network of claim 1 wherein said nodes comprise mesh nodes.”
- “The VoIP-capable network of claim 8 wherein said mesh nodes provide VoIP optimized services within said mesh nodes.”
- “A method of maintaining VoIP capabilities within a network comprising:”
- “forming a cluster of two or more initially isolated network nodes”
- “establishing communications between two or more client devices by way of the initially isolated network nodes,”
- “wherein in a first configuration, at least two of said initially isolated network nodes are in communication with each other but not in communication with an external SIP server, and”
- “wherein each of said at least two initially isolated network nodes supports VoIP communications based on a local SIP registry contained in each of the said nodes according to the method of:”

- “communicating with at least one other initially isolated node to exchange SIP registry information;”
- “updating the local SIP registry in said node as new information is acquired;”
- “sending and receiving VoIP packets from a sender isolated node to one or more recipient isolated nodes based on said local SIP registry functionality when a client device in communication with the sender node establishes communication with a client device in communication with the recipient node.”
- “The method of claim 10, further comprising updating the local SIP registries of the isolated nodes as nodes and clients join and leave the isolated cluster.”
- “The method of claim 10, wherein updates to the local SIP registry of each node is communicated to remaining nodes in the cluster by broadcasting an information packet containing the local SIP registry information.”
- “A VoIP capable network comprising:”
- “a first initially isolated network node in communication with at least two VoIP clients,”
- “wherein the first isolated node further comprises a local SIP registry wherein said SIP registry contains address identifiers for each VoIP clients in communication with the first node; and”
- “wherein VoIP communication between said at least two VoIP clients are initiated by utilizing the local SIP registry,”
- “wherein the first isolated node further comprises communications means with other isolated nodes wherein the first isolated node broadcasts its SIP registry information to other nodes in communication with the first node.”
- “The VoIP capable network of claim 15, wherein the local SIP registry of the first isolated node is updated as the VoIP clients establish or terminate a network connection with the first isolated node.”
- “The VoIP capable network of claim 15, wherein first isolated node comes into communication with other isolated nodes to form a cluster, and the local SIP registry information of each isolated node in the cluster is updated according to information received from other isolated nodes in the cluster.”

**e) The '852 Patent is Not Entitled to Plaintiff's Alleged Priority Date.**

Dynamic Mesh asserts that the '852 Patent is entitled to a priority date of November 24, 2008 based on U.S. Provisional Patent Application No. 61/117,502 (the “502 provisional”). But

the '502 provisional fails to disclose adequate support for any Asserted Claim of the '852 Patent sufficient to meet the requirements of 35 U.S.C. § 112. For example, the '502 provisional fails to disclose, as required by 35 U.S.C. § 112, at least the following claim elements:

- “revising all checksums within the packet as modified to agree with the packet contents as modified;”
- “modifying the packet, including modifying all checksums, to return the packet’s format to that of the standard packet format;”
- “if the modified packet, having been transmitted through a network, is determined to have a checksum mismatch as received, modifying the packet by retrieving the redundant information pointed to by said position offset reference number and replacing a portion of the packet with said redundant information; and”
- “revising all checksums within the packet as modified to agree with the contents of the modified packet.”
- “The method of claim 1 wherein a number indicating a specific position offset reference number is repeated multiple times as a means to later determine the validity of the position offset reference number after transmission.”
- “The method of claim 1, wherein revising all checksums within the packet as modified to agree with the contents of the modified packet includes creating at least one checksum that matches real time video content containing errors.”

**f) The '000 Patent is Not Entitled to Plaintiff’s Alleged Priority Date.**

Dynamic Mesh asserts that the '000 Patent is entitled to a priority date of November 24, 2008 based on U.S. Provisional Patent Application No. 61/117,502 (the “'502 provisional”). But the '502 provisional fails to disclose adequate support for any Asserted Claim of the '000 Patent sufficient to meet the requirements of 35 U.S.C. § 112. For example, the '502 provisional fails to disclose, as required by 35 U.S.C. § 112, at least the following claim elements:

- “revising all checksums within the packet as modified to agree with the packet contents as modified;”
- “transmitting the packet through a network, wherein transmitting further comprises the steps of checking the modified packet during transmission;”

- “if the modified packet is determined to have a checksum mismatch as received, modifying the packet by retrieving the redundant information pointed to by said position offset reference number and replacing a portion of the packet with said redundant information; and”
- “calculating new checksums for packet; and revising all checksums within the packet as modified to agree with the contents of the modified packet; and’
- “upon receipt, modifying the packet to return the packet's format to that of the standard packet format.”
- “The method of claim 1 wherein a number indicating a specific position offset reference number is repeated multiple times as a means to later determine the validity of the position offset reference number after transmission.”
- “The method of claim 1, wherein revising all checksums within the packet as modified to agree with the contents of the modified packet includes creating at least one checksum that matches real time video content containing errors.”

## **II. Invalidity Based Upon Prior Art**

Cisco contends that each of the Asserted Claims is invalid as anticipated under 35 U.S.C. § 102 and/or obvious under 35 U.S.C. § 103. Cisco’s detailed contentions regarding the Asserted Claims in claim chart form are attached as Exhibits 000-A through 000-H and 000-103; 243-A through 243-I and 243-103; 385-A through 385-D and 385-103; 691-A through 691-H and 691-103; 762-A through 762-H and 762-103; 852-A through 852-H and 852-103; and 952-A through 952-G and 952-103. Those charts disclose how each reference, or combination of references, anticipates and/or renders obvious each of the Asserted Claims.

Defendant’s claims charts disclose multiple theories of invalidity in a single chart. For example, each chart directed to an anticipatory publication also discloses how that reference alone or in combination with one or more other references and/or the knowledge of one of ordinary skill in the art renders one or more of the Asserted Claims obvious. Exhibits 000-A through 000-H and 000-103; 243-A through 243-I and 243-103; 385-A through 385-D and 385-103; 691-A through 691-H and 691-103; 762-A through 762-H and 762-103; 852-A through 852-H and 852-103; and

952-A through 952-G and 952-103 identify exemplary disclosures within the prior art that teach the relevant claim elements and limitations. While the claim charts have identified citations in the references for the claim limitations, each and every disclosure of the same limitation in the same reference is not necessarily identified. For example, whenever Exhibits 000-A through 000-H and 000-103; 243-A through 243-I and 243-103; 385-A through 385-D and 385-103; 691-A through 691-H and 691-103; 762-A through 762-H and 762-103; 852-A through 852-H and 852-103; and 952-A through 952-G and 952-103 include a figure, diagram, table, or drawing, all of the text associated with that figure, diagram, table, or drawing is incorporated by reference (even if that text is not explicitly cited in the exhibit). Similarly, if an exhibit includes the text associated with a figure, diagram, table, or drawing, the described figure, diagram, or drawing is incorporated by reference (even if that figure, diagram, table, or drawing is not explicitly cited). Further, persons of ordinary skill in the art read a prior art reference as a whole, and in the context of other references, publications or literature. Thus, Defendant may also rely on uncited portions of the prior art references, any cited documents within any prior art reference, other references, and the testimony of experts to establish that the limitations of the Asserted Claims are anticipated or rendered obvious and/or that a POSITA would have been motivated to modify or combine certain of the cited references so as to render the claims obvious.

Defendant bases these claim charts in part upon the infringement positions taken by Dynamic Mesh. These claim charts in no way indicate that Defendant agrees with or adopts Dynamic Mesh's positions or claim constructions. Defendant reserves the right to propose and argue for different positions and different constructions of the claim language. Nothing herein should be construed as setting forth or limiting Defendant's claim construction positions. To the extent that any of the prior art references discloses the same feature or functionality of the accused

instrumentalities based on Dynamic Mesh’s apparent interpretation of the Asserted Claims, Defendant reserves the right to argue that such feature or functionality does not meet any limitation of any of the Asserted Claims of the Asserted Patents.

**a) Anticipation**

Defendant identifies below prior art, including references and systems which anticipate one or more Asserted Claims, and/or render obvious one or more of the Asserted Claims, either alone or in combination with what was known to a skilled artisan at the time and/or one or more other prior art references.

**1. Patents and Patent Publications**

Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Claim Chart No.
Castagnoli-581	US Pub. No. 2006/0215581	U.S.A.	Aug. 26, 2005	Sep. 28, 2006	385-A 691-C
Castagnoli-582	US Pub. No. 2006/0215582	U.S.A.	Aug. 26, 2005	Sep. 28, 2006	385-B
Chawla	US Pub. No. 2005/0229074	U.S.A.	Apr. 13, 2004	Oct. 13, 2005	000-E 852-E
Ganz	US 6,584,080	U.S.A.	Jan. 14, 1999	Jun. 24, 2003	952-A
Garcia-Martin	US Pub. No. 2007/0237139	U.S.A.	Jul. 14, 2006	Oct. 11, 2005	762-E
Lee	US Pub. No. 2003/0235158	U.S.A.	Mar. 9, 2001	Dec. 25, 2003	243-G
Lu	US Pub. No. 2008/0291846	U.S.A.	May 21, 2008	Nov. 27, 2008	691-D
Maxemchuck	US Pub. No. 2004/0078624	U.S.A.	Dec. 27, 2002	Apr. 22, 2004	000-A 852-A
Meier-746	US 5,504,746	U.S.A.	Mar. 27, 1995	Apr. 2, 1996	243-B
Meier-942	WO 95/12942	PCT	Nov. 4, 1994	May 11, 1995	243-A
Ogier	US Pub. No. 2002/0062388	U.S.A.	Dec. 1, 2000	May 23, 2000	243-C
Osann	US Pub. No. 2007/0297366	U.S.A.	Sep. 7, 2006	Dec. 27, 2007	691-B
Saridakis	US Pub. No. 2005/0138119	U.S.A.	Dec. 23, 2003	Jun. 23, 2005	762-C
Schoenblum	US 7,774,489 B2	U.S.A.	Apr. 6, 2009	Aug. 10, 2010	000-H 852-H

Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Claim Chart No.
Srivastava 189	US 7,912,189	U.S.A.	Mar. 15, 2007	Mar. 22, 2011	762-F
Tikalsky	US 5,875,179	U.S.A.	Oct. 29, 1996	Feb. 23, 1999	952-B
Ver Steeg	US Pub. No. 2008/0028279	U.S.A.	Jul. 7, 2006	Jan. 31, 2008	000-B 852-B
Wu	US Pub. No. 2008/0098121	U.S.A.	Oct. 19, 2007	Apr. 24, 2008	762-B
Zeng	US Pub. No. 2009/0213730	U.S.A.	Feb. 21, 2008	Aug. 27, 2009	691-A
Zhang	US Pub. No. 2002/0021761	U.S.A.	Feb. 16, 2001	Feb. 21, 2002	000-C 852-C

## 2. Non-Patent Literature

Abbreviated Name	Title	Author(s)	Publication Date	Claim Chart No.
Banerjee	Peer-to-peer SIP-based Services over Wireless Ad Hoc Networks	Nilanjan Banerjee and Arup Acharya	October 2004	762-D
Bryan	P2PSIP (proposed)	David A. Bryan and Bruce B. Lowekamp	Oct. 2006	762-A
Chesterfield	Exploiting Diversity to Enhance Multimedia Streaming Over Cellular Links	Julian Chesterfield, Rajiv Chakravorty, Ian Pratt†, Suman Banerjee, and Pablo Rodriguez	Mar. 13, 2005	000-D 852-D

## 3. Prior Art Systems

The following prior art systems render the Asserted Claims invalid because they were known or used by others in the United States before the priority date of the Asserted Claims, in public use or on sale in the United States more than one year prior to the date of the application for the Asserted Patents in the United States and/or were in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention. The systems disclosed below are described in various cited publications and other materials, which also

independently form a basis for invalidity based upon their publication. Multiple versions or implementations of any of the disclosed systems may exist—Defendant expressly reserves the right to rely upon other versions and implementations of these systems. Defendant expects that third-party discovery will yield more information relating to the disclosed systems and reserves the right to amend or supplement these Preliminary Invalidity Contentions as discovery progresses in this matter. As an example, Defendant expects that discovery may be taken on one or more authors of the invalidating references describing these systems, and Defendant reserves the right to, and anticipates that it will, amend these Preliminary Invalidity Contentions after receiving such discovery.

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
Aironet	AWLF, Aironet Wireless LAN Fundamentals, Vol. 1, CISCO SYSTEMS (2003) (“Student Guide”);	2003	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1200 Series Access Point Data Sheet	2003	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1200 Series Access Point Ordering Guide	2003	243-E 385-C 691-F 952-D
Aironet	Cisco IOS Software Configuration Guide for Cisco Aironet Access Points, Cisco IOS Release 12.4(3g) JA and 12.3(B)JEB	Apr. 2007	243-E 385-C 691-F 952-D
Aironet	Cisco IOS Software Configuration Guide for Cisco Aironet Access Points Draft Copy	Apr. 2007	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1100 Series Access Point Installation and Configuration Guide	Oct. 2002	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1100 Series Access Point	Dec. 2006	243-E

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
	Hardware Installation Guide		385-C 691-F 952-D
Aironet	Cisco Aironet 1200 Series Access Point Installation and Configuration Guide	Feb. 2003	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1200 Series Access Point Data Sheet	2002	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet Access Point Software Configuration Guide, 340 and 350 Series Software Release 12.03T	Aug. 2003	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1000 Series Lightweight Access Points Data Sheet	2006	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1000 Series Lightweight Access Point Hardware Installation Guide	Apr. 2007	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1100 Series Access Point	2003	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1200 Series Access Point Hardware Installation Guide Draft Copy		243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1200 Series Access Point Software Configuration Guide, Software Release 11.40T	Apr. 2002	243-E 385-C 691-F 952-D
Aironet	Cisco IOS Software Configuration Guide for Cisco Aironet Access Points	Jun. 2003	243-E 385-C 691-F 952-D
Aironet	Aironet Wireless LAN Fundamentals Volume 1, Version 3.1	2003	243-E 385-C 691-F 952-D

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
Aironet	Cisco Aironet Antennas and Accessories – Complete the Wireless Solution Data Sheet	2001	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1500 Series Lightweight Outdoor Mesh Access Points Data Sheet	2005	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1000 Series Lightweight Access Points Data Sheet	2006	243-E 385-C 691-F 952-D
Aironet	Cisco Online Help for Cisco IOS Release 12.2(15)JA	2004	243-E 385-C 691-F 952-D
Aironet	United States Patent Publication No. 2005/0220054 Mier et al.	Oct. 6, 2005	243-E 385-C 691-F 952-D
Aironet	SWAN (Structured Wireless-aware Network) Wireless LAN Context Control Protocol Specification, EDCS-220343, CISCO SYSTEMS	Apr. 13, 2005	243-E 385-C 691-F 952-D
Aironet	WNBU Concept Commit for Gallium AP IOS Software Release, CISCO	Mar. 9, 2005	243-E 385-C 691-F 952-D
Aironet	Mesh J(7.0) MR1 TAC Training, CISCO	2008	243-E 385-C 691-F 952-D
Aironet	D-Cubed Release Features For Outdoor Wireless Mesh Networks Product Requirements Document, CISCO	Nov. 28, 2006	243-E 385-C 691-F 952-D
Aironet	Cisco Aironet 1500 Series Wireless MeshAP Version 5.0 Design Guide	Feb. 23, 2009	243-E 385-C 691-F 952-D
Aironet	SWAN WLCCP Security Specification, EDCS-334326, CISCO SYSTEMS, INC.	Apr. 20, 2004	243-E 385-C 691-F

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
			952-D
Aironet	User Guide for the CiscoWorks WirelessLAN Solution Engine	2003	243-E 385-C 691-F 952-D
Aironet	D-Cubed Master Requirements List, CISCO	Dec. 14, 2006	243-E 385-C 691-F 952-D
Aironet	Cisco Systems, User Guide for the CiscoWorks Wireless LAN Solution Engine, Release 2.5	2003	243-E 385-C 691-F 952-D
Aironet	Cisco Systems, User Guide for the CiscoWorks Wireless LAN Solution Engine, Release 2.9	2004	243-E 385-C 691-F 952-D
Airespace	Cisco Aironet 1000 Series Lightweight Access Point Hardware Installation Guide	Apr. 2007	243-D 385-D 691-G 952-C
Airespace	Cisco Unified Communications SRND (Based on Cisco Unified CallManager 4.x), Chapter 3 Network Infrastructure	Oct. 30, 2008	243-D 385-D 691-G 952-C
Airespace	Cisco 802.1X Authentication Services Configuration Guide Cisco IOS Release 12.4T	Jan. 18, 2012	243-D 385-D 691-G 952-C
Airespace	Airespace Control System Software	2003	243-D 385-D 691-G 952-C
Airespace	Airespace – Silicon Valley Sports and Entertainment and Airespace Partner to Deliver Wireless Network to HP Pavilion at San Jose	Apr. 7, 2003	243-D 385-D 691-G 952-C
Airespace	Airespace – Airespace’s Breakthrough Wireless Platform Deployed at Duke Medical Center and Berkeley Engineering	Apr. 7, 2003	243-D 385-D 691-G 952-C

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
Airspace	Airspace – Airspace Introduces Breakthrough Networking Solution for Building the Wireless Enterprise	Apr. 7, 2003	243-D 385-D 691-G 952-C
Airspace	Airspace – NEC Integrate Airspace Wireless Networking Solution into Converged Voice and Data Platform	Apr. 7, 2003	243-D 385-D 691-G 952-C
Airspace	Airspace Overview Website	2003	243-D 385-D 691-G 952-C
Airspace	Airspace – Intelligent Wireless Networking	2003	243-D 385-D 691-G 952-C
Airspace	Airspace – Airspace WLAN Appliance	2003	243-D 385-D 691-G 952-C
Airspace	Airspace – Airspace Introduces Breakthrough Networking Solution for Building the Wireless Enterprise	Apr. 7, 2003	243-D 385-D 691-G 952-C
Airspace	Airspace – Airspace’s Breakthrough Wireless Platform Deployed at Duke Medical Center and Berkeley Engineering	Apr. 7, 2003	243-D 385-D 691-G 952-C
Airspace	Airspace – AireWave Director Software: Optimizing the Air Space to Support Business-Critical Applications	2003	243-D 385-D 691-G 952-C
Airspace	Airspace – AireWave Director: An Intelligent Control Plane for Dynamic RF Operations	2003	243-D 385-D 691-G 952-C
Airspace	Cisco – Cisco Aironet 1000 Series Lightweight Access Point Hardware Installation Guide, OL-9403-04	Oct. 10, 2007	243-D 385-D 691-G 952-C
Airspace	Cisco – Cisco Unified CME Solution Reference Network Design Guide	2006	243-D 385-D 691-G

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
			952-C
Airespace	Airespace – Why the air space is different	2003	243-D 385-D 691-G 952-C
Airespace	Airespace – Make the Switch to Next-Gen Wireless with Airespace	Apr. 2003	243-D 385-D 691-G 952-C
Airespace	Airespace – Understanding the Lightweight Access Point Protocol (LWAPP)	2003	243-D 385-D 691-G 952-C
Airespace	Cisco - Cisco Unified Wireless Technology and Architecture		243-D 385-D 691-G 952-C
Airespace	Cisco – User Guide for Cisco Secure Access Control Server, Release 4.1	2002	243-D 385-D 691-G 952-C
Airespace	Legra Systems, Inc. – Light Weight Access Point Protocol (LWAPP)	Jun. 28, 2003	243-D 385-D 691-G 952-C
Airespace	Airespace – The Business-Critical Wireless LAN	2003	243-D 385-D 691-G 952-C
Roofnet	A High-Throughput Path Metric for Multi-Hop Wireless Routing		243-H 691-H 952-F
Roofnet	A High-Throughput Path Metric for Multi-Hop Wireless Routing, 9th ACM (MobiCom '03)	2003	243-H 691-H 952-F
Roofnet	A High-Throughput Path Metric for Multi-Hop Wireless Routing		243-H 691-H 952-F
Roofnet	Architecture and Evaluation of an Unplanned 802.11b Mesh Network		243-H 691-H 952-F

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
Roofnet	Bit-rate Selection in Wireless Networks, MIT Master's Thesis	February 2005	243-H 691-H 952-F
Roofnet	Bit-rate Selection in Wireless Networks	February 2005	243-H 691-H 952-F
Roofnet	Capacity of Ad Hoc Wireless Networks	2001	243-H 691-H 952-F
Roofnet	MIT Roofnet Implementation	August 2003	243-H 691-H 952-F
Roofnet	Opportunistic Routing in Multi-Hop Wireless Networks		243-H 691-H 952-F
Roofnet	Link-level Measurements from an 802.11b Mesh Network		243-H 691-H 952-F
Roofnet	Link-level Measurements from an 802.11b Mesh Network, SIGCOMM 2004	2004	243-H 691-H 952-F
Roofnet	MIT Roofnet: Construction of a Community Wireless Network		243-H 691-H 952-F
Roofnet	MIT Roofnet: Construction of a Production Quality Ad-Hoc Network		243-H 691-H 952-F
Roofnet	Opportunistic Routing in Multi-Hop Wireless Networks, 2nd WKSHP on Hot Topics	2003	243-H 691-H 952-F
Roofnet	Opportunistic Routing in Multi-Hop Wireless Networks, MIT Master's Thesis	March 2005	243-H 691-H 952-F
Roofnet	ExOR:Opportunistic Routing in Multi-Hop Wireless Networks, SIGCOMM 2005	2005	243-H 691-H 952-F
Roofnet	publications [MIT Roofnet]		243-H 691-H 952-F
Roofnet	Roofnet- About		243-H 691-H 952-F
Roofnet	Link-level Measurements from		243-H

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
	an 802.11b Mesh Network		691-H 952-F
Roofnet	The Grid Roofnet: a Rooftop Ad Hoc Wireless Network	May 2002	243-H 691-H 952-F
RFC 2733	RFC 2733 Invalidity Contentions (000)	December 1999	000-F 852-F
RFC 5109	RFC 5109 RTP Payload Format for Generic Forward Error Correction	December 2007	000-G 852-G
Cisco Survivable Remote Site Telephony	Cisco on Cisco Best Practices: Survivable Remote Site Telephony Design Guide, Cisco Systems		762-G
Cisco Survivable Remote Site Telephony	Integrating Cisco Unity with Cisco Unified CME-as-SRST, Cisco Systems	March 6, 2007	762-G
Cisco Survivable Remote Site Telephony	Integrating Cisco Unity Connection with Cisco Unified CME-as-SRST, Cisco Systems		762-G
Cisco Survivable Remote Site Telephony	Krishna, Working model for SAF SRST		762-G
Cisco Survivable Remote Site Telephony	Fang et al., Design a Scalable SRST Network for a Large Enterprise Site	June 11, 2007	762-G
Cisco Survivable Remote Site Telephony	Sang et al., SIP CME-SRST Training, Cisco Systems	2009	762-G
Cisco Survivable Remote Site Telephony	Fang, SIP SRST Implementation Guide, Cisco Systems	March 2008	762-G
Cisco Survivable Remote Site Telephony	Li, SRST Introduction, Cisco Systems	2006	762-G

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
Cisco Survivable Remote Site Telephony	Fang, Cisco Unified Survivable Remote Site Telephony (SRST AM Presentation), Cisco Systems	May 2010	762-G
Cisco Survivable Remote Site Telephony	Lewis, Moto Guzzi Phase 2 for Communications Manager Express 4.4 and Survivable Remote Site Telephony 4.4: Product Requirements Document, Cisco Systems	Dec. 2007	762-G
Cisco Survivable Remote Site Telephony	Lambretta: IOS SIP Gateway Enhancements, Cisco Systems	2001	762-G
Cisco Survivable Remote Site Telephony	SIP-SRST: IOS Gateway as Backup SIP Redirect, Cisco Systems	2001	762-G
Cisco Survivable Remote Site Telephony	Inampudi et al., SIP-SRST & ITS/SRST SIP Enhancements: Software Unit Design Specification, Cisco Systems	Mar. 20, 2003	762-G
Cisco Survivable Remote Site Telephony	Cisco Unified Communications SRND Based on Cisco Unified Communications Manager 5.x, Cisco Systems	Sep. 27, 2007	762-G
Cisco Survivable Remote Site Telephony	Cisco Unified Communications SRND Based on Cisco Unified CallManager 4.x, Cisco Systems	Feb. 13, 2008	762-G
Cisco Survivable Remote Site Telephony	Cisco Unified Survivable Remote Site Telephony Version 4.0 System Administrator Guide, Cisco Systems	Sep. 5, 2006	762-G
Cisco Survivable Remote Site Telephony	Cisco Unified SIP SRST 4.0 System Administrator Guide, Cisco Systems	Feb. 2006	762-G
Cisco Survivable Remote Site Telephony	Centralized Call Processing and Survivable Remote Site Telephony: Case Study, Cisco Systems	2003	762-G
Cisco Survivable	Survivable Remote Site Telephony for IT Operations Command Center: Case Study, Cisco Systems	2003	762-G

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
Remote Site Telephony			
Cisco Survivable Remote Site Telephony	Cisco Unified Survivable Remote Site Telephony Version 4.0 Data Sheet, Cisco Systems	Feb. 2, 2007	762-G
Cisco Survivable Remote Site Telephony	Cisco Unified Survivable Remote Site Telephony Version 3.4 Data Sheet, Cisco Systems	2006	762-G
Cisco Survivable Remote Site Telephony	Cisco Unified Survivable Remote Site Telephony: Ensuring High-Availability IP Communications in Branch Offices White Paper, Cisco Systems	Sep. 20, 2006	762-G
Cisco Survivable Remote Site Telephony	Cisco SIP SRST V3.4: Configuring SIP SRST Version 3.4 Features Using Back-to-Back User Agent Mode	2006	762-G
	Cisco – Cisco Unified Communications SRND (Based on Cisco Unified CallManager 4.x), Chapter 2, IP Telephony Deployment Models	Feb. 13, 2008	762-G
	Cisco Unified Survivable Remote Site Technology Version 3.4 Data Sheet	2006	762-G
	Cisco Survivable Remote Site Telephony Version 2.02	Nov. 2002	762-G
	Cisco Survivable Remote Site Telephony Version 2.1, Cisco Software Release 12.2(15)T	Mar. 17, 2003	762-G
	Cisco Survivable Remote Site Telephony Version 3.0 System Administrator Guide	May 2003	762-G
Cisco United CallManager	Cisco Unified Communications Solution Reference Network Design (SRND) Based on Cisco Unified Communications Manager Release 7.x, Cisco Systems	Dec. 15, 2008	762-H
Cisco United CallManager	Cisco IP Telephony Solution Reference Network Design (SRND): Cisco CallManager Release 4.1, Cisco Systems	Apr. 2005	762-H
Cisco United CallManager	Cisco Unified Communications SRND Based on Cisco Unified Communications Manager 5.x, Cisco Systems	Sep. 27, 2007	762-H

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
Cisco United CallManager	Cisco Unified Communications SRND Based on Cisco Unified CallManager 4.x, Cisco Systems	Feb. 13, 2008	762-H
Cisco United CallManager	Cisco Unified Communications Manager (CallManager): Release Notes for Cisco Unified Communications Manager Release 7.0(1), Cisco Systems	February 9, 2009	762-H
Cisco United CallManager	Cisco Unified Communications Manager Bulk Administration Guide 7.0(1), Cisco Systems	Aug. 6, 2011	762-H
Cisco United CallManager	Cisco Unified Communications Manager System Guide, Release 7.0(1), Cisco Systems	Dec. 5, 2008	762-H
Cisco United CallManager	Cisco Unified Communications Operating System Administration Guide Release 7.0(1), Cisco Systems	Dec. 5, 2008	762-H
Cisco United CallManager	Cisco Unified Communications Manager Administration Guide, Release 7.0(1), Cisco Systems	Dec. 5, 2008	762-H
Cisco United CallManager	CallManager Architecture Team, CallManager Architecture Overview, Cisco Systems	Feb. 5, 2007	762-H
Cisco United CallManager	Corley, Cisco CallManager 3.1 Re-Concept Commit "Bravo," Cisco Systems	Jun. 27, 2000	762-H
Cisco United CallManager	Cisco Unified Communications Manager (CallManager) Release Notes, Cisco Systems	Jan. 19, 2009	762-H
Cisco United CallManager	Cisco CallManager Release Notes, Cisco Systems	Jan. 18, 2005	762-H
	FHP Technology Tour Pages 1-9, FHP Wireless	April 13-16, 2003	243-F 952-G

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
FHP Networks/Tropos System	FHP Smartpoint, FHP Wireless	October 9, 2002	243-F 952-G
	FHP Smartpoint STX, FHP Wireless	October 9, 2002	243-F 952-G
	FHP Smartpoint SX, FHP Wireless	October 10, 2002	243-F 952-G
	FHP Smartpoint TX, FHP Wireless	October 9, 2002	243-F 952-G
	FHP Routepoint, FHP Wireless	October 9, 2002	243-F 952-G
	Tropos Gets Intel Funding, Wi-Fi Net News	June 13, 2003	243-F 952-G
	FHP SmartPoint Professional Installer Guide, version 1.6	May 10, 2002	243-F 952-G
	US Patent No. 6,704,301	Dec. 29, 2000	243-F 952-G
	US Patent No. 7,031,293	Mar. 26, 2001	243-F 952-G
SURAN	ADA175642- Defense Advanced Research Projects Agency	September 1986	243-I 691-E 952-E
SURAN	ADA227648- A Rate-Based Congestion Control Algorithm for the SURAP 4 Packet Radio Architecture (SRNTN-72)	1990	243-I 691-E 952-E
SURAN	Beyer SRI Paper - Accomplishments of DARPA SURAN Program	1990	243-I 691-E 952-E
SURAN	DTIC_ADA197898	August 1988	243-I 691-E 952-E
SURAN	High- Throughput, Survivable Protocols for CDMA Packet-Radio Networks	March 1990	243-I 691-E 952-E
SURAN	Fifer IEEE Paper - The Low-Cost Packet Radio	Jan. 1987	243-I 691-E 952-E
SURAN	Jubin & Tornow, IEEE Paper - the DARPA Packet Radio Network Protocols	Jan. 1987	243-I 691-E 952-E
SURAN	Shacham IEEE Paper - Future directions in packet radio architectures and protocols	Jan. 1987	243-I 691-E 952-E

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
SURAN	N. Gower et al. – Packet Radio Integrated System Module (PRISM) – Design Document, Rockwell Internation	Aug. 1989	243-I 691-E 952-E

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

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

Further, Defendant contends that the identified prior art provides evidence of prior invention and making of the invention in the United States by another under pre-AIA 35 U.S.C. § 102(f) and/or 102(g), as evidenced by the named inventor(s), author(s), organization(s), and publisher(s) involved with each such reference, with the circumstances described and reflected in each reference including publications and system implementation references. Defendant therefore reserves the right to contend that one or more of the Asserted Claims is invalid under pre-AIA 35

U.S.C. § 102(f) and/or (g) to the extent that the named inventor did not invent the subject matter in the Asserted Claim(s), and/or the alleged invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it.

Also, to the extent not expressly stated herein, these Preliminary Invalidity Contentions incorporate by reference (1) any and all prior art identified in documents produced by Defendant in this case; (2) any prior art of which a named inventor of the Asserted Claims is aware and/or on which they, and/or Dynamic Mesh contends the alleged invention(s) of the Asserted Claims builds upon or improves; (3) any and all admissions by Dynamic Mesh and/or a named inventor regarding the Asserted Patents including, but not limited to, admissions in the specification of the Asserted Patents the prosecution of the Asserted Patents and related patents and/or patent applications; (4) any prior art cited in the prosecution histories of the '368 Patent, the '780 Patent, the '601 Patent, related patents and applications, and/or any foreign counterparts; and (5) all prior art and/or invalidity contentions that Dynamic Mesh discloses, produces or is aware of in connection with any assertion, transfer of rights or contested proceeding concerning the Asserted Patents and related patents and/or patent applications. Furthermore, Defendant reserves the right to contend that publications and patents related to the '601 Patent are invalidating prior art if Defendant discovers that the related publications and patents fail to meet the requirements of AIA 35 U.S.C. § 102(b)(2)(C) and therefore invalidate the Asserted.

In addition, the prior art identified in Defendant's Preliminary Invalidity Contentions reflects common knowledge and the state of the art at the time of the earliest filing date of the Asserted Patents. Defendant will rely on the references cited in 000-103 through 000-H; 243-103 through 243-I, 385-103 through 385-D, 691-103 through 691-H, 762-103 through 762-H, 852-103 through 852-H, and 952-103 through 952-G and additional citations, references, expert testimony,

fact testimony and other corroborating evidence, and other material to provide context and background illustrating the state of the prior art, knowledge of a POSITA at the time of the claimed inventions, and/or to aid in understanding the cited portions of the references and/or cited features of the systems. Defendant may also rely on fact or expert testimony explaining relevant portions of references, as well as additional documents, hardware or software products or systems, and other discovery regarding these subject matters, to provide context or to aid in understanding the cited portions of the prior art references and interpreting the teachings of the prior art and to establish bases for combinations of certain cited references that render the Asserted Claims obvious.

**b) Obviousness Combinations**

The Asserted Claims would have been obvious under 35 U.S.C. § 103 in light of one or more of the references and systems disclosed in Sections II.a, alone or in combination with what was known to a skilled artisan at the time, with one or more of the references cited in the file history of the Asserted Patents, and/or one or more of the references identified below. For example, each claim chart for each of the references and systems identified in Section II.a explains that each such reference or system alone or in combination with one or more other reference or system renders every Asserted Claim obvious. The references and systems disclosed below all relate to clustering, peer-to-peer, and failover systems (with respect to the 762 Patent), forward error correction (with respect to the '852 and '000 Patents) virtualization and/or computer and network security (with respect to the '780 and '601 Patents), and mesh networking, network mobility, and/or network control (with respect to the '952, '243, '385, and '691 Patents). The benefits conferred by the references and systems listed below are explained in detail within each reference. A person having ordinary skill in the art of the Asserted Patents would have been motivated to look to the references and systems listed below in order to incorporate the benefits disclosed in

those references and systems into the clustering, peer-to-peer, failover systems, forward error correction, and mesh networking, network mobility, and/or network control described in the prior art. Some examples of these conferred benefits would include establishing VoIP systems using clustering and peer-to-peer capabilities (with respect to the '762 Patent), reducing packet errors during transmission (with respect to the '852 and '000 Patents), and expanding network access and improving network connections and reliability (with respect to the '952, '243, '385, and '691 Patents). Additionally, a person having ordinary skill in the art of the Asserted Patents would have had a reasonable expectation of successfully implementing the solutions described in the asserted combinations. Each claim chart provides additional detail from the references and systems themselves regarding the motivation and ability of skilled artisans to combine the prior art.

Exhibits 000-103, 243-103, 385-103 691-103, 762-103, 852-103, and 952-103 compile exemplary disclosures from the references and systems identified below for purposes of demonstrating the combinations that would have rendered each Asserted Claim obvious.<sup>1</sup> When used in such combinations, Exhibits 000-103, 243-103, 385-103 691-103, 762-103, 852-103, and 952-103 demonstrate how the references and systems listed below render obvious each Asserted Claim. The references and systems cited and relied upon in Exhibits 000-103, 243-103, 385-103 691-103, 762-103, 852-103, and 952-103 are listed in the tables below. In addition to the prior art listed in these contentions and in charts 000-103, 243-103, 385-103 691-103, 762-103, 852-103, and 952-103, Defendant expressly reserves the right to rely upon all prior art cited in the prosecution of the Asserted Patents, and Defendant further expressly reserves the right to rely upon additional references to demonstrate the state of the relevant art. For example, Defendant may rely

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<sup>1</sup> Each reference and system identified in Exhibits 000-103, 243-103, 385-103 691-103, 762-103, 852-103, and 952-103 qualifies as prior art under at least one of pre-AIA 35 U.S.C. §§ 102(a), (b), (e), (g) or AIA 35 U.S.C. § 102(a).

upon additional references in its forthcoming technical expert reports that demonstrate what was well known in the art and to provide a background to the jury on the relevant art and/or purported inventions of the Asserted Patents. The alleged invention of the Asserted Patents implements well-known prior art systems and devices for using forward error correction (with respect to the '852 and '000 Patents), self-forming VoIP networks (with respect to the '762 Patent), improving overall network and computer security, including through the use of virtualization, firewalls, web proxies, and/or authentication (with respect to the '780 and '601 Patents), and mesh networking, network mobility, and/or network control (with respect to the '952, '243, '385, and '691 Patents).

Defendant also incorporates by reference in their entirety each and every ground for invalidity (and all arguments and documents cited in support of those grounds of invalidity) set forth in Inter Partes Review Nos. IPR2025-01304, IPR2025-01523, IPR2025-01569, IPR2026-00008, and IPR2026-0012 (filed between August 8, 2025 and November 21, 2025). In addition, Defendant incorporates by reference any expert reports, invalidity contentions, identified prior art, invalidity claim charts or defenses disclosed at any date by any party to any other litigation or U.S. Patent & Trademark Office proceeding involving the Asserted Patents or any related patents.

Dynamic Mesh has not identified any secondary considerations or other objective evidence of non-obviousness. Defendant reserves the right to submit evidence to rebut any secondary considerations or other objective evidence that Dynamic Mesh may later identify.

**1. Patents and Patent Publications**

Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Claim Chart No.
Ades	US Pub. No. 2002/0042274	U.S.A.	Oct. 9, 2001	Apr. 11, 2002	OMB
Aihara	US Pub. No. 2002/0082035	U.S.A.	Jul. 6, 2001	Jun. 27, 2002	OMB

Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Claim Chart No.
Atkinson	US 5,883,884	U.S.A.	Apr. 22, 1996	Mar. 16, 1999	OMB
Bandeira	US Pub. No. 2002/0072329	U.S.A.	Dec. 13, 2000	Jun. 3, 2002	OMB
Bauer	US Pub. No. 2007/0140239	U.S.A.	Dec. 19, 2006	Jun. 21, 2007	OMB
Belcea	US Pub. No. 2003/0142638	U.S.A.	May 3, 2001	Jul. 31, 2003	OMB
Berger	EP 0999717	EU	Dec. 14, 1998	May 10, 2000	OMB
Bishop	US 6,377,782	U.S.A.	Feb. 15, 2000	Apr. 23, 2002	OMB
Bohm	US 5,982,780	U.S.A.	Dec. 26, 1996	Nov. 9, 1999	OMB
Castagnoli 583	US Pub. No. 2006/0215583	U.S.A.	Aug. 26, 2005	Sep. 28, 2006	OMB
Chari	US Pub. No. 2002/0107023	U.S.A.	Dec. 29, 2000	Aug. 8, 2002	OMB
Cromer	US Pub. No. 2004/0001467	U.S.A.	Jan. 26, 2002	Jan. 1, 2004	OMB
Crosbie	US Pub. No. 2002/0085719	U.S.A.	Oct. 22, 2001	Jul. 4, 2002	OMB
Deninger	US Pub. No. 2007/0271372	U.S.A.	May 22, 2006	Nov. 22, 2007	OMB
Diepstraten	US 5,991,287	U.S.A.	Dec. 30, 1996	Nov. 23, 1999	OMB
Droms	US Pub. No. 2005/0253722	U.S.A.	May 12, 2005	Nov. 17, 2005	OMB
Ebata	US Pub. No. 2002/0173310	U.S.A.	May 7, 2002	Nov. 21, 2002	OMB
Ekl	US Pub. No. 2007/0201381	U.S.A.	Feb. 28, 2006	Aug. 30, 2007	OMB
Gil	US 7,852,819	U.S.A.	Feb. 28, 2008	Dec. 14, 2010	OMB
Gong	US Pub. No. 2007/0206503 A1	U.S.A.	Mar. 6, 2006	Sep. 6, 2007	OMB
Greaux	US Pub. No. 2006/0047835 A1	U.S.A.	Jun. 4, 2006	Mar. 2, 2006	OMB
Hasty	WO 03/0511009 A1	PCT	Dec. 6, 2002	Jun. 19, 2003	OMB
Herzog	US Pub. No. 2002/0016840	U.S.A.	May 11, 2001	Feb. 7, 2002	OMB

Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Claim Chart No.
Huang	US Pub. No. 2002/0061073	U.S.A.	Nov. 23, 2001	May 23, 2002	OMB
Inouchi	US 6,839,350	U.S.A.	Feb. 28, 2000	Jan. 4, 2005	OMB
Jetcheva	US Pub. No. 2008/0112422	U.S.A.	Jul. 19, 2006	May 15, 2008	OMB
Kahn	US Pub. No. 2009/0005074	U.S.A.	Jun. 28, 2007	Jan. 1, 2009	OMB
Kelly	US Pub. No.	U.S.A.	Nov. 23, 20024	June 15, 2006	OMB
Kim	US Pub. No. 2006/0040662	U.S.A.	Jun. 6, 2005	Feb. 23, 2006	OMB
Kohno	US Pub. No. 2003/0126238	U.S.A.	Dec. 10, 2002	Jul. 3, 2003	OMB
Lamy-Bergot	CA 2 646 870	Canada	Mar. 13, 2007	Sept. 27, 2007	OMB
Larson	US Pub. No. 2003/0033393	U.S.A.	Aug. 7, 2001	Feb. 13, 2003	OMB
Liu	US Pub. No. 2006/0198346	U.S.A.	Mar. 4, 2005	Sep. 7, 2006	OMB
Lu	US Provisional App. No. 60/939,314	U.S.A.	May 21, 2007	Nov. 7, 2008	OMB
Luck	US 8,223,926	U.S.A.	Feb. 11, 2005	Jul. 17, 2012	OMB
Maeda	WO 02/087172	PCT	Apr. 19, 2002	Oct. 31, 2002	OMB
Mighani	WO 2006/083696	PCT	Jan. 26, 2006	Aug. 10, 2006	OMB
Nagarajan	US Pub. No. 2008/0013474	U.S.A.	Ju. 14, 2006	Jan. 17, 2008	OMB
O'Neal	US Pub. No. 2003/0051051	U.S.A.	Sep. 13, 2001	Mar. 13, 2003	OMB
O'Toole	US 7,117,273	U.S.A.	Dec. 29, 2000	Oct. 3, 2006	OMB
Ogier	US Pub. No. 2002/0062388	U.S.A.	Dec. 1, 2000	May 23, 2002	OMB
Olson	US Pub. No. 2004/0190477	U.S.A.	Mar. 28, 2003	Sep. 30, 2004	OMB
Papadoglou	US Pub. No. 2008/0214175	U.S.A.	May 16, 2005	Sep. 4, 2008	OMB
Peirce	US Pub. No. 2005/0238058	U.S.A.	Apr. 26, 2004	Oct. 27, 2005	OMB

Abbreviated Name	Patent No. or Publication No.	Country of Origin	Filing Date	Issuance or Publication Date	Claim Chart No.
Poustchi	US Pub. No. 2006/0077955	U.S.A.	Oct. 8, 2004	Apr. 13, 2006	OMB
Quayle	EP 1 098 539	EP	Nov. 1, 2000	May 9, 2001	OMB
Rahman	US Pub. No. 2008/0043637	U.S.A.	Aug. 15, 2006	Feb. 21, 2008	OMB
Raith	US Pub. No. 2006/0072538	U.S.A.	Sep 28, 2005	Apr. 6, 2006	OMB
Shapiro	US Pub. No. 2002/0161917	U.S.A.	Apr. 30, 2001	Oct. 31, 2002	OMB
Sparr	US Pub. No. 2002/0176390	U.S.A.	Apr. 15, 2002	Nov. 28, 2002	OMB
Srikrishna	US 7,031,293	U.S.A.	Mar. 26, 2001	Apr. 18, 2006	OMB
Srivastava 178	US 6,735,178	U.S.A.	May 10, 2007	May 11, 2004	OMB
Sternagle	US Pub. No. 2002/0184376	U.S.A.	May 30, 2001	Dec. 5, 2002	OMB
Swail	US 6,292,475	U.S.A.	Jul. 8, 1998	Sep. 18, 2001	OMB
Tetsuya	US Pub. No. 2007/0189252	U.S.A.	Apr. 27, 2005	Aug. 16, 2007	OMB
Toh	US 5,987,011	U.S.A.	Aug. 30, 1996	Nov. 16, 1999	OMB
Tsunoda	US Pub. No. 2003/0005387	U.S.A.	Aug. 30, 2002	Jan. 2, 2003	OMB
Werb	US Pub. No. 2007/0258508	U.S.A.	Apr. 30, 2004	Nov. 8, 2007	OMB

## 2. Non-Patent Literature

Abbreviated Name	Title	Author(s)	Publication Date	Claim Chart No.
Arumugam	Self-Stabilizing Deterministic TDMA for Sensor Networks	Maheash Arumugam	2006	OMB
Banerjee	Peer-to-peer SIP-based Services over Wireless Ad Hoc Networks	Nilanjan Banerjee, Arup Acharya, and Sajal K. Das	2004	OMB

Abbreviated Name	Title	Author(s)	Publication Date	Claim Chart No.
Castro	Optimizing SIP Service Provisioning in Internet Connected MANETs	Marcl Vavalcanti de Castro and Andreas J. Kassler	Sep. 29, 2006	OMB
Henry	802.11s Mesh Networking (White paper) (The Certified Wireless Network Professional (CWNP) Program)	Jerome Henry	Nov. 2011	OMB
Hou	A Token-based Distributed Scheduling for Mesh Networks with Chain Topologies, IEEE Computer Society (AINA '06)	Ting-Chao Hou, Chien-Yi Wang, and Ming-Chieh Chan	2006	OMB
IEEE 802.11	Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications. ANSI/IEEE Std IEE 802.11, 1999 ed.	Valerie E. Zelenty (Editor)	Aug. 20, 1999	OMB
Johnson	HF Radio Mesh Networks, IEEE Paper 629	Eric E. Johnson	Oct. 23, 2006	OMB
Leggio	S. Leggio, et al., Session Initiation Protocol Deployment in Ad-Hoc Networks: a Decentralized Approach. <i>2nd International Workshop on Wireless Ad-hoc Networks (IWWAN), London, May 2005</i>	Simone Leggio, Jukka Manner, Antti Hulkkonen, Kimmo Raatikainen	May 2005	OMB
Pedersen	FEC on IP-output for video encoder. Tech. Univ. of Denmark, Scientific-Atlanta	Maria Baltzer Pedersen	2006	OMB
Singh	SIPPEER: A Session Initiation Protocol (SIP)-based Peer-to-Peer Internet Telephony Client Adaptor	Kundan Singh and Henning Schulzrinne		OMB

### 3. Prior Art Systems

Abbreviated System Name	Exemplary Publications Describing the System	Publication Date	Claim Chart No.
Catalyst System Chart	Faxing over IP Using Catalyst 6608 and VG248	Feb. 7, 2007	OMB
Catalyst System Chart	Cisco Dial Peer Configuration on Voice Gateway Routers, Release 12.4T	2009	OMB
Catalyst System Chart	Cisco Packet Data Serving Node (PDSN) Release 1.2		OMB
RFC 2198	RTP Payload for Redundant Audio Data	September 1997	OMB
RFC 3453	The Use of Forward Error Correction (FEC) in Reliable Multicast	September 1997	OMB
Ricochet	What's Behind Ricochet: A Network Overview, Metricom, Inc. (captured August 19, 2000), <a href="https://web.archive.org/web/20001019025105/http://www.metricom.com/ricochet_advantage/tech_overview/index.html">https://web.archive.org/web/20001019025105/http://www.metricom.com/ricochet_advantage/tech_overview/index.html</a> (“Ricochet Overview”)	Aug.19, 2000	OMB
Ricochet	Ritter <i>et al.</i> , “Mobile Connectivity Protocols and Throughput Measurements in the Ricochet MicroCellular Data Network (MCDN) System,” Metricom, Inc. (2001), <a href="https://www.cs.cmu.edu/~srini/15-744/F02/readings/RFG+01.pdf">https://www.cs.cmu.edu/~srini/15-744/F02/readings/RFG+01.pdf</a> (“Ritter”)	2001	OMB
Ricochet	Ritter <i>et al.</i> , “The Architecture Of Metricom's Microcellular Data Network (Mcdn) And Details Of Its Implementation As The Second And Third Generation Ricochet™ Wide-Area Mobile Data Service,” Metricom, Inc. (2001) (“Ritter-2”)	2001	OMB
Ricochet	U.S. Patent No. 6,735,178 to Srivastava et al.	May 10, 2000 (filed)	OMB

Defendant hereby incorporates by reference each reference and system identified in Section II.a as if fully set forth herein.

### **c) Exemplary '952 Patent Obviousness Combinations**

Prior art rendering the Asserted Claims of the '952 Patent obvious under 35 U.S.C § 103, alone or in combination with other references, are identified and discussed throughout these Invalidity Contentions and in the claim charts Exhibits 952-A through 952-G and 952-103. Exhibits 952-A through 952-G and 952-103 include exemplary claim charts for the '952 Patent, including citations to where in the references the teachings, suggestions, and motivations to combine the references are disclosed. In particular, 952-103 specifically identifies each combination of prior art that renders the '952 Patent obvious. Further reasons to combine the references identified in Exhibits 952-A through 952-G and 952-103 include the nature of the problem being solved, the express, implied and inherent teachings of the prior art, the knowledge of POSITAs, that such combinations would have yielded predictable results, and that such combinations would have represented known alternatives to a POSITA.

Below is a list of examples of certain combinations of prior art that a POSITA would have been motivated to combine around the time of the alleged invention of the '952 Patent. The combinations listed below are meant to provide additional clarity on motivations to combine some of the references, but are not meant to list every possible combination and are not admissions that unlisted combinations would not have been obvious to a POSITA. Cisco reserves the right to amend or add exemplary obviousness combinations as discovery continues, pursuant to any orders from the Court, and after any change in Dynamic Mesh's positions.

For example, the alleged invention of the '952 Patent implements well-known mesh networking and RF channel selection techniques. By way of example only, and not exhaustive of all references, citations, and combinations thereof, a POSITA at the time of the alleged inventions would have been aware of the concepts described in each of the prior art described in 952-A through 952-G and 952-103. Indeed, such a POSITA would have possessed knowledge of well-

known mesh networking and RF channel selection techniques, and they would have been well-equipped to design the claimed systems, such as those described in detail by the references explained below and in 952-A through 952-G and 952-103.

For example, skilled artisans would have been motivated to combine Aironet, Airespace, and/or Roofnet, as they all relate to similar systems and products all owned by the same company (e.g., Cisco).

As a further example, skilled artisans would have been motivated to combine node radio configurations of Srikrishna (or Tikalsky, Bandeira, Ganz, Quayle, Sparr, Ricochet) with the mesh networking systems of Airespace (or Aironet, SURAN, Roofnet, FHP) because the node radio configurations of Srikrishna (or Tikalsky, Bandeira, Ganz, Quayle, Sparr, Ricochet) are anticipated to be used in a mesh network to minimize interference and avoid collisions. Skilled artisans would have understood that Srikrishna (or Tikalsky, Bandeira, Ganz, Quayle, Sparr, Ricochet) and Airespace (or Aironet, SURAN, Roofnet, FHP) could be readily combined because both relate to mesh networking and wireless communications. Thus, a skilled artisan would have been motivated to use the node radio configurations disclosed in Srikrishna (or Tikalsky, Bandeira, Ganz, Quayle, Sparr, Ricochet) with the mesh networks disclosed in Airespace (or Aironet, SURAN, Roofnet, FHP) and would have recognized that the results of this combination were predictable.

As a further example, skilled artisans would have been motivated to combine the RF channel selection techniques of Srikrishna (or Airespace, Tikalsky, Atkinson, Berger, Ricochet, O'Toole, Ogier, Swail, Aihara, O'Neal) with the mesh networking systems and parent selection techniques of Aironet (or Ganz, SURAN, Roofnet, FHP) because the mesh networks of Aironet (or Ganz, SURAN, Roofnet, FHP) need to pick and operate on RF channels and thus the RF channel selection techniques of Srikrishna (or Airespace, Tikalsky, Atkinson, Berger, Ricochet,

O'Toole, Ogier, Swail, Aihara, O'Neal) can be used to find those channels. Skilled artisans would have understood that Srikrishna (or Airespace, Tikalsky, Atkinson, Berger, Ricochet, O'Toole, Ogier, Swail, Aihara, O'Neal) and Aironet (or Ganz, SURAN, Roofnet, FHP) could be readily combined because both relate to mesh networking and wireless communications, and require selection of channels in order to for the devices to communicate on a particular channel. Thus, a skilled artisan would have been motivated to use the RF channel selection techniques of Srikrishna (or Airespace, Tikalsky, Atkinson, Berger, Ricochet, O'Toole, Ogier, Swail, Aihara, O'Neal) with the mesh networking systems and parent selection techniques of Aironet (or Ganz, SURAN, Roofnet, FHP) and would have recognized that the results of this combination were predictable.

As a further example, skilled artisans would have been motivated to combine the monitoring of network information of Bishop (or Tikalsky, Berger, IEEE 802.11, Srivastava, Ritter, O'Toole, Ogier, Maeda, Belcea, Aihara) with the mesh networking systems of Aironet (or Ganz, Airespace, SURAN, Roofnet, FHP) because the mesh networking systems of Aironet (or Ganz, Airespace, SURAN, Roofnet, FHP) anticipate monitoring and receiving information from other nodes for purposes of mesh networking, and Bishop (or Tikalsky, Berger, IEEE 802.11, Srivastava, Ritter, O'Toole, Ogier, Maeda, Belcea, Aihara) describe how that monitoring can be accomplished. Skilled artisans would have understood that Bishop (or Tikalsky, Berger, IEEE 802.11, Srivastava, Ritter, O'Toole, Ogier, Maeda, Belcea, Aihara) and Aironet (or Ganz, Airespace, SURAN, Roofnet, FHP) could be readily combined because both relate to formation of mesh networks that account for information monitored by components in the network. Thus, a skilled artisan would have been motivated to use the monitoring of network information of Bishop (or Tikalsky, Berger, IEEE 802.11, Srivastava, Ritter, O'Toole, Ogier, Maeda, Belcea, Aihara)

with the mesh networks disclosed in Aironet (or Ganz, Airespace, SURAN, Roofnet, FHP) and would have recognized that the results of this combination were predictable.

As a further example, skilled artisans would have been motivated to combine the RF channel selection considerations of Srikrishna (or Bishop, Berger, Atkinson, Belcea, Bandeira, O-Toole, Ogier) with the mesh networking systems of Ganz (or Tikalsky, Airespace, Aironet, SURAN, Roofnet, FHP) because the mesh networks of Ganz (or Tikalsky, Airespace, Aironet, SURAN, Roofnet, FHP) need to pick and operate on RF channels and thus the RF channel selection considerations of Srikrishna (or Bishop, Berger, Atkinson, Belcea, Bandeira, O-Toole, Ogier) can be used to find those channels. Skilled artisans would have understood that Srikrishna (or Bishop, Berger, Atkinson, Belcea, Bandeira, O-Toole, Ogier) and Ganz (or Tikalsky, Airespace, Aironet, SURAN, Roofnet, FHP) could be readily combined because both relate to mesh networking and wireless communications, and require selection of channels in order to for the devices to communicate on a particular channel. Thus, a skilled artisan would have been motivated to use the RF channel selection considerations of Srikrishna (or Bishop, Berger, Atkinson, Belcea, Bandeira, O-Toole, Ogier) with the mesh networking systems of Ganz (or Tikalsky, Airespace, Aironet, SURAN, Roofnet, FHP) and would have recognized that the results of this combination were predictable.

For example, to the extent a claim limitation is not met by a reference, at least under Plaintiff's apparent interpretation of the Asserted Claims, those limitations were already well known in the art and would have been obvious to a POSITA. For example, before the earliest priority date of the '952 Patent, at least Aironet, Airespace, Roofnet, and FHP disclosed selection of mesh parent nodes and picking an RF channel for the network in the same way as Plaintiff's apparent interpretation of the Asserted Claims in its Infringement Contentions. *See Exhibits 952-*

C – 952-D, 952-F – 952-G; *see also* Exhibit 952-103. A skilled artisan would appreciate that before the earliest priority date of the '952 Patent, it would have been obvious to combine this approach with different node radio configurations with predictable results.

The references identified in Exhibits 952-A through 952-G and 952-103 are analogous prior art to the subject matter of the Asserted Claims and are properly combinable. Indeed, the known work in this field of endeavor would prompt variations of it for users within the same field, as the variations were predictable to one of ordinary skill in the art. Therefore, these references provide interrelated teachings and one of ordinary skill would look to the concepts in any of these references when seeking to solve the problems purportedly addressed by the '952 Patent.

**d) Exemplary '243 Patent Obviousness Combinations**

Prior art rendering the Asserted Claims of the '243 Patent obvious under 35 U.S.C § 103, alone or in combination with other references, are identified and discussed throughout these Invalidity Contentions and in the claim charts Exhibits 243-A through 243-I and 243-103. Exhibits 243-A through 243-I and 243-103 include exemplary claim charts for the '243 Patent, including citations to where in the references the teachings, suggestions, and motivations to combine the references are disclosed. In particular, 243-103 specifically identifies each combination of prior art that renders the '243 Patent obvious. Further reasons to combine the references identified in Exhibits 243-A through 243-I and 243-103 include the nature of the problem being solved, the express, implied and inherent teachings of the prior art, the knowledge of POSITAs, that such combinations would have yielded predictable results, and that such combinations would have represented known alternatives to a POSITA.

Below is a list of examples of certain combinations of prior art that a POSITA would have been motivated to combine around the time of the alleged invention of the '243 Patent. The combinations listed below are meant to provide additional clarity on motivations to combine some

of the references, but are not meant to list every possible combination and are not admissions that unlisted combinations would not have been obvious to a POSITA. Cisco reserves the right to amend or add exemplary obviousness combinations as discovery continues, pursuant to any orders from the Court, and after any change in Dynamic Mesh's positions.

For example, the alleged invention of the '243 Patent implements well-known mesh networking and network parameter storage techniques. By way of example only, and not exhaustive of all references, citations, and combinations thereof, a POSITA at the time of the alleged inventions would have been aware of the concepts described in each of the prior art described in 243-A through 243-I and 243-103. Indeed, such a POSITA would have possessed knowledge of well-known mesh networking and network parameter storage techniques, and they would have been well-equipped to design the claimed systems, such as those described in detail by the references explained below and in 243-A through 243-I and 243-103.

For example, skilled artisans would have been motivated to combine Aironet, Airespace, and/or Roofnet, as they all relate to similar systems and products all owned by the same company (e.g. Cisco).

As a further example, skilled artisans would have been motivated to combine the access server-based networking control of Herzog (or Chari, Crosbie, Ades, O'Neal, Ebata, Cromer, Airespace) with the mesh networking systems of Meier-952 (or Meier-746, Ogier, Lee, Airespace, Aironet, SURAN, Roofnet, FHP) because the access server based networking control of Herzog (or Chari, Crosbie, Ades, O'Neal, Ebata, Cromer, Airespace) provides a way to manage networks, including mesh networks, and provide them access to other networks. Skilled artisans would have understood that Herzog (or Chari, Crosbie, Ades, O'Neal, Ebata, Cromer, Airespace) and Meier-952 (or Meier-746, Ogier, Lee, Airespace, Aironet, SURAN, Roofnet, FHP) could be readily

combined because both relate to mesh networking and Herzog (or Chari, Crosbie, Ades, O’Neal, Ebata, Cromer, Airespace) simply provide a method to manage such a mesh network. Thus, a skilled artisan would have been motivated to use the access server-based networking control of Herzog (or Chari, Crosbie, Ades, O’Neal, Ebata, Cromer, Airespace) with the mesh networking systems of Meier-952 (or Meier-746, Ogier, Lee, Airespace, Aironet, SURAN, Roofnet, FHP) and would have recognized that the results of this combination were predictable.

As a further example, skilled artisans would have been motivated to combine the storage of network information datasets of Meier-952 (or Meier-746, Ogier, O’Neal, Cromer, Olson, Chari, Srivastava, Shapiro, Hasty, Ades., Ritter-2, Ebata, Ritter) with each other and/or the mesh networking systems Lee (or Airespace, Aironet, SURAN, Roofnet, FHP) because the mesh networking systems of Lee (or Airespace, Aironet, SURAN, Roofnet, FHP) anticipate monitoring and receiving information from other nodes and Meier-952 (or Meier-746, Ogier, O’Neal, Cromer, Olson, Chari, Srivastava, Shapiro, Hasty, Ades., Ritter-2, Ebata, Ritter) teach managing that data and storage of it. Skilled artisans would have understood that Meier-952 (or Meier-746, Ogier, O’Neal, Cromer, Olson, Chari, Srivastava, Shapiro, Hasty, Ades., Ritter-2, Ebata, Ritter) and Lee (or Airespace, Aironet, SURAN, Roofnet, FHP) could be readily combined because both relate to formation of mesh networks that includes reliance and collecting of information concerning that network. Thus, a skilled artisan would have been motivated to use storage of network information datasets of Meier-952 (or Meier-746, Ogier, O’Neal, Cromer, Olson, Chari, Srivastava, Shapiro, Hasty, Ades., Ritter-2, Ebata, Ritter) with the mesh networks disclosed in Lee (or Airespace, Aironet, SURAN, Roofnet, FHP) and would have recognized that the results of this combination were predictable.

As a further example, skilled artisans would have been motivated to combine the mesh parent switching techniques of Cromer (or Lee, O’Neal, Ebata, Toh, Hasty, Shapiro, Srivastava, Ricochet, Ades, Olson, Chari, Crosbie, Inouchi, Ritter, Toh) with the mesh networking systems of Lee (or Meier-942, Meier-746, Ogier, Airespace, Aironet, SURAN, Roofnet, FHP) because the nodes of the mesh networks of Lee (or Meier-942, Meier-746, Ogier, Airespace, Aironet, SURAN, Roofnet, FHP) need to determine mesh parents in order to form a mesh network, and the parent switching techniques of Cromer (or Lee, O’Neal, Ebata, Toh, Hasty, Shapiro, Srivastava, Ricochet, Ades, Olson, Chari, Crosbie, Inouchi, Ritter, Toh) provide details for how to pick a new parent to account for network conditions. Skilled artisans would have understood that Cromer (or Lee, O’Neal, Ebata, Toh, Hasty, Shapiro, Srivastava, Ricochet, Ades, Olson, Chari, Crosbie, Inouchi, Ritter, Toh) and Lee (or Meier-942, Meier-746, Ogier, Airespace, Aironet, SURAN, Roofnet, FHP) could be readily combined because both relate to mesh networking and wireless communications, and require selection of parents in order to form a mesh network. Thus, a skilled artisan would have been motivated to use the mesh parent switching techniques of Cromer (or Lee, O’Neal, Ebata, Toh, Hasty, Shapiro, Srivastava, Ricochet, Ades, Olson, Chari, Crosbie, Inouchi, Ritter, Toh) with the mesh networking systems of Lee (or Meier-942, Meier-746, Ogier, Airespace, Aironet, SURAN, Roofnet, FHP) and would have recognized that the results of this combination were predictable.

As a further example, skilled artisans would have been motivated to combine the child node dataset access and data forwarding techniques of O’Neal, (or Meier-942, Meier-746, Olson, Chair, Srivastava, Ades, Shaprio) with each other and/or with the mesh networking systems of Lee (or Ogier, Airespace, Aironet, SURAN, Roofnet, FHP) because the child node dataset access and data forwarding techniques of O’Neal, (or Meier-942, Meier-746, Olson, Chair, Srivastava, Ades,

Shaprio) define how the nodes within the mesh networking systems of Lee (or Ogier, Airespace, Aironet, SURAN, Roofnet, FHP) can interact and forward data. Skilled artisans would have understood that O’Neal, (or Meier-942, Meier-746, Olson, Chair, Srivastava, Ades, Shaprio) and Lee (or Ogier, Airespace, Aironet, SURAN, Roofnet, FHP) could be readily combined because both relate to mesh networking and O’Neal, (or Meier-942, Meier-746, Olson, Chair, Srivastava, Ades, Shaprio) simply provide implementation details for how the existing child nodes within those networks interact. Thus, a skilled artisan would have been motivated to use the child node dataset access and data forwarding techniques of O’Neal, (or Meier-942, Meier-746, Olson, Chair, Srivastava, Ades, Shaprio) with each other and/or with the mesh networking systems of Lee (or Ogier, Airespace, Aironet, SURAN, Roofnet, FHP) and would have recognized that the results of this combination were predictable.

As a further example, skilled artisans would have been motivated to combine the transmission power adjustment techniques of Huang (or SURAN, Ades, Olson, Chari, Crosbie, Shapiro, Toh, Hasty, Ritter-2, Cromer, O’Neal) with the mesh networking systems of Lee (or Meier-942, Meier-746, Ogier, Airespace, Aironet, Roofnet, FHP) because the transmission power adjustment techniques of Huang (or SURAN, Ades, Olson, Chari, Crosbie, Shapiro, Toh, Hasty, Ritter-2, Cromer, O’Neal) teach ways to control the RF radios within the nodes of the mesh networks of Lee (or Meier-942, Meier-746, Ogier, Airespace, Aironet, Roofnet, FHP) to advance the network transmission characteristic improvements that Lee (or Meier-942, Meier-746, Ogier, Airespace, Aironet, Roofnet, FHP) recognize to be beneficial. Skilled artisans would have understood that Huang (or SURAN, Ades, Olson, Chari, Crosbie, Shapiro, Toh, Hasty, Ritter-2, Cromer, O’Neal) and Lee (or Meier-942, Meier-746, Ogier, Airespace, Aironet, Roofnet, FHP) could be readily combined because both relate to mesh networking and Huang (or SURAN, Ades,

Olson, Chari, Crosbie, Shapiro, Toh, Hasty, Ritter-2, Cromer, O'Neal) simply detail adjustable transmission power techniques for radios which already support adjustable transmission power. Thus, a skilled artisan would have been motivated to use the transmission power adjustment techniques of Huang (or SURAN, Ades, Olson, Chari, Crosbie, Shapiro, Toh, Hasty, Ritter-2, Cromer, O'Neal) with the mesh networking systems of Lee (or Meier-942, Meier-746, Ogier, Airespace, Aironet, Roofnet, FHP) and would have recognized that the results of this combination were predictable.

For example, to the extent a claim limitation is not met by a reference, at least under Plaintiff's apparent interpretation of the Asserted Claims, those limitations were already well known in the art and would have been obvious to a POSITA. For example, before the earliest priority date of the '243 Patent, at least Aironet, Airespace, Ogier, SURAN, Roofnet disclosed mesh networks in a network with controllers in the same way as Plaintiff's apparent interpretation of the Asserted Claims in its Infringement Contentions. *See* Exhibits 243-C, 243-D, 243-E, 243-H, 243-I; *see also* Exhibit 243-103. A skilled artisan would appreciate that before the earliest priority date of the '243 Patent, it would have been obvious to combine this approach with mesh networks with predictable results.

The references identified in Exhibits 243-A through 243-I and 243-103 are analogous prior art to the subject matter of the Asserted Claims and are properly combinable. Indeed, the known work in this field of endeavor would prompt variations of it for users within the same field, as the variations were predictable to one of ordinary skill in the art. Therefore, these references provide interrelated teachings and one of ordinary skill would look to the concepts in any of these references when seeking to solve the problems purportedly addressed by the '243 Patent.

**e) Exemplary '691 Patent Obviousness Combinations**

Prior art rendering the Asserted Claims of the '691 Patent obvious under 35 U.S.C § 103, alone or in combination with other references, are identified and discussed throughout these Invalidity Contentions and in the claim charts Exhibits 691-A through 691-H and 691-103. Exhibits 691-A through 691-H and 691-103 include exemplary claim charts for the '691 Patent, including citations to where in the references the teachings, suggestions, and motivations to combine the references are disclosed. In particular, 691-103 specifically identifies each combination of prior art that renders the '691 Patent obvious. Further reasons to combine the references identified in Exhibits 691-A through 691-H and 691-103 include the nature of the problem being solved, the express, implied and inherent teachings of the prior art, the knowledge of POSITAs, that such combinations would have yielded predictable results, and that such combinations would have represented known alternatives to a POSITA.

Below is a list of examples of certain combinations of prior art that a POSITA would have been motivated to combine around the time of the alleged invention of the '691 Patent. The combinations listed below are meant to provide additional clarity on motivations to combine some of the references, but are not meant to list every possible combination and are not admissions that unlisted combinations would not have been obvious to a POSITA. Cisco reserves the right to amend or add exemplary obviousness combinations as discovery continues, pursuant to any orders from the Court, and after any change in Dynamic Mesh's positions.

For example, the alleged invention of the '691 Patent implements well-known isolated mesh operations modes for access points with multiple radios. By way of example only, and not exhaustive of all references, citations, and combinations thereof, a POSITA at the time of the alleged inventions would have been aware of the concepts described in each of the prior art described in 691-A through 691-H and 691-103. Indeed, such a POSITA would have possessed

knowledge of well-known isolated mesh operations modes for access points with multiple radios, and they would have been well-equipped to design the claimed systems, such as those described in detail by the references explained below and in 691-A through 691-H and 691-103.

For example, skilled artisans would have been motivated to combine Aironet, Airespace, Roofnet, Castagnoli-581, and/or Rahman, as they all relate to similar systems and products all owned by the same company (e.g. Cisco).

As a further example, skilled artisans would have been motivated to combine node radio configurations of Castagnoli-581 (or Zeng, Osann, Lu, Bauer, Kawakami, Kahn, Larson, Ekl, and Rahman) with the mesh networking systems of Airespace (or Aironet, SURAN, Roofnet) because the node radio configurations of Castagnoli-581 (or Zeng, Osann, Lu, Kawakami, Kahn, Larson, Ekl, and Rahman) are designed to be used in a mesh network to minimize interference and avoid collisions. Skilled artisans would have understood that Castagnoli-581 (or Zeng, Osann, Lu, Kawakami, Kahn, Larson, Ekl, and Rahman) and Airespace (or Aironet, SURAN, Roofnet) could be readily combined because both relate to mesh networking and wireless communications. Thus, a skilled artisan would have been motivated to use the node radio configurations disclosed in Castagnoli-581 (or Zeng, Osann, Lu, Kawakami, Kahn, Larson, Ekl, and Rahman ) with the mesh networks disclosed in Airespace (or Aironet, SURAN, Roofnet) and would have recognized that the results of this combination were predictable.

As a further example, skilled artisans would have been motivated to combine the external network connections of Roofnet (or Gil, Ekl, Bauer, Kawakami, Kahn, and Rahman ) with the mesh networking systems of Airespace (or Aironet, SURAN, Zeng, Osann, Castagnoli-581, or Lu) because the external network connections of Roofnet (or Gil, Ekl, Bauer, Kawakami, Kahn, and Rahman) can be used to further support of different network configurations and provide an

additional path for a mesh network to reach an external network. Skilled artisans would have understood that Roofnet (or Gil, Ekl, Bauer, Kawakami, Kahn, and Rahman) and Airespace (or Aironet, SURAN, Zeng, Osann, Castagnoli-581, or Lu) could be readily combined because both relate to wireless communications and the connections of Roofnet (or Gil, Ekl, Bauer, Kawakami, Kahn, and Rahman) simply provide further ways in which the external networks of Airespace (or Aironet, SURAN, Zeng, Osann, Castagnoli-581, or Lu) can be reached. Thus, a skilled artisan would have been motivated to use the external network connections disclosed in Roofnet (or Gil, Ekl, Bauer, Kawakami, Kahn, and Rahman) with the mesh networks disclosed in Airespace (or Aironet, SURAN, Zeng, Osann, Castagnoli-581, or Lu) and would have recognized that the results of this combination were predictable.

As a further example, skilled artisans would have been motivated to combine the isolated operations of Zeng (or Bauer, Gil, Osann, Aironet, Airespace, Bauer, Kawakami, Rahman, Kahn, and Ekl) with the mesh networking systems of Roofnet (or Castagnoli-581, Lu, Suran) to provide configurations for the network when internet connections are lost—a well-known networking occurrence. Skilled artisans would have understood that Zeng (or Bauer, Gil, Osann, Bauer, Kawakami, Rahman, Kahn, and Ekl) and Roofnet (or Castagnoli-581, Lu, Suran) could be readily combined because both relate to wireless communications and how to managing connections between a series of interconnected APs and/or nodes. Thus, a skilled artisan would have been motivated to use the isolated operations disclosed in Zeng (or Bauer, Gil, Osann, Bauer, Kawakami, Rahman, Kahn, and Ekl) with the mesh networks disclosed in Roofnet (or Castagnoli-581, Lu, SURAN) and would have recognized that the results of this combination were predictable.

As a further example, skilled artisans would have been motivated to combine the DHCP servers of Roofnet (or Bauer, Kahn, Rahman, Gil, and Nagarajan) with the mesh networking

systems of Aironet (or Airespace, Osann, Zeng, Castagnoli-581, Lu, SURAN) because the use of DHCP servers allows clients of the mesh networks to reach others and be reachable. Skilled artisans would have understood that Roofnet (or Bauer, Kahn, Rahman, Gil, and Nagarajan) and Aironet (or Airespace, Osann, Zeng, Castagnoli-581, Lu, SURAN) could be readily combined because both relate to wireless communications and providing network access to clients connected to the mesh network. Thus, a skilled artisan would have been motivated to use the DHCP servers disclosed in Roofnet (or Bauer, Kahn, Rahman, Gil, and Nagarajan) with the mesh networks disclosed in Aironet (or Airespace, Osann, Zeng, Castagnoli-581, Lu, SURAN) and would have recognized that the results of this combination were predictable.

For example, to the extent a claim limitation is not met by a reference, at least under Plaintiff's apparent interpretation of the Asserted Claims, those limitations were already well known in the art and would have been obvious to a POSITA. For example, before the earliest priority date of the '691 Patent, at least Airespace, Castagnoli-581, and Aironet disclosed using a mesh network with isolated operations in the same way as Plaintiff's apparent interpretation of the Asserted Claims in its Infringement Contentions. *See* Exhibits 691-C, 691-F, 691-G; *see also* Exhibit 691-103. A skilled artisan would appreciate that before the earliest priority date of the '691 Patent, it would have been obvious to combine this approach with different node radio configurations with predictable results.

The references identified in Exhibits 691-A through 691-H and 691-103 are analogous prior art to the subject matter of the Asserted Claims and are properly combinable. Indeed, the known work in this field of endeavor would prompt variations of it for users within the same field, as the variations were predictable to one of ordinary skill in the art. Therefore, these references

provide interrelated teachings and one of ordinary skill would look to the concepts in any of these references when seeking to solve the problems purportedly addressed by the '691 Patent.

**f) Exemplary '385 Patent Obviousness Combinations**

Prior art rendering the Asserted Claims of the '385 Patent obvious under 35 U.S.C § 103, alone or in combination with other references, are identified and discussed throughout these Invalidity Contentions and in the claim charts Exhibits 385-A through 385-C and 385-103. Exhibits 385-A through 385-C and 385-103 include exemplary claim charts for the '385 Patent, including citations to where in the references the teachings, suggestions, and motivations to combine the references are disclosed. In particular, 385-103 specifically identifies each combination of prior art that renders the '385 Patent obvious. Further reasons to combine the references identified in Exhibits 385-A through 385-C and 385-103 include the nature of the problem being solved, the express, implied and inherent teachings of the prior art, the knowledge of POSITAs, that such combinations would have yielded predictable results, and that such combinations would have represented known alternatives to a POSITA.

Below is a list of examples of certain combinations of prior art that a POSITA would have been motivated to combine around the time of the alleged invention of the '385 Patent. The combinations listed below are meant to provide additional clarity on motivations to combine some of the references, but are not meant to list every possible combination and are not admissions that unlisted combinations would not have been obvious to a POSITA. Cisco reserves the right to amend or add exemplary obviousness combinations as discovery continues, pursuant to any orders from the Court, and after any change in Dynamic Mesh's positions.

For example, the alleged invention of the '385 Patent implements well-known mesh networking and RF environment sampling techniques. By way of example only, and not exhaustive of all references, citations, and combinations thereof, a POSITA at the time of the alleged

inventions would have been aware of the concepts described in each of the prior art described in 385-A through 385-C and 385-103. Indeed, such a POSITA would have possessed knowledge of well-known mesh networking and RF environment sampling techniques, and they would have been well-equipped to design the claimed systems, such as those described in detail by the references explained below and in 385-A through 385-C and 385-103.

For example, skilled artisans would have been motivated to combine Aironet, Airespace, Castagnoli-581, and/or Castagnoli-582, as they all relate to similar systems and products all owned by the same company (e.g. Cisco).

As a further example, skilled artisans would have been motivated to combine node radio configurations of Castagnoli-581 (or Castagnoli-582, Johnson, Mighani, Peirce, Gong, Kim, Airespace, or Werb) with the mesh networking systems of Aironet because the node radio configurations of Castagnoli-581 (or Castagnoli-582, Johnson, Mighani, Peirce, Gong, Kim, Airespace, or Werb) are anticipated to be used in a mesh network to minimize interference and avoid collisions. Skilled artisans would have understood that Castagnoli-581 (or Castagnoli-582, Johnson, Mighani, Peirce, Gong, Kim, Airespace, or Werb) and Aironet could be readily combined because both relate to mesh networking and wireless communications. Thus, a skilled artisan would have been motivated to use the node radio configurations disclosed in Castagnoli-581 (or Castagnoli-582, Johnson, Mighani, Peirce, Gong, Kim, Airespace, or Werb) with the mesh networks disclosed in Aironet and would have recognized that the results of this combination were predictable.

As a further example, skilled artisans would have been motivated to combine the scanning radio of Johnson (or Mighani, Gong, Web, or Airespace) with the mesh networking systems of Aironet (or Castagnoli-581, Castagnoli-582) because the scanning radio of Johnson (or Mighani,

Gong, Web, or Airespace) is anticipated to be used in a mesh network to minimize disruptions in the network connections. Skilled artisans would have understood that Johnson (or Mighani, Gong, Web, or Airespace) and (or Castagnoli-581, Castagnoli-582) could be readily combined because both relate to scanning radio environments to determine network parameters. Thus, a skilled artisan would have been motivated to use the scanning radio of Johnson (or Mighani, Gong, Web, or Airespace) with the mesh networks disclosed in (or Castagnoli-581, Castagnoli-582) and would have recognized that the results of this combination were predictable.

As a further example, skilled artisans would have been motivated to combine the network sampling and packet buffering procedures of Liu (or Bohm, Diepstraten, Kim, Mighani, Peirce, Gong, or Werb) with the mesh networking systems of Aironet (or Castagnoli-581, or Castagnoli-582) because the sampling and packet buffering procedures of Liu (or Bohm, Diepstraten, Kim, Mighani, Peirce, Gong, or Werb) can be used to support with building the mesh networks and enhancing the current parent sampling schemes of Aironet (or Castagnoli-581, or Castagnoli-582). Skilled artisans would have understood that Liu (or Bohm, Diepstraten, Kim, Mighani, Peirce, Gong, or Werb) and Aironet (or Castagnoli-581, or Castagnoli-582) could be readily combined because both relate to sampling other nodes in a wireless network and the sampling and packet buffering procedures of Liu (or Bohm, Diepstraten, Kim, Mighani, Peirce, Gong, or Werb) provide further details on the sampling and what to do with packets during that sampling. Thus, a skilled artisan would have been motivated to use the network sampling and packet buffering procedures of Liu (or Bohm, Diepstraten, Kim, Mighani, Peirce, Gong, or Werb) with the mesh networks disclosed in Aironet (or Castagnoli-581, or Castagnoli-582) and would have recognized that the results of this combination were predictable.

For example, to the extent a claim limitation is not met by a reference, at least under Plaintiff's apparent interpretation of the Asserted Claims, those limitations were already well known in the art and would have been obvious to a POSITA. For example, before the earliest priority date of the '385 Patent, at least Aironet, Castagnoli-581, and Castagnoli-582 disclosed using packet buffering and sampling of neighboring nodes in the same way as Plaintiff's apparent interpretation of the Asserted Claims in its Infringement Contentions. *See* Exhibits 385-A – 385-C; *see also* Exhibit 385-103. A skilled artisan would appreciate that before the earliest priority date of the '385 Patent, it would have been obvious to combine this approach with different node radio configurations with predictable results.

The references identified in Exhibits 385-A through 385-C and 385-103 are analogous prior art to the subject matter of the Asserted Claims and are properly combinable. Indeed, the known work in this field of endeavor would prompt variations of it for users within the same field, as the variations were predictable to one of ordinary skill in the art. Therefore, these references provide interrelated teachings and one of ordinary skill would look to the concepts in any of these references when seeking to solve the problems purportedly addressed by the '385 Patent.

**g) Exemplary '762 Patent Obviousness Combinations**

Prior art rendering the Asserted Claims of the '762 Patent obvious under 35 U.S.C § 103, alone or in combination with other references, are identified and discussed throughout these Invalidity Contentions and in the claim charts Exhibits 762-A through 762-H and 762-103. Exhibits 762-A through 762-H and 762-103 include exemplary claim charts for the '762 Patent, including citations to where in the references the teachings, suggestions, and motivations to combine the references are disclosed. In particular, 762-103 specifically identifies each combination of prior art that renders the '762 Patent obvious. Further reasons to combine the references identified in Exhibits 762-A through 762-H and 762-103 include the nature of the

problem being solved, the express, implied and inherent teachings of the prior art, the knowledge of POSITAs, that such combinations would have yielded predictable results, and that such combinations would have represented known alternatives to a POSITA.

Below is a list of examples of certain combinations of prior art that a POSITA would have been motivated to combine around the time of the alleged invention of the '762 Patent. The combinations listed below are meant to provide additional clarity on motivations to combine some of the references, but are not meant to list every possible combination and are not admissions that unlisted combinations would not have been obvious to a POSITA. Cisco reserves the right to amend or add exemplary obviousness combinations as discovery continues, pursuant to any orders from the Court, and after any change in Dynamic Mesh's positions.

For example, the alleged invention of the '762 Patent implements well-known VoIP survivable communication network systems wherein VoIP communication is maintained when devices are isolated (or disconnected) from the central SIP server in the main network. By way of example only, and not exhaustive of all references, citations, and combinations thereof, a POSITA at the time of the alleged inventions would have been aware of the concepts described in each of the prior art described in 762-A through 762-H and 762-103. Indeed, such a POSITA would have possessed knowledge of isolated network systems with VoIP capability and exchange of SIP registration information among nodes in the isolated network, and they would have been well-equipped to design the claimed systems, such as those described in detail by the references explained below and in 762-A through 762-H and 762-103.

For example, skilled artisans would have been motivated to combine Saridakis (or Banerjee) with Wu (or Bryan or Garcia-Martin) because Saridakis (or Banerjee) discloses locating users in an ad hoc, peer-to-peer network where no centralized SIP registrar infrastructure is

available. Skilled artisans would have understood that Saridakis (or Banerjee) with Wu (or Bryan or Garcia-Martin) could be readily combined because both relate to exchanging SIP information in peer-to-peer networks. Wu (or Bryan or Garcia-Martin) discloses the use of access points and user terminals to exchange distributed SIP functionality in a peer-to-peer network. Thus, a skilled artisan would have been motivated to use the ad hoc network disclosed in Saridakis (or Banerjee) with the distributed SIP functionality in a peer-to-peer network disclosed in Wu (or Bryan or Garcia-Martin) and would have recognized that the results of this combination were predictable.

For example, skilled artisans would have been motivated to combine Srivastava (or SRST or CallManager) with Saridakis (or Banerjee or Wu or Bryan or Garcia-Martin) because Srivastava (or SRST or CallManager) discloses a multi-site VoIP network configuration with survivability features for handling network outages. Skilled artisans would have understood that Srivastava (or SRST or CallManager) with Saridakis (or Banerjee or Wu or Bryan or Garcia-Martin) could be readily combined because both relate to establishing and maintaining VoIP network configurations. Saridakis (or Banerjee or Wu or Bryan or Garcia-Martin) discloses the use of ad hoc, peer-to-peer networks that relates to distributed SIP functionality. Thus, a skilled artisan would have been motivated to use the VoIP network with survivability features disclosed in Srivastava (or SRST or CallManager) with the distributed SIP functionality in an hoc, peer-to-peer network disclosed in Saridakis (or Banerjee or Wu or Bryan or Garcia-Martin) and would have recognized that the results of this combination were predictable.

For example, skilled artisans would have been motivated to combine Srivastava (or SRST or CallManager) with Wu (or Bryan or Garcia-Martin) because Srivastava (or SRST or CallManager) discloses a multi-site VoIP network configuration with survivability features for handling network outages. Skilled artisans would have understood that Srivastava (or SRST or

CallManager) with Wu (or Bryan or Garcia-Martin) could be readily combined because both relate to establishing and maintaining VoIP network configurations with nodes, such as access points, which reduce the cost and complexity of deploying an ad hoc network. Wu (or Bryan or Garcia-Martin) discloses the use of ad hoc, peer-to-peer networks that relates to distributed SIP functionality using user terminals and access points. Thus, a skilled artisan would have been motivated to use the VoIP network with survivability features disclosed in Srivastava (or SRST or CallManager) with the distributed SIP functionality in an hoc, peer-to-peer network disclosed in Wu (or Bryan or Garcia-Martin) and would have recognized that the results of this combination were predictable.

For example, to the extent a claim limitation is not met by a reference, at least under Plaintiff's apparent interpretation of the Asserted Claims, those limitations were already well known in the art and would have been obvious to a POSITA. For example, before the earliest priority date of the '762 Patent, at least Srivastava disclosed using multi-site VoIP network configuration with survivability features for handling network outages in the same way as Plaintiff's apparent interpretation of the Asserted Claims in its Infringement Contentions. *See* Exhibit 762-F; *see also* Exhibit 852-103. A skilled artisan would appreciate that before the earliest priority date of the '762 Patent, it would have been obvious to combine this approach within ad hoc, peer-to-peer networks with predictable results.

The references identified in Exhibits 762-A through 762-H and 762-103 are analogous prior art to the subject matter of the Asserted Claims and are properly combinable. Indeed, the known work in this field of endeavor would prompt variations of it for users within the same field, as the variations were predictable to one of ordinary skill in the art. Therefore, these references

provide interrelated teachings and one of ordinary skill would look to the concepts in any of these references when seeking to solve the problems purportedly addressed by the '762 Patent.

#### **h) Exemplary '852 Patent Obviousness Combinations**

Prior art rendering the Asserted Claims of the '852 Patent obvious under 35 U.S.C § 103, alone or in combination with other references, are identified and discussed throughout these Invalidity Contentions and in the claim charts Exhibits 852-A through 852-H and 852-103. Exhibits 852-A through 852-H and 852-103 include exemplary claim charts for the '852 Patent, including citations to where in the references the teachings, suggestions, and motivations to combine the references are disclosed. In particular, 852-103 specifically identifies each combination of prior art that renders the '852 Patent obvious. Further reasons to combine the references identified in Exhibits 852-A through 852-H and 852-103 include the nature of the problem being solved, the express, implied and inherent teachings of the prior art, the knowledge of POSITAs, that such combinations would have yielded predictable results, and that such combinations would have represented known alternatives to a POSITA.

Below is a list of examples of certain combinations of prior art that a POSITA would have been motivated to combine around the time of the alleged invention of the '852 Patent. The combinations listed below are meant to provide additional clarity on motivations to combine some of the references, but are not meant to list every possible combination and are not admissions that unlisted combinations would not have been obvious to a POSITA. Cisco reserves the right to amend or add exemplary obviousness combinations as discovery continues, pursuant to any orders from the Court, and after any change in Dynamic Mesh's positions.

For example, the alleged invention of the '852 Patent implements well-known prior art systems including redundant information when transmitting real time data over a packet-switched network. By way of example only, and not exhaustive of all references, citations, and combinations

thereof, a POSITA at the time of the alleged inventions would have been aware of the concepts described in each of the prior art described in 852-A through 852-H and 852-103. Indeed, such a POSITA would have possessed knowledge of Forward Error Correction (“FEC”) and checksums to identify bit errors, and they would have been well-equipped to design the claimed systems, such as those described in detail by the references explained below and in 852-A through 852-H and 852-103.

For example, skilled artisans would have been motivated to combine RFC 5109 (or RFC 2733 or Maxemchuk or Ver Steeg or Chawla) with Chesterfield (or Raith or Zheng) because Chesterfield (or Raith or Zheng) discloses the use of Cyclic Redundancy Check checksums (“CRC”) to identify corrupted packet data. Skilled artisans would have understood that RFC 5109 (or RFC 2733 or Maxemchuk or Ver Steeg or Chawla) and Chesterfield (or Raith or Zheng) could be readily combined because both relate to identifying and correcting errant data transmissions, such as packet errors. Chesterfield (or Raith or Zheng) discloses the benefits of using CRC checksums to identify errant data, such as packet errors. Thus, a skilled artisan would have been motivated to use the CRC checksums disclosed in Chesterfield (or Raith or Zheng) to the Forward Error Correction scheme disclosed in RFC 5109 (or RFC 2733 or Maxemchuk or Ver Steeg or Chawla) and would have recognized that the results of this combination were predictable.

For example, skilled artisans would have been motivated to combine RFC 5109 (or RFC 2733 or Maxemchuk or Ver Steeg or Chawla) with Chesterfield (or Raith) because Chesterfield (or Raith) discloses intra-packet redundancy for protecting against packet corruption. Skilled artisans would have understood that RFC 5109 (or RFC 2733 or Maxemchuk or Ver Steeg or Chawla) and Chesterfield (or Raith) could be readily combined because both relate to the use of redundant data in the transmission of real-time information (such as video) to protect against

errors. Chesterfield (or Raith) discloses the benefits of intra-packet redundancy, such as resilience to loss of base layer data and decreasing the probability of errors occurring over protected portions of data. Thus, a skilled artisan would have been motivated to use the intra-packet redundancy disclosed in Chesterfield (or Raith) to the redundant Forward Error Correction packets disclosed in RFC 5109 (or RFC 2733 or Maxemchuk or Ver Steeg or Chawla) and would have recognized that the results of this combination were predictable.

For example, skilled artisans would have been motivated to combine Maxemchuk (or Ver Steeg or Chawla or Schoenblum) with RFC 5109 (or RFC 2733 or RFC 3454 or Pedersen) because RFC 5109 (or RFC 2733 or RFC 3454 or Pedersen) discloses using an Exclusive Or (“XOR”) encoding function to create redundant information. Skilled artisans would have understood that Maxemchuk (or Ver Steeg or Chawla or Schoenblum) and RFC 5109 (or RFC 2733 or RFC 3454 or Pedersen) could be readily combined because both relate to Forward Error Correction. RFC 5109 (or RFC 2733 or RFC 3454 or Pedersen) discloses the benefits of creating XOR-encoded parity packets, including, for example, enabling complete recovery of the protected packets or partial recovery of the critical parts of the payload depending on the packet loss situation. Thus, a skilled artisan would have been motivated to use the XOR-encoded parity packets disclosed in RFC 5109 (or RFC 2733 or RFC 3454 or Pedersen) to the Forward Error Correction schemes for real-time transmissions disclosed in Maxemchuk (or Ver Steeg or Chawla or Schoenblum) and would have recognized that the results of this combination were predictable.

For example, skilled artisans would have been motivated to combine Chesterfield (or Zhang) with Zheng (or Raith) because Zheng (or Raith) discloses error-tolerant use of redundant information where some acceptable errors are preserved and included in checksums. Skilled artisans would have understood that Chesterfield (or Zhang) and Zheng (or Raith) could be readily

combined because both relate to the use of checksums in redundancy-protected transmissions of real-time data. Zheng (or Raith) discloses the benefits of error toleration in video transmissions, including, for example, providing error resilience so that the media decoder can tolerate a certain amount of channel errors. Thus, a skilled artisan would have been motivated to use the error tolerance disclosed in Zheng (or Raith) to the checksum approach disclosed in Chesterfield (or Zhang) and would have recognized that the results of this combination were predictable.

For example, to the extent a claim limitation is not met by a reference, at least under Plaintiff's apparent interpretation of the Asserted Claims, those limitations were already well known in the art and would have been obvious to a POSITA. For example, before the earliest priority date of the '852 Patent, at least RFC 5109 disclosed using Forward Error Correction with XOR-encoded parity packers in the same way as Plaintiff's apparent interpretation of the Asserted Claims in its Infringement Contentions. *See* Exhibit 852-H; *see also* Exhibit 852-103. A skilled artisan would appreciate that before the earliest priority date of the '852 Patent, it would have been obvious to combine this approach within a video transmission with predictable results.

The references identified in Exhibits 852-1 through 852-H and 852-103 are analogous prior art to the subject matter of the Asserted Claims and are properly combinable. Indeed, the known work in this field of endeavor would prompt variations of it for users within the same field, as the variations were predictable to one of ordinary skill in the art. Therefore, these references provide interrelated teachings and one of ordinary skill would look to the concepts in any of these references when seeking to solve the problems purportedly addressed by the '852 Patent.

#### **i) Exemplary '000 Patent Obviousness Combinations**

Prior art rendering the Asserted Claims of the '000 Patent obvious under 35 U.S.C § 103, alone or in combination with other references, are identified and discussed throughout these Invalidity Contentions and in the claim charts Exhibits 000-A through 000-H and 000-103.

Exhibits 000-A through 000-H and 000-103 include exemplary claim charts for the '000 Patent, including citations to where in the references the teachings, suggestions, and motivations to combine the references are disclosed. In particular, 000-103 specifically identifies each combination of prior art that renders the '000 Patent obvious. Further reasons to combine the references identified in Exhibits 000-A through 000-H and 000-103 include the nature of the problem being solved, the express, implied and inherent teachings of the prior art, the knowledge of POSITAs, that such combinations would have yielded predictable results, and that such combinations would have represented known alternatives to a POSITA.

Below is a list of examples of certain combinations of prior art that a POSITA would have been motivated to combine around the time of the alleged invention of the '000 Patent. The combinations listed below are meant to provide additional clarity on motivations to combine some of the references, but are not meant to list every possible combination and are not admissions that unlisted combinations would not have been obvious to a POSITA. Cisco reserves the right to amend or add exemplary obviousness combinations as discovery continues, pursuant to any orders from the Court, and after any change in Dynamic Mesh's positions.

For example, the alleged invention of the '000 Patent implements well-known prior art systems including redundant information when transmitting real time data over a packet-switched network. By way of example only, and not exhaustive of all references, citations, and combinations thereof, a POSITA at the time of the alleged inventions would have been aware of the concepts described in each of the prior art described in 000-A through 000-H and 000-103. Indeed, such a POSITA would have possessed knowledge of Forward Error Correction ("FEC") and checksums to identify bit errors, and they would have been well-equipped to design the claimed systems, such

as those described in detail by the references explained below and in 000-A through 000-H and 000-103.

For example, skilled artisans would have been motivated to combine RFC 5109 (or RFC 2733 or Maxemchuk or Ver Steeg or Chawla) with Chesterfield (or Raith or Zheng) because Chesterfield (or Raith or Zheng) discloses the use of Cyclic Redundancy Check checksums (“CRC”) to identify corrupted packet data. Skilled artisans would have understood that RFC 5109 (or RFC 2733 or Maxemchuk or Ver Steeg or Chawla) and Chesterfield (or Raith or Zheng) could be readily combined because both relate to identifying and correcting errant data transmissions, such as packet errors. Chesterfield (or Raith or Zheng) discloses the benefits of using CRC checksums to identify errant data, such as packet errors. Thus, a skilled artisan would have been motivated to use the CRC checksums disclosed in Chesterfield (or Raith or Zheng) to the Forward Error Correction scheme disclosed in RFC 5109 (or RFC 2733 or Maxemchuk or Ver Steeg or Chawla) and would have recognized that the results of this combination were predictable.

For example, skilled artisans would have been motivated to combine RFC 5109 (or RFC 2733 or Maxemchuk or Ver Steeg or Chawla) with Chesterfield (or Raith) because Chesterfield (or Raith) discloses intra-packet redundancy for protecting against packet corruption. Skilled artisans would have understood that RFC 5109 (or RFC 2733 or Maxemchuk or Ver Steeg or Chawla) and Chesterfield (or Raith) could be readily combined because both relate to the use of redundant data in the transmission of real-time information (such as video) to protect against errors. Chesterfield (or Raith) discloses the benefits of intra-packet redundancy, such as resilience to loss of base layer data and decreasing the probability of errors occurring over protected portions of data. Thus, a skilled artisan would have been motivated to use the intra-packet redundancy disclosed in Chesterfield (or Raith) to the redundant Forward Error Correction packets disclosed

in RFC 5109 (or RFC 2733 or Maxemchuk or Ver Steeg or Chawla) and would have recognized that the results of this combination were predictable.

For example, skilled artisans would have been motivated to combine Maxemchuk (or Ver Steeg or Chawla or Schoenblum) with RFC 5109 (or RFC 2733 or RFC 3454 or Pedersen) because RFC 5109 (or RFC 2733 or RFC 3454 or Pedersen) discloses using an Exclusive Or (“XOR”) encoding function to create redundant information. Skilled artisans would have understood that Maxemchuk (or Ver Steeg or Chawla or Schoenblum) and RFC 5109 (or RFC 2733 or RFC 3454 or Pedersen) could be readily combined because both relate to Forward Error Correction. RFC 5109 (or RFC 2733 or RFC 3454 or Pedersen) discloses the benefits of creating XOR-encoded parity packets, including, for example, enabling complete recovery of the protected packets or partial recovery of the critical parts of the payload depending on the packet loss situation. Thus, a skilled artisan would have been motivated to use the XOR-encoded parity packets disclosed in RFC 5109 (or RFC 2733 or RFC 3454 or Pedersen) to the Forward Error Correction schemes for real-time transmissions disclosed in Maxemchuk (or Ver Steeg or Chawla or Schoenblum) and would have recognized that the results of this combination were predictable.

For example, skilled artisans would have been motivated to combine Chesterfield (or Zhang) with Zheng (or Raith) because Zheng (or Raith) discloses error-tolerant use of redundant information where some acceptable errors are preserved and included in checksums. Skilled artisans would have understood that Chesterfield (or Zhang) and Zheng (or Raith) could be readily combined because both relate to the use of checksums in redundancy-protected transmissions of real-time data. Zheng (or Raith) discloses the benefits of error toleration in video transmissions, including, for example, providing error resilience so that the media decoder can tolerate a certain amount of channel errors. Thus, a skilled artisan would have been motivated to use the error

tolerance disclosed in Zheng (or Raith) to the checksum approach disclosed in Chesterfield (or Zhang) and would have recognized that the results of this combination were predictable.

For example, to the extent a claim limitation is not met by a reference, at least under Plaintiff's apparent interpretation of the Asserted Claims, those limitations were already well known in the art and would have been obvious to a POSITA. For example, before the earliest priority date of the '000 Patent, at least RFC 5109 disclosed using Forward Error Correction with XOR-encoded parity packers in the same way as Plaintiff's apparent interpretation of the Asserted Claims in its Infringement Contentions. *See* Exhibit 000-H; *see also* Exhibit 000-103. A skilled artisan would appreciate that before the earliest priority date of the '000 Patent, it would have been obvious to combine this approach within a video transmission with predictable results.

The references identified in Exhibits 000-1 through 000-H and 000-103 are analogous prior art to the subject matter of the Asserted Claims and are properly combinable. Indeed, the known work in this field of endeavor would prompt variations of it for users within the same field, as the variations were predictable to one of ordinary skill in the art. Therefore, these references provide interrelated teachings and one of ordinary skill would look to the concepts in any of these references when seeking to solve the problems purportedly addressed by the '000 Patent.

### **III. Invalidity Based Upon Indefiniteness, Lack Of Sufficient Written Description, Lack Of Enablement**

#### **a) Indefiniteness**

Title 35 U.S.C. § 112 ¶ 2 requires that a patent claim “particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention.” Claim terms that fail to inform those skilled in the art “with reasonable certainty . . . about the scope of the invention” fail the definiteness requirement of § 112 ¶ 2. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

Every Asserted Claim of the '952 Patent is invalid as indefinite because, at a minimum, the following limitations, read in light of the intrinsic evidence, fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions:

- “making a channel selection includes making a channel selection change”

Every Asserted Claim of the '243 Patent is invalid as indefinite because, at a minimum, the following limitations, read in light of the intrinsic evidence, fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions:

- “wherein an AP node includes a means for switching two way data communication from a first associated parent node to a second associated parent node based on the functioning parameters of the wireless mesh network and wherein an AP node contains one or more datasets;”
- “the AP node;”
- “wherein the communication criteria comprises instructions for the AP node to select the associated parent node wherein an available parent node is selected to become the associated parent node if the available parent node is in wireless communication with a root node or if a root node is contained in the available parent node's route path dataset;”
- “the associated parent node;”
- “communication criteria;”
- “The wireless mesh network of claim 1 wherein the means for switching two-way data communications selects the second associated parent node when the first associated parent node amount of AP data traffic approaches the parent node maximum capacity amount within a congestion value set by the access server.”
- “wherein the communication criteria further comprises instructions for the AP node to associate with a single suitable parent node wherein the route path dataset of the parent node is the shortest route path dataset of all available parent nodes.”
- “wherein the access server functioning parameters includes a latency modifier wherein the AP node means for switching from the first associated parent node to a second associated parent node result in selection of the second associated parent wherein the route path of the second associated parent node is shorter than the first associated route path by a value related to the latency modifier;”
- “wherein the AP node dataset of child nodes contains two or more child nodes;”

Every Asserted Claim of the '385 Patent is invalid as indefinite because, at a minimum, the following limitations, read in light of the intrinsic evidence, fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions:

- “wherein said at least one mesh node includes ... at least two relay radios in each mesh element;”
- “wherein said at least one mesh node is moving sufficiently rapidly that it may lose connectivity with its current parent mesh node;”

Every Asserted Claim of the '762 Patent is invalid as indefinite because, at a minimum, the following limitations, read in light of the intrinsic evidence, fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions:

- “a VoIP-capable network comprising:”
- “one or more VoIP client devices;”
- “two or more VoIP nodes forming an isolated cluster wherein the two or more VoIP nodes in the isolated cluster are in communication with one another;”
- “wherein each of the VoIP nodes further comprises a local SIP registry built by exchanging SIP information with the remaining VoIP nodes in the isolated cluster; and”
- “wherein a first VoIP client device in communication with a first VoIP node establishes a communication with a second VoIP device in communication with a second VoIP node using the local SIP registries of the first VoIP node and the second VoIP node.”
- “The VoIP-capable network of claim 1, wherein the local SIP registries of the isolated VoIP nodes are updated as the VoIP nodes and the VoIP client devices begin communication with the isolated cluster and end communication with the isolated cluster.”
- “The VoIP-capable network of claim 1, wherein updates to the local SIP registry of a VoIP node are communicated to remaining VoIP nodes in the isolated cluster by broadcasting one or more information packets containing local SIP registry information of the VoIP node.”
- “The VoIP-capable network of claim 1, wherein the local SIP registry of a VoIP node is updated according to information received from another VoIP nodes in the isolated cluster in special information packets that each contain local SIP registry information of another VoIP node.”

- “The VoIP-capable network of claim 1, further comprising means of connecting the isolated cluster to an external network, wherein upon connection to an external network, the SIP registry of an external SIP server connected to the external network is updated to include SIP registry information from the VoIP nodes.”
- “The VoIP-capable network of claim 1 wherein said nodes comprise mesh nodes.”
- “The VoIP-capable network of claim 8 wherein said mesh nodes provide VoIP optimized services within said mesh nodes.”
- “A method of maintaining VoIP capabilities within a network comprising:”
- “forming a cluster of two or more initially isolated network nodes”
- “establishing communications between two or more client devices by way of the initially isolated network nodes,”
- “wherein in a first configuration, at least two of said initially isolated network nodes are in communication with each other but not in communication with an external SIP server, and”
- “wherein each of said at least two initially isolated network nodes supports VoIP communications based on a local SIP registry contained in each of the said nodes according to the method of:”
- “communicating with at least one other initially isolated node to exchange SIP registry information;”
- “updating the local SIP registry in said node as new information is acquired;”
- “sending and receiving VoIP packets from a sender isolated node to one or more recipient isolated nodes based on said local SIP registry functionality when a client device in communication with the sender node establishes communication with a client device in communication with the recipient node.”
- “The method of claim 10, further comprising updating the local SIP registries of the isolated nodes as nodes and clients join and leave the isolated cluster.”
- “The method of claim 10, wherein updates to the local SIP registry of each node is communicated to remaining nodes in the cluster by broadcasting an information packet containing the local SIP registry information.”
- “A VoIP capable network comprising:”
- “a first initially isolated network node in communication with at least two VoIP clients,”

- “wherein the first isolated node further comprises a local SIP registry wherein said SIP registry contains address identifiers for each VoIP clients in communication with the first node; and”
- “wherein VoIP communication between said at least two VoIP clients are initiated by utilizing the local SIP registry,”
- “wherein the first isolated node further comprises communications means with other isolated nodes wherein the first isolated node broadcasts its SIP registry information to other nodes in communication with the first node.”
- “The VoIP capable network of claim 15, wherein the local SIP registry of the first isolated node is updated as the VoIP clients establish or terminate a network connection with the first isolated node.”
- “The VoIP capable network of claim 15, wherein first isolated node comes into communication with other isolated nodes to form a cluster, and the local SIP registry information of each isolated node in the cluster is updated according to information received from other isolated nodes in the cluster.”

Every Asserted Claim of the '852 Patent is invalid as indefinite because, at a minimum, the following limitations, read in light of the intrinsic evidence, fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions:

- “modifying said packet by adding redundant information to the packet;”
- “modifying at least one packet header to add a position offset reference number that points to redundant information;”
- “revising all checksums within the packet as modified to agree with the packet contents as modified;”
- “modifying the packet, including modifying all checksums, to return the packet’s format to that of the standard packet format;”
- “if the modified packet, having been transmitted through a network, is determined to have a checksum mismatch as received, modifying the packet by retrieving the redundant information pointed to by said position offset reference number and replacing a portion of the packet with said redundant information; and”
- “revising all checksums within the packet as modified to agree with the contents of the modified packet.”

- “The method of claim 1 wherein a number indicating a specific position offset reference number is repeated multiple times as a means to later determine the validity of the position offset reference number after transmission.”
- “The method of claim 1, wherein revising all checksums within the packet as modified to agree with the contents of the modified packet includes creating at least one checksum that matches real time video content containing errors.”

Every Asserted Claim of the '000 Patent is invalid as indefinite because, at a minimum, the following limitations, read in light of the intrinsic evidence, fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions:

- “modifying said packet by adding redundant information to the packet;”
- “modifying at least one packet header to add a position offset reference number that points to redundant information;”
- “revising all checksums within the packet as modified to agree with the packet contents as modified;”
- “transmitting the packet through a network, wherein transmitting further comprises the steps of checking the modified packet during transmission;”
- “if the modified packet is determined to have a checksum mismatch as received, modifying the packet by retrieving the redundant information pointed to by said position offset reference number and replacing a portion of the packet with said redundant information; and”
- “calculating new checksums for packet; and revising all checksums within the packet as modified to agree with the contents of the modified packet; and”
- “upon receipt, modifying the packet to return the packet's format to that of the standard packet format.”
- “The method of claim 1 wherein a number indicating a specific position offset reference number is repeated multiple times as a means to later determine the validity of the position offset reference number after transmission.”
- “The method of claim 1, wherein revising all checksums within the packet as modified to agree with the contents of the modified packet includes creating at least one checksum that matches real time video content containing errors.”

## **b) Enablement/Written Description**

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

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

The '952 Patent fails to (1) demonstrate the inventors' possession of the claimed invention; or (2) enable a POSITA to make and use the claimed invention without undue experimentation, based upon the claim scope alleged by Dynamic Mesh, for example:

- “latency requirement;”
- “throughput requirement.”

The '243 Patent fails to (1) demonstrate the inventors' possession of the claimed invention; or (2) enable a POSITA to make and use the claimed invention without undue experimentation, based upon the claim scope alleged by Dynamic Mesh, for example:

- “wherein the communication criteria comprises instructions for the AP node to select the associated parent node wherein an available parent node is selected to become the associated parent node if the available parent node is in wireless communication with a root node or if a root node is contained in the available parent node's route path dataset;”
- “communication criteria;”
- “wherein one of the datasets contained in an AP node comprises a route path dataset comprising an identifier for the associated parent node appended to the route path dataset for the associated parent node; and”
- “The wireless mesh network of claim 1 wherein the communication criteria comprises instructions for the AP node to associate with an available parent node wherein the amount of AP data traffic is less than the sum of the maximum capacity amount of the available parent node and the available parent amount of AP data traffic.”
- “wherein one of the datasets contained in an AP node comprises a dataset of child node identifiers wherein the dataset of child node identifiers is a dataset identifying each AP node in wireless communication with the AP.”
- “wherein the communication criteria comprises instructions for the AP node to associate with a single suitable parent node wherein a parent node is suitable if the throughput capacity of the parent node is the highest of all available parent nodes;”
- “wherein one of the datasets contained in an AP node comprises a throughput capacity of the AP node;”
- “wherein the communication criteria further comprises instructions for the AP node to associate with a single suitable parent node wherein the route path dataset of the parent node is the shortest route path dataset of all available parent nodes.”

- “wherein the access server functioning parameters includes a latency modifier wherein the AP node means for switching from the first associated parent node to a second associated parent node result in selection of the second associated parent wherein the route path of the second associated parent node is shorter than the first associated route path by a value related to the latency modifier.”

The '385 Patent fails to (1) demonstrate the inventors' possession of the claimed invention; or (2) enable a POSITA to make and use the claimed invention without undue experimentation, based upon the claim scope alleged by Dynamic Mesh, for example:

- “wherein said at least one mesh node is moving sufficiently rapidly that it may lose connectivity with its current parent mesh node;”
- “wherein said scanning radio and said at least two relay radios operate on different non-interfering channels;”

The '691 Patent fails to (1) demonstrate the inventors' possession of the claimed invention; or (2) enable a POSITA to make and use the claimed invention without undue experimentation, based upon the claim scope alleged by Dynamic Mesh, for example:

- “wherein the connectivity logic determines whether each structured mesh node connects with an external network or another node using its uplink radio” / “wherein the connectivity logic determines whether each structured mesh node connects with an external network or another node on the uplink frequency;”
- “wherein the previously unused uplink radio of the isolated network root node is used to connect to the external network;”
- “wherein while said at least one mesh node samples potential new parent nodes, packets to be sent to said at least one mesh node from its current parent node are buffered by the current parent node, and packets to be sent from said at least one mesh node to its current parent are buffered by said at least one mesh node” / “concurrent with said sampling, packets to be sent to the mesh node from its current parent node are buffered by the current parent node, and packets to be sent from the mesh node to its current parent node are buffered by the mesh node;”
- “The structured mesh network of claim 10 wherein the previously unused uplink radio of the isolated network root node is used to connect to the external network;”
- “at least two structured mesh nodes; wherein each structured mesh node comprises at least a connectivity logic and a radio operating on an uplink frequency and a distinct downlink frequency.”

The '762 Patent fails to (1) demonstrate the inventors' possession of the claimed invention; or (2) enable a POSITA to make and use the claimed invention without undue experimentation, based upon the claim scope alleged by Dynamic Mesh, for example:

- “a VoIP-capable network comprising:”
- “one or more VoIP client devices;”
- “two or more VoIP nodes forming an isolated cluster wherein the two or more VoIP nodes in the isolated cluster are in communication with one another;”
- “wherein each of the VoIP nodes further comprises a local SIP registry built by exchanging SIP information with the remaining VoIP nodes in the isolated cluster; and”
- “wherein a first VoIP client device in communication with a first VoIP node establishes a communication with a second VoIP device in communication with a second VoIP node using the local SIP registries of the first VoIP node and the second VoIP node.”
- “The VoIP-capable network of claim 1, wherein the local SIP registries of the isolated VoIP nodes are updated as the VoIP nodes and the VoIP client devices begin communication with the isolated cluster and end communication with the isolated cluster.”
- “The VoIP-capable network of claim 1, wherein updates to the local SIP registry of a VoIP node are communicated to remaining VoIP nodes in the isolated cluster by broadcasting one or more information packets containing local SIP registry information of the VoIP node.”
- “The VoIP-capable network of claim 1, wherein the local SIP registry of a VoIP node is updated according to information received from another VoIP nodes in the isolated cluster in special information packets that each contain local SIP registry information of another VoIP node.”
- “The VoIP-capable network of claim 1, further comprising means of connecting the isolated cluster to an external network, wherein upon connection to an external network, the SIP registry of an external SIP server connected to the external network is updated to include SIP registry information from the VoIP nodes.”
- “The VoIP-capable network of claim 1 wherein said nodes comprise mesh nodes.”
- “The VoIP-capable network of claim 8 wherein said mesh nodes provide VoIP optimized services within said mesh nodes.”
- “A method of maintaining VoIP capabilities within a network comprising:”

- “forming a cluster of two or more initially isolated network nodes”
- “establishing communications between two or more client devices by way of the initially isolated network nodes,”
- “wherein in a first configuration, at least two of said initially isolated network nodes are in communication with each other but not in communication with an external SIP server, and”
- “wherein each of said at least two initially isolated network nodes supports VoIP communications based on a local SIP registry contained in each of the said nodes according to the method of:”
- “communicating with at least one other initially isolated node to exchange SIP registry information;”
- “updating the local SIP registry in said node as new information is acquired;”
- “sending and receiving VoIP packets from a sender isolated node to one or more recipient isolated nodes based on said local SIP registry functionality when a client device in communication with the sender node establishes communication with a client device in communication with the recipient node.”
- “The method of claim 10, further comprising updating the local SIP registries of the isolated nodes as nodes and clients join and leave the isolated cluster.”
- “The method of claim 10, wherein updates to the local SIP registry of each node is communicated to remaining nodes in the cluster by broadcasting an information packet containing the local SIP registry information.”
- “A VoIP capable network comprising:”
- “a first initially isolated network node in communication with at least two VoIP clients,”
- “wherein the first isolated node further comprises a local SIP registry wherein said SIP registry contains address identifiers for each VoIP clients in communication with the first node; and”
- “wherein VoIP communication between said at least two VoIP clients are initiated by utilizing the local SIP registry,”
- “wherein the first isolated node further comprises communications means with other isolated nodes wherein the first isolated node broadcasts its SIP registry information to other nodes in communication with the first node.”

- “The VoIP capable network of claim 15, wherein the local SIP registry of the first isolated node is updated as the VoIP clients establish or terminate a network connection with the first isolated node.”
- “The VoIP capable network of claim 15, wherein first isolated node comes into communication with other isolated nodes to form a cluster, and the local SIP registry information of each isolated node in the cluster is updated according to information received from other isolated nodes in the cluster.”

The '852 Patent fails to (1) demonstrate the inventors' possession of the claimed invention; or (2) enable a POSITA to make and use the claimed invention without undue experimentation, based upon the claim scope alleged by Dynamic Mesh, for example:

- “modifying said packet by adding redundant information to the packet;”
- “modifying at least one packet header to add a position offset reference number that points to redundant information;”
- “revising all checksums within the packet as modified to agree with the packet contents as modified;”
- “modifying the packet, including modifying all checksums, to return the packet's format to that of the standard packet format;”
- “if the modified packet, having been transmitted through a network, is determined to have a checksum mismatch as received, modifying the packet by retrieving the redundant information pointed to by said position offset reference number and replacing a portion of the packet with said redundant information; and”
- “revising all checksums within the packet as modified to agree with the contents of the modified packet.”
- “The method of claim 1 wherein a number indicating a specific position offset reference number is repeated multiple times as a means to later determine the validity of the position offset reference number after transmission.”
- “The method of claim 1, wherein revising all checksums within the packet as modified to agree with the contents of the modified packet includes creating at least one checksum that matches real time video content containing errors.”

The '000 Patent fails to (1) demonstrate the inventors' possession of the claimed invention; or (2) enable a POSITA to make and use the claimed invention without undue experimentation, based upon the claim scope alleged by Dynamic Mesh, for example:

- “modifying said packet by adding redundant information to the packet;”
- “modifying at least one packet header to add a position offset reference number that points to redundant information;”
- “revising all checksums within the packet as modified to agree with the packet contents as modified;”
- “transmitting the packet through a network, wherein transmitting further comprises the steps of checking the modified packet during transmission;”
- “if the modified packet is determined to have a checksum mismatch as received, modifying the packet by retrieving the redundant information pointed to by said position offset reference number and replacing a portion of the packet with said redundant information; and”
- “calculating new checksums for packet; and revising all checksums within the packet as modified to agree with the contents of the modified packet; and”
- “upon receipt, modifying the packet to return the packet's format to that of the standard packet format.”
- “The method of claim 1 wherein a number indicating a specific position offset reference number is repeated multiple times as a means to later determine the validity of the position offset reference number after transmission.”
- “The method of claim 1, wherein revising all checksums within the packet as modified to agree with the contents of the modified packet includes creating at least one checksum that matches real time video content containing errors.”

#### **IV. Invalidity Based Upon Statutory And Obviousness-Type Double Patenting**

Defendant reserves the right to assert that the Asserted Claims are invalid for statutory and/or obviousness-type double patenting.

For example, the Asserted Claims of the '243 Patent are invalid for obviousness-type double patenting because the Asserted Claims of the '243 Patent are not patentably distinct from the claims of the '952 Patent<sup>2</sup> in view of the references identified during prosecution of the '952 Patent, during prosecution of the '243 Patent, and/or the references identified in Section II above.

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<sup>2</sup> The '952 Patent issued from Application No. 10/434,948 (the “'948 Application”).

During prosecution of the application that led to the '243 Patent, the examiner stated that “a Terminal Disclaimer will ultimately be required [because the asserted claims as filed recited the same] broad concepts as the parent application (e.g. mesh network with parent/children nodes and routing/switching).” *See* '243 Patent File History, 127 (August 9, 2010, Requirement for Restriction/Election, 3). In response, applicant did not file a terminal disclaimer or substantively amend the remaining claims, nor did applicant address this comment in its subsequent responsive communication. *See generally* '243 Patent File History, 132 (October 18, 2010, Response to August 9, 2010 Restriction Requirement). In a subsequent non-final office action, the examiner again rejected all then-pending claims “on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 7,420,952.” '243 Patent File History, 146 (October 27, 2010, Non-Final Rejection, 3). The examiner noted that “[a]lthough the conflicting claims are not identical, they are not patentably distinct from each other because they put forth wireless mesh networks with Access Points, Parent and Child/Mobile User nodes and switching/handing off from AP to AP as based on performance/congestion requirements.” *Id.* Again, applicant did not address the double patenting rejections in its responsive amendment and response to office action. *See generally* '243 Patent File History, 163 (November 18, 2010, Amendment and Response to Office Action). Applicant again did not change the substance of any claims—but instead merged dependent claims into independent claims—all of which were already rejected as not patentably distinct over the '952 Patent. *Id.*, November 18, 2010, Amendment and Response to Office Action, 8 (“The application is therefore being limited to the objected-to claims 7-9, 11-14, 16 and 17 along with claims depending thereto. The objected-to claims have been rewritten into independent form with all limitations of the parent claims.”).

Applicant did not file the requested terminal disclaimer, and despite making no substantive amendments which addressed the examiner's double patenting rejection, the double patenting issue was not re-raised nor did the examiner indicate that the rejection was overcome during the remaining prosecution of the '243 Patent. *See generally* '243 Patent File History. The '948 Application issued as the '952 Patent on September 2, 2008, while the '243 Patent was pending, and the '243 Patent subsequently issued without a terminal disclaimer. However, as indicated during prosecution the Asserted Claims of the '243 Patent are not patentably distinct from claims 1-21 of the '952 Patent in view of the references identified during prosecution of the '243 Patent, during prosecution of the '952 Patent and/or the references identified in Section II above.

As a non-limiting example, claims 1, 9, 12, 13 of the '243 Patent are not patentably distinct from claims 1-7, 12-18 of the '952 Patent. As a further example, claims 2-8 of the '243 Patent are not patentably distinct from claims 4-9 and 15-19 of the '952 Patent. As a further example, claims 11-12 are not patentably distinct from claims 1-3, 11-14, 21 of the '952 Patent.

#### **V. Invalidity Based Upon Improper Inventorship**

To date, Dynamic Mesh has not produced all notes or other documents from any of the inventors of the Asserted Patents, and Defendant has not yet deposed the inventors of the Asserted Patents. Defendant plans on conducting discovery regarding the inventorship of the Asserted Patents consistent with the Court's Docket Control Order, and Defendant reserves their rights to supplement their contention that the Asserted Patents are invalid for improper inventorship as discovery progresses.

#### **VI. Document Production Accompanying Defendant's Invalidity Contentions**

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

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

**VII. Accompanying Source Code Production**

Subject to the terms of the Court's Protective Order, as of December 19, 2025, Cisco has made available for inspection source code sufficient to show the operation of the accused features disclosed in Dynamic Mesh's Infringement Disclosures, as required by Local Patent Rule 3-4(a).

Respectfully submitted,

Dated: January 5, 2026

By: /s/ Lindsey E. Miller

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that all counsel of record for this action who are deemed to have consented to electronic service are being served with a copy of this document via email on January 5, 2026.

*/s/ Lindsey E. Miller*