

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC. and FORTINET, INC.,
Petitioners,

v.

INFOEXPRESS INC.,
Patent Owner.

IPR2024-00678
U.S. Patent No. 8,117,645

PATENT OWNER PRELIMINARY RESPONSE

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EXHIBIT LIST

Exhibit Number	Description
2001	Declaration of Dr. Eric Cole
2002	Curriculum Vitae of Dr. Eric Cole
2003	Declaration of Stacey C. Lum
2004	Diligence Calendar
2005	U.S. Provisional App. No. 60/505,582
2006	U.S. Provisional App. No. 60/513,080
2007	Declaration of Hugh Smith, Ph.D.
2008	Curriculum Vitae of Hugh Smith, Ph.D.
2009	Conception of the '645 Patent
2010	Constructive Reduction to Practice of the '645 Patent
2011	LAN Based Policy Enforcement Engineering Specification
2012	Metadata for Exhibit 2011
2013	CyberGatekeeper Policy Manager
2014	Metadata for Exhibit 2013
2015	Internal InfoExpress Correspondence
2016	Internal InfoExpress Correspondence
2017	Internal InfoExpress Correspondence
2018	Internal InfoExpress Correspondence
2019	Internal InfoExpress Correspondence
2020	Internal InfoExpress Correspondence
2021	Internal InfoExpress Correspondence
2022	Correspondence with Globe Tech
2023	Email attachment to Exhibit 2022
2024	Internal InfoExpress Correspondence
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2063	Correspondence with Globe Tech
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2066	Network Device Configuration API Engineering Specification
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2073	Network Device Configuration API Engineering Specification
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2198	Correspondence with J. Ong
2199	Correspondence with C. Tsai
2200	Correspondence with J. Ong
2201	Cisco Switch Feature Support Matrix
2202	Correspondence with M. Banin
2203	Correspondence with A. Lee
2204	Correspondence with M. Banin
2205	Correspondence with M. Banin
2206	Correspondence with M. Banin
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2208	Correspondence with M. Banin
2209	Correspondence with M. Banin
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2258	Correspondence with patent counsel
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2273	Correspondence between S. Lum, J. Ong, C. Tsai and A. Lee
2274	Correspondence between S. Lum, C. Tsai and A. Lee
2275	Internal Notes
2276	Correspondence between C. Tsai, J. Ong and S. Lum
2277	Correspondence between C. Tsai, J. Ong and S. Lum
2278	Correspondence between C. Tsai, J. Ong and S. Lum
2279	Correspondence between C. Tsai, J. Ong and S. Lum
2280	Correspondence between C. Tsai and S. Lum
2281	Correspondence between T. Nakano and S. Lum
2282	Draft Meetinghouse Agreement
2283	Correspondence with Globe Tech
2284	Intentionally Left Blank
2285	Correspondence between S. Lum and corporate counsel
2286	Intentionally Left Blank
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2327	Draft Patent Application
2328	Draft Patent Application
2329	CyberGatekeeper Enforcement Modes
2330	CyberGatekeeper Enforcement Modes
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2340	Internal InfoExpress Correspondence
2341	RFC 5281 – Extensible Authentication Protocol
2342	Internal InfoExpress Correspondence
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I. Introduction

Patent Owner InfoExpress, Inc. submits this Patent Owner Preliminary Response to the Petition for *Inter Partes* Review related to claims 1-2 and 5-6 (the "Challenged Claims") of U.S. Patent 8,117,645 (the '645 Patent'). Patent Owner respectfully requests the Board reject the Petition and not institute an *inter partes* review of the Challenged Claims. Patent Owner submits the Grounds presented and the prior art relied on by Petitioners fail to render any of the Challenged Claims unpatentable under 35 U.S.C. § 103 because the prior art fails to disclose or render obvious all of the limitations of the Challenged Claims. Moreover, the art relied on by Petitioners does not qualify as prior art.

II. The '645 Patent

A. Date of Invention

Patent Owner submits, for the reasons discussed in section VII, the date of invention for each of the Challenged Claims is no later than December 2, 2002.

B. Person of Ordinary Skill in the Art (POSITA)

A POSITA at the time of the invention would have a working knowledge of computer network security art. A POSITA would have a bachelor's degree in computer science, computer engineering, or electrical engineering, and at least three years of experience in networking operating systems and cybersecurity, or a person with a master's degree in one of the foregoing and at least two years of experience in the aforementioned fields.

C. Overview of the '645 Patent

The '645 Patent is directed to a novel and seminal approach to a security solution for controlling access to a protected network. Before Patent Owner's inventions, network security required a "gatekeeper" placed directly between each client, i.e., user, and the network. EX1301, Fig. 1, 2:41-44; EX2001, ¶¶ 44-46. But as the '645 Patent further explains, access control further required evaluation of each accessing device's hardware and software, *e.g.*, virus protection and operating systems, before the gatekeeper granted such access—thus consuming substantial network resources and creating bottlenecks. EX1301, 2:35-41.

An example of the prior art architecture is shown in annotated FIG. 1 of the '645 Patent.

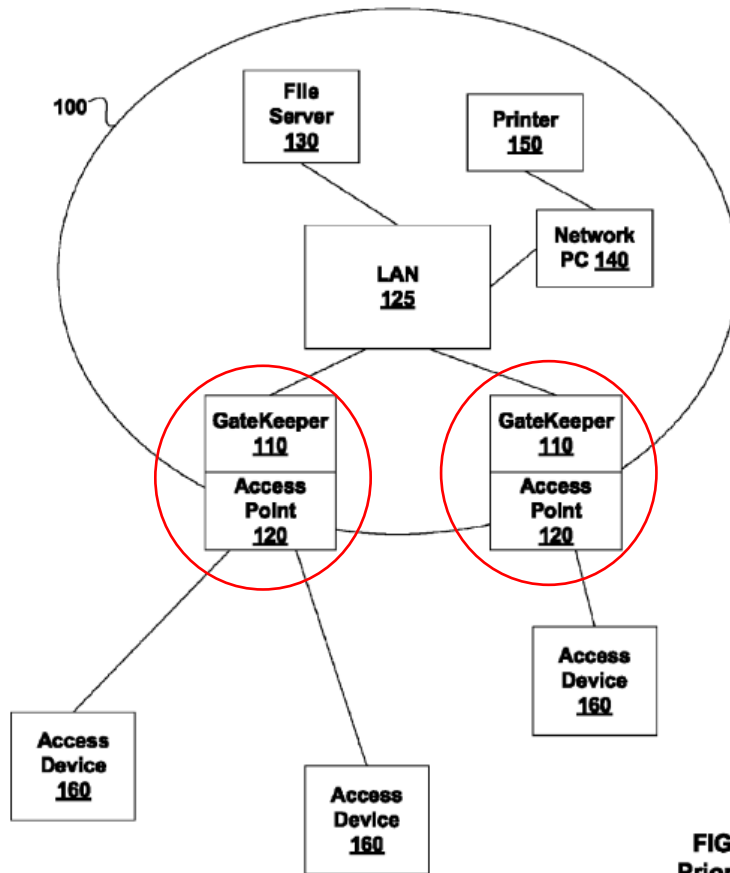
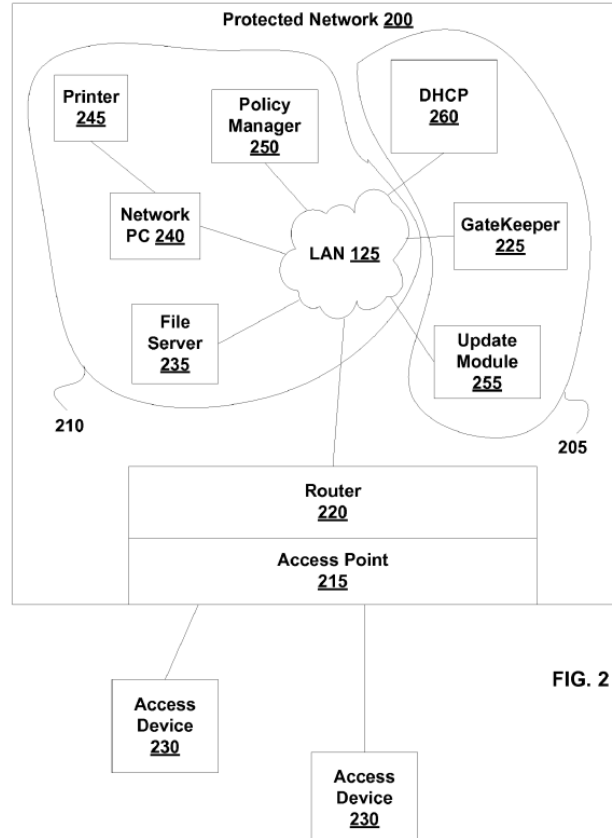


FIG. 1
Prior Art

The protected network 100 includes two Gatekeepers 110, each associated with a different instance of an Access Point 120. All devices attempting to access the protected network are required to be evaluated by a gatekeeper. With large corporate networks including many access points, the "use of one instance of GateKeeper 110 to support numerous instances of Access Device 160 is limited by bandwidth and required sophistication (e.g., cost) of GateKeeper 110." EX1301, 2:34-36. The gatekeeper then becomes a limiting bottleneck on the bandwidth of the system. EX1301, 2:38-41.

The '645 Patent addressed this previously unidentified problem with a novel and non-obvious approach relieving computer resources by configuring an access point in response to approval of a device by the gatekeeper. By configuring the access point to allow devices already vetted by the gatekeeper to meet both authentication requirements and device compliance, i.e., auditing, to access the protected network, subsequent evaluation of the user/device by the gatekeepers when the previously evaluated device is attempting to access the protected network again is obviated.

By way of example, the '645 Patent discloses a protected network that includes a restricted subset with a gatekeeper and one or more less-restricted subsets.



EX1301, Fig. 2. In this embodiment, before an access device is granted access to a less-restricted subset 210, its request is first passed to the restricted subset (indicated as 205). EX1301, 2:52-56, 5:33-37. A gatekeeper in the restricted subset audits the access device against security policies pertaining to device configurations (e.g., updated virus protection software). EX1301, 6:38-52. An additional determination regarding whether the user is authenticated (e.g., username, password, MAC address) to access the protected network may also be performed. *E.g.*, EX1301, 11:35-42. In this embodiment, if the access device passes both the audit and authentication, it is granted access to a less-restricted subset of the protected network. EX1301, 11:35-67, 12:1-36.

An improvement over the earlier approaches is that rather than require all device communications to pass through the gatekeeper, the access point itself is configured in response to approval of the device by the gatekeeper. The Detailed Description gives the following example of configuring the access point in response to approval of the device by the gatekeeper.

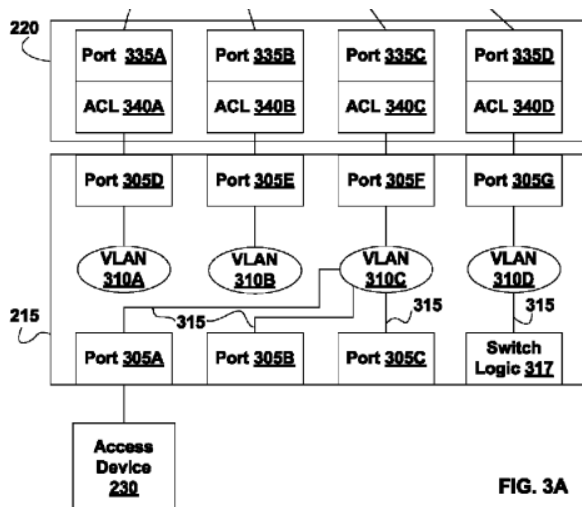


FIG. 3A

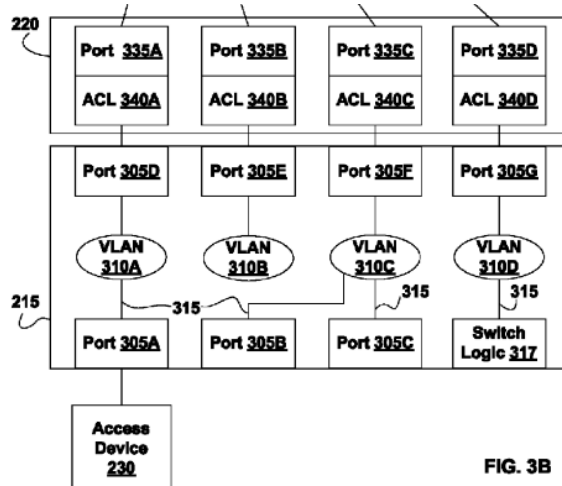


FIG. 3B

Switch Logic 317 is configured for configuring and reconfiguring members of Ports 305A-305G responsive to received commands. For example, by receiving an appropriate command, Switch Logic 317 is configured to reconfigure Port 305A to be associated with VLAN 310A, as illustrated in FIG. 3B below. In this configuration, data received at Port 305A is directed to Port 305D via VLAN 310A, rather than to Port 305F.

EX1301, 8:20-27.

By configuring the access point in response to approval of the device by the gatekeeper, network traffic for previously approved devices passes to the less-restricted subset without needing to pass through and be evaluated by the gatekeeper. Thus, after access has been granted, most network traffic does not need to pass through the gatekeeper, thereby alleviating the burden on the gatekeeper.

III. Claim Construction

Petitioners assert the claims should be given their ordinary and customary meaning as understood by a POSITA, and contends the Board need not expressly construe the claim terms. Pet. at 8. Petitioners, however, avoid providing any

explanation and then deviate from the plain meaning for any claim term by way of their arguments regarding how the cited references supposedly read on the claimed limitations.

Patent Owner contends the claims should be given their plain meaning in the context of the intrinsic evidence, as discussed herein. Given Petitioners' deviation from terms' purported plain and ordinary meanings, Patent Owner provides the following context for certain claim terms to properly frame the appropriate plain and ordinary meaning.

A. "Configure an Access Point In Response To Approval Of The Device By The Gatekeeper"

The Challenged Claims require "configur[ing] an access point in response to approval of the device by the gatekeeper." EX1301, 16:35-36. In the context of the claim language and the specification, the plain and ordinary meaning of this limitation requires configuration **of an access point**—and not a change to the end user device (i.e., "access device") or to user identification data.

One must first look to the words of the claim. "Configure" means to arrange something.¹ And that "configur[ing] must be done to an "access point." Further, this configuring must be in response to approval of a device seeking to access the network by the gatekeeper.

¹ See <https://www.merriam-webster.com/dictionary/configure>.

The '645 Patent specification is consistent with this plain meaning. For example, the '645 Patent specification teaches: "[t]o grant access, the gatekeeper sends commands to the access point in order to reconfigure a communication port to which the access device is connected. The reconfiguration typically includes assigning the communication port from the restricted VLAN to the less-restricted VLAN." EX1301, 3:22-27. As discussed below, the specification provides an example of configuring the "access point" 215 involving reassigning ports.

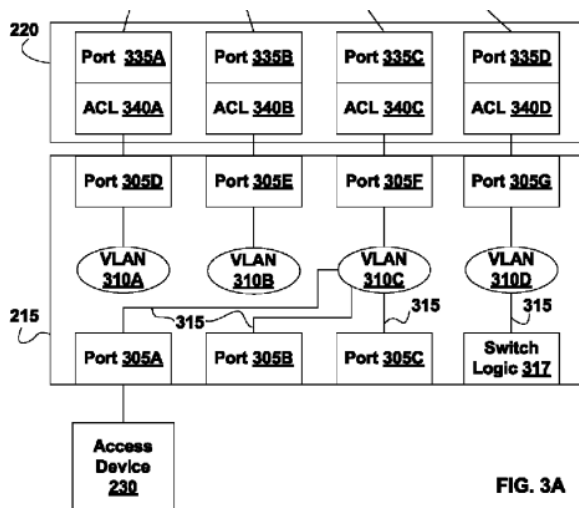


FIG. 3A

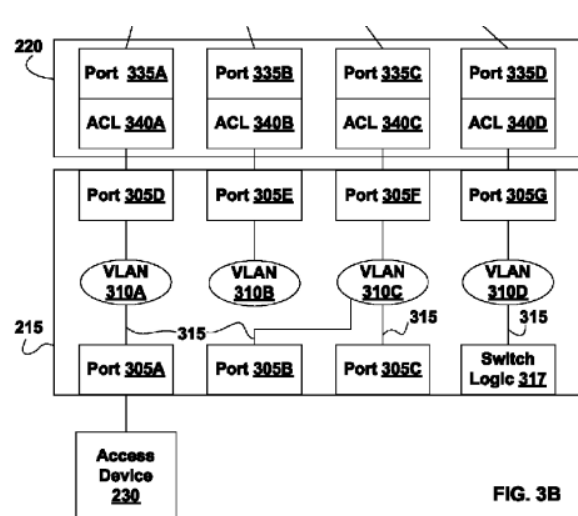


FIG. 3B

Switch Logic 317 is configured for configuring and reconfiguring members of Ports 305A-305G responsive to received commands. For example, by receiving an appropriate command, Switch Logic 317 is configured to reconfigure Port 305A to be associated with VLAN 310A, as illustrated in FIG. 3B below. In this configuration, data received at Port 305A is directed to Port 305D via VLAN 310A, rather than to Port 305F.

As is discussed further below, the commands received by Switch Logic 317 may be generated by GateKeeper 225.

EX1301, 8:20-29.

Switch Logic 317 is controlled by an Access Control 320 included in GateKeeper 225. Access Control 320 is configured to send commands to Switch Logic 317 in order to reconfigure members of Ports 305A-305G. This reconfiguration includes modifying the association of members of Ports 305A-305G with different members of VLANs 310A-310D.

Id., 9:24-29.

Access Control 320 is responsive to a Policy Auditor 325 included in GateKeeper 225. Policy Auditor 325 is configured to receive a request for access to Less-Restricted Subset 210 from Access Device 230, to determine which of Security Policy 330A or optional Security Policy 330B applies to the current request, to perform a security audit of Access Device 230 based on the appropriate member of Security Policies 330A-330B, and to notify Access Control 320 if the audit is passed. This notice typically causes Access Control 320 to reconfigure a member of Ports 305A-305G using Switch Logic 317. For example, in some embodiments, if Security Policy 330A applies and if Access Device 230 satisfies requirements of Security Policy 330A, then Policy Auditor 325 provides a notice to Access Control 320. In response, Access Control 320 sends appropriate commands to Switch Logic 317. These commands cause changes in Port 305A, such that communication from Access Device 230 is no longer blocked by ACL 340C and can now be received by elements of Less-restricted Subset 310. In alternative embodiments, Security Policies 330A-330B are stored elsewhere in Protected Network 200 accessible to Policy Auditor 325. Restricted Subset 205 optionally includes one, two, or more security policy, such as Security Policies 330A-330B.

FIG. 3B is a block diagram showing further details of Access Point 215, Router 220 and GateKeeper 225 of FIG. 2, after access has been granted to elements of Less-Restricted Subset 210, according to various embodiments of the invention. Port 305A has been reconfigured to be associated with VLAN 310A rather than VLAN 310C. Because VLAN 310A is communicatively coupled to Port 305D and Port 335A (of Router 220) via ACL 340A, any communication received at Port 305A from Access Device 230 is now subject to the filtering effects of ACL 340A rather than ACL 340C.

Id., 9:34-66.

Thus, plain and ordinary meaning for "configur[ing] an access point in response to approval of the device by the gatekeeper" is to arrange the access point itself in response to approval of the device by the gatekeeper.

B. "Device Information Received From The Device In Response To The Audit Request"

Another claim limitation relevant to the Petition is "device information received from the device in response to the audit request." This claim limitation ensures that the *device* that is seeking to access the network is audited to determine whether it meets certain software and/or hardware criteria, e.g., virus software, OS. Moreover, the processing of an "audit request" for a device is different from authentication, which only determines whether the user or device is who or what they or it purport to be.

Here, the claim language itself is clear. First, the claim itself links the "device information" that is received from an "audit request." EX1301, 16:26-30 ("send an audit request to the device" and "evaluate device information received from the device in response to the audit request"). The '645 Patent expressly distinguishes the claimed "device information" and "authentication information."

1. A network access control system, comprising:
 - an authentication module stored in memory and executable by a processor to authenticate a device seeking network access based at least on authentication information received from the device;
 - a gatekeeper stored in memory and executable to:
 - formulate an audit request,
 - send the audit request to the device,
 - evaluate device information received from the device in response to the audit request, and
 - approve the device based on evaluation of the device information; and
 - an extensible authentication protocol (EAP) server layer (SL) stored in memory and executable to:
 - receive the authentication information from the device using an EAP encryption protocol, and
 - configure an access point in response to approval of the device by the gatekeeper.

Id., 16:19-36 (annotations added).

The specification further establishes that "device information" and "authentication information" are two different evaluations. "Reliance on mere user authentication includes several disadvantages. For example, there are no provisions to assure that an access device used by the authenticated user meets network security policies."

EX1301, 1:43-46. The specification further explains device auditing:

Various embodiments of the invention include a network gatekeeper comprising at least one security policy including requirements that must be satisfied before an access device is granted access to a less-restricted subset of a protected network, ***a policy auditor configured to audit an access device using the at least one security policy***, in response to a request to access the less-restricted subset of the protected network, ***the request being sent from the access device to the gatekeeper via a communication device, and an access control configured to reconfigure the communication device*** such that data sent from the access device can be received by the less-restricted subset of the protected network rather than merely a restricted subset of the protected network, ***if the audit results in a determination that the access device meets the requirements of the at least one security***

policy, the restricted subset of the protected network including the gatekeeper.

EX1301, 3:63-67, 4:1-11.

Access Control 320 is responsive to a Policy Auditor 325 included in GateKeeper 225. ***Policy Auditor 325 is configured to receive a request for access to Less-Restricted Subset 210 from Access Device 230, to determine which of Security Policy 330A or optional Security Policy 330B applies to the current request, to perform a security audit of Access Device 230 based on the appropriate member of Security Policies 330A-330B, and to notify Access Control 320 if the audit is passed.*** This notice typically causes Access Control 320 to reconfigure a member of Ports 305A-305G using Switch Logic 317. For example, in some embodiments, if Security Policy 330A applies and if Access Device 230 satisfies requirements of Security Policy 330A, then Policy Auditor 325 provides a notice to Access Control 320.

EX1301, 9:34-47.

Further, the '645 Specification makes this express distinction between the claimed "device information" and "authentication information":

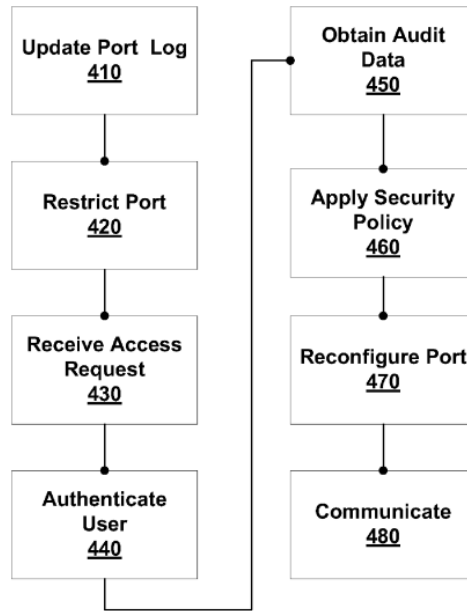


FIG. 4

FIG. 4 is a flowchart illustrating a method of granting access to Less-Restricted Subset 210 (FIG. 2), according to various embodiments of the invention. In these embodiments, an Update Port Log Step 410 and a Restrict Port Step 420 are used to prepare an open (unused) communication port on Access Point 215 for receiving a request for access to Less-Restricted Subset 210. This request is received from Access Device 230 in a Receive Access Request Step 430. ***In response, GateKeeper 225 authenticates a user, obtains audit data, and applies a security policy in an Authenticate User Step 440, an Obtain Audit Data Step 450 and an Apply Security Policy Step 460, respectively. If the security policy is satisfied, then in a reconfigure Port Step 470, GateKeeper 225 reconfigures the communication port of Access Point 215 to which Access Device 230 has connected.***

EX1301, 10:30-44.

Thus, the claim term "device information received from the device in response to the audit request" should be given its plain meaning consistent with the intrinsic evidence and not conflated with user or device authentication information.

IV. Petitioners' References

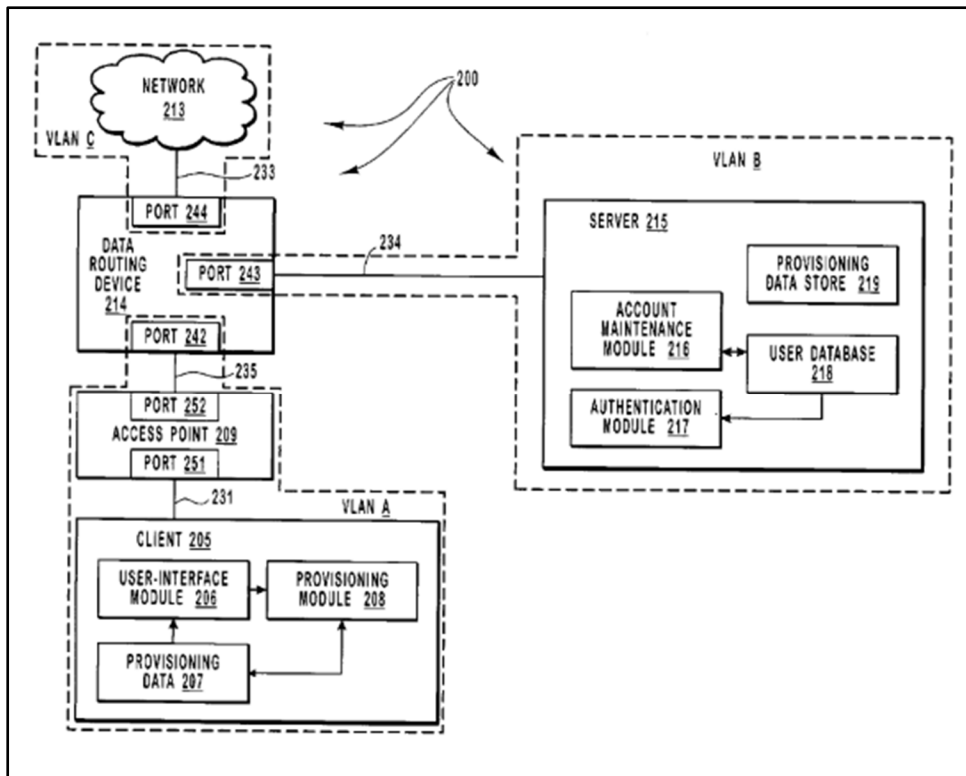
Petitioners' references, Krantz and Herrmann, are not prior art to the Challenged Claims. In addition, Krantz and Herrmann are readily distinguished from the Challenged Claims, and merely illustrate examples of the earlier network security approaches improved upon by the '645 Patent.

A. Krantz

Petitioners' primary reference is U.S. Patent Publication 2004/0111520 ("Krantz"). Krantz is described as follows:

A computer system attempts to authenticate with a server to gain authorization to access a first network. It is determined by the server that the computer system is not authorized to access the first network. The computer system is given authorization to access a second network for at least the purpose of downloading files (e.g., signup and configuration files) needed to access the first network. A user-interface for receiving user-entered signup information is automatically presented at the computer system. A first schema-based document including user-entered information is transferred to the server. If the server determines that the user-entered information is appropriate, a second-schema document, which includes an indication of authorization to access the first network (e.g., a user-identifier and password), is received. A third schema-based document is executed at the computer system to compatible configure the computer system for accessing the first network.

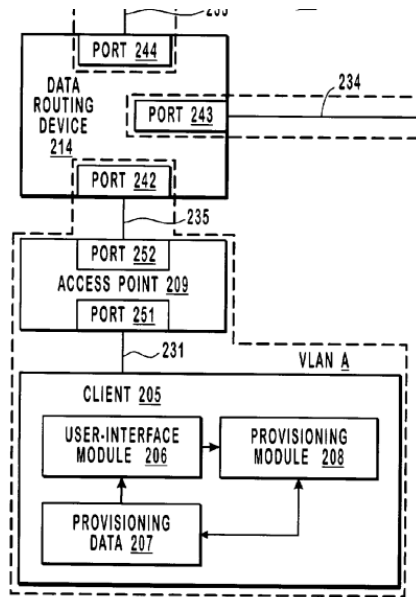
EX1305, Abstract. Krantz discloses the concept wherein upon the failure of a computer system to **authenticate a user** to one network, the user can access a second network for the limited purpose of downloading files by a server. EX2001, ¶¶47-49. This authentication by Krantz is further explained.



A server includes the functionality to authorize clients to access a second network (e.g., the Internet). The server can be located on a first network that is separate from the second network or can be located on the second network. A client sends credentials to the server to attempt to authenticate with the server. Based on the credentials, the server may authorize the client for at least partial access to the second network and/or may deny access to the second network and authorize the client for at least partial to access to the first network. The server can be a Remote Authentication Dial-In User Service ("RADIUS") server that is located on the first network. Clients can be provided partial access to the first or second network at least for the purposes of authenticating with the server and downloading provisioning files used to gain full access to the second network. Thus, computer systems that are not currently able to access resources located on the second network may be able to electronically download provisioning files for gaining access to those resources.

EX1305, [0016]. As shown, in the excerpted portion of Fig. 2 from Krantz, an access point 209 is identified and the client communicates via access point 209 through port

251. *See id.*, [0063]. The access point 209 then sends data to data routing device 214 via port 252. This data routing device directs data through either port 244 or port 243 via port 252. This data routing device directs data through either port 244 or port 243.



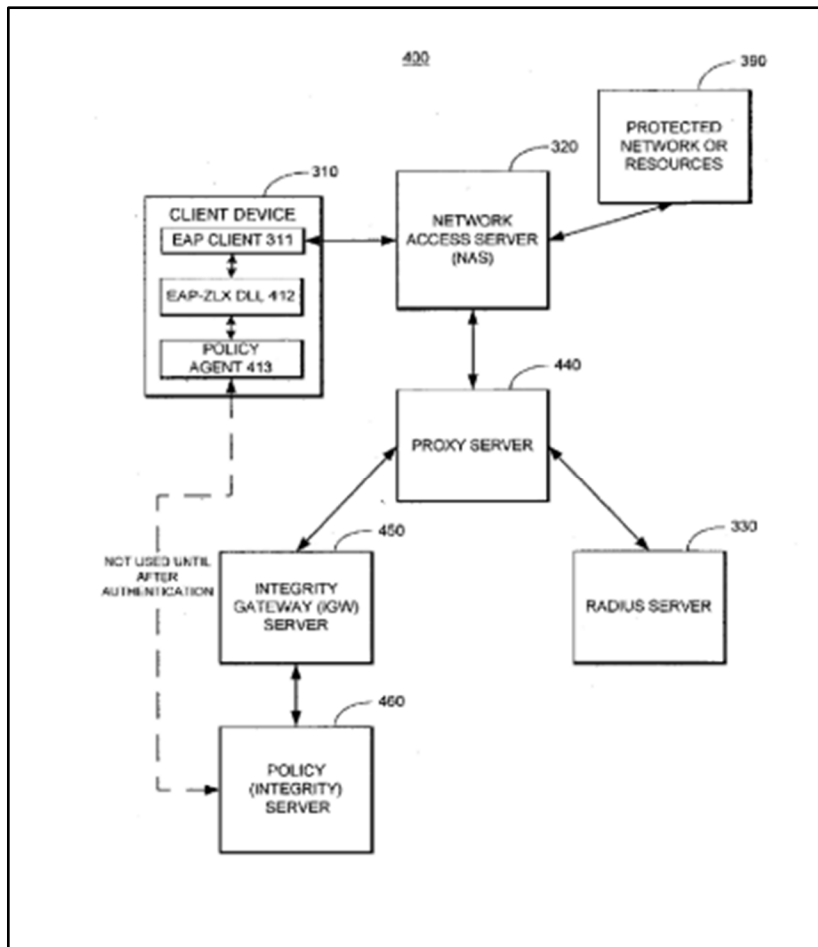
There is no teaching in Krantz of arranging the access point 209 in response to approval of a device (including both user authentication and device security policy compliance) by a gatekeeper. EX2001, ¶¶ 49, 64. Indeed, Krantz does not teach arranging the access point in response to anything, let alone in response to evaluating a user or device attempting to access a network. Instead, the ports 251 and 252 of the access point 209 are never arranged in response to any evaluation by a gatekeeper. EX2001, ¶¶ 59-60.

B. Herrmann

Petitioners cite to U.S. Patent Publication 2004/0107360 ("Herrmann") in Ground 2 to be used in combination with Krantz. Herrmann describes a system as follows:

A system and methodology for policy enforcement during authentication of a client device for access to a network is described. A first authentication module establishes a session with a client device requesting network access for collecting information from the client device and determining whether to authenticate the client device for access to the network based, at least in part, upon the collected information. A second authentication module participates in the session with the client device for supplemental authentication of the client device for access to the network. The supplemental authentication of the client device is based, at least in part, upon the collected information and a policy required as a condition for network access.

EX1306, Abstract. Like the prior art discussed in the '645 Patent, Herrmann utilizes servers between the client device and the protected network, and all attempts to access the protected network must first be checked for security policy compliance by at least a Network Access Server (NAS), which would create the bottleneck problems. EX2001, ¶53; *see also id.*, ¶61.



EX1306, Fig. 4, *compare id. to* EX1301, Fig. 1. In contrast to the '645 Patent, Herrmann shows that all access from a client device 310 must pass through the Network Access Server 320. There is no disclosure where the client device, after being validated, is able to access the protected network without first again going through the Network Access Server. Nor, is there any teaching of configuring an access point in response to an access device having satisfied an audit.

V. Krantz Alone (Ground 1) or the Combination of Krantz and Herrmann (Ground 2) Fail to Render Obvious Any of the Challenged Claims

Petitioners' Ground 1 asserts invalidity of each of the Challenged Claims based on Krantz alone. Petitioners' Ground 2 asserts invalidity of each of the Challenged Claims based on Krantz in combination with Herrmann. For both Grounds, key claim limitations are missing. Institution must be denied.

A. Ground 1: Krantz Alone Is Missing Specifically Claimed Limitations

Petitioners' Ground 1 relies on Krantz alone for obviousness. Krantz, however, fails to disclose at least the following limitations: (1) "configur[ing] an access point in response to approval of the device by the gatekeeper"; (2) "a gatekeeper... executable to... formulate an audit request"; (3) "a gatekeeper ... executable to ... evaluate device information received from the device in response to the audit request"; and (4) "a gatekeeper ... executable to ... approve the device based on evaluation of the device information." Accordingly, the petition based on Ground 1 should be denied.

1. Krantz Does Not Disclose "Configur[ing] An Access Point In Response To Approval Of A Device By The Gatekeeper"

The Challenged Claims require "configur[ing] an access point in response to approval of [a] device by the gatekeeper." Krantz does not disclose this. EX2001, ¶¶ 58-60. Rather, Krantz only discloses inserting "tag headers" into client data; not changing the access point.

The '645 Patent explains that configuring an access point "typically includes reassigning the communication port from the restricted VLAN to the less-restricted VLAN." EX1301, 3:24-27. Thus, there are changing pathway assignments for the ports of *the "access point."*

Indeed, as discussed above (See § II(C)), a preferred configuration of an access point in response to approval of a device by the gatekeeper is described as changing the VLAN to which a port may communicate.

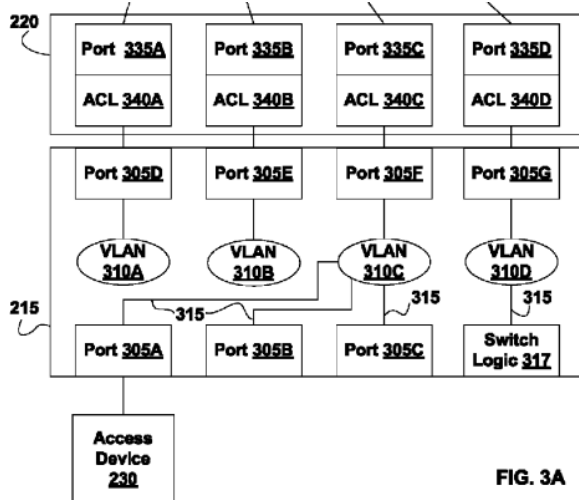


FIG. 3A

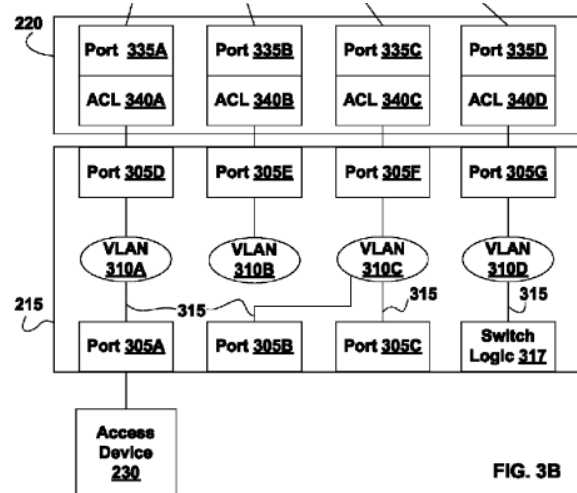


FIG. 3B

Communication received at one member of Ports 305A-305G is directed internally to another member of Ports 305A-305G via a member of VLANs 310A-310D. VLANs 310A-310D are logical associations between members of Ports 305A-305G. Typically, any members of Ports 305A-305G that are configured to be associated with the same member of VLANs 310A-310D are in bi-directional communication with each other. These associations are illustrated in FIGS. 3A and 3B by Lines 315.

EX1301, 7:66-67, 8:1-7.

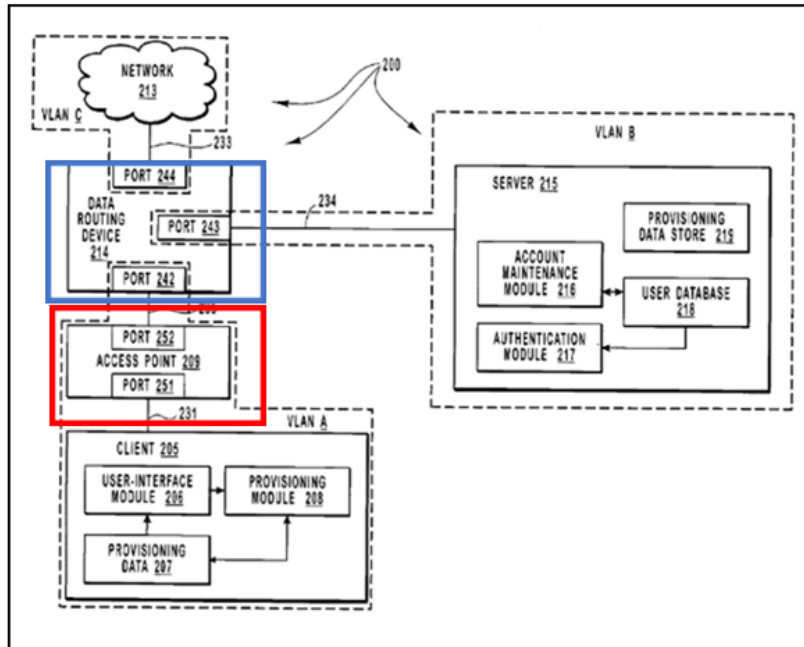
Switch Logic 317 is configured for configuring and reconfiguring members of Ports 305A-305G responsive to received commands. For

example, by receiving an appropriate command, Switch Logic 317 is configured to reconfigure Port 305A to be associated with VLAN 310A, as illustrated in FIG. 3B below. In this configuration, data received at Port 305A is directed to Port 305D via VLAN 310A, rather than to Port 305F.

Id., 8:20-27.

Petitioners strain to argue that Krantz supposedly discloses "configuring an access point in response to approval of a device by the gatekeeper" by way of "tag header" insertion into client data. Pet. at 54-56. Petitioner's argument notwithstanding, adding a tag header to client data is not the claimed configuring of an access point.

First, Petitioners argue "access point 209" (red annotation below) is configured to transfer data from client 205 via port 251 to data routing device 214 via port 252. Pet. at 54-55. Petitioners then argue communication ports of a different element (not the access point)—the data routing device 214 (blue annotation)—permits data to first communicate with VLAN B. *Id.* After authentication of the user, Petitioners argue port 251 is "configure[d] . . . in response to approval of the device by the gatekeeper" because it was previously configured to only transfer data to VLAN B; then it can transfer data to VLAN C. Pet. at 54-55.



EX1305, Fig. 2 (annotated).

The '645 Patent is clear: "[t]he reconfiguration typically includes reassigning the communication port from the restricted VLAN to the less-restricted VLAN." EX1301, 2:24-27. This means depending on the "configuring," the same port may send data to different locations. For example, as shown in FIG. 3A, port 305A of the access point 215 sends data to VLAN 310C (as shown by line 315). In FIG. 3B, however, that same port 305A is "configured" to send data to VLAN 310A.

Krantz has no "configuration of an access point in response to approval of [a] device by the gatekeeper." Instead, the Krantz ports in access point 209 send data to the same location (e.g. port 243 to VLAN B and port 244 to VLAN C). Further,

Krantz explains that it is not the access point, but rather, the data routing device 214 which directs the traffic to VLAN B or VLAN C. EX1305, [0060]; EX2001, ¶59.

Next, Petitioners argue "Krantz explains that '[a]ccess point 209 can be configured as a VLAN aware device and can insert Tag Headers into data frames received from client 205 (or any other computer system on VLAN A) that are to be transferred to VLAN B and/or VLAN C.'" Pet. at 54. Petitioners assert it is the "[a]ccess point 209" that "will insert VLAN Tag Headers **into incoming data frames from a client** that may now access VLAN C." Pet. at 54-55 (emphasis supplied). But this is irrelevant to any action on the "access point." The access point is not configured at all. Instead, Krantz's only teaching is adding identification data to client information.

A tagged data frame is a data frame that includes an indication, such as, for example, a Tag Header, that identifies a VLAN and/or frame classification associated with the tagged data frame. A Tag Header can be inserted into a data frame by a VLAN aware device to indicate to data routing device 214 a VLAN ID of the VLAN from which a tagged data frame was received. For example, *access point 209 can insert a Tag Header into data from client 205 to indicate to data routing device 214 that the data was received from VLAN A*. A Tag Header can also include other control information that can be used by data routing device 214 to classify a corresponding data frame. An untagged data frame is a frame that does not include a Tag Header. A port VLAN ID ("PVID") may be used to indicate a VLAN from which an untagged data frame was received. For example, untagged data frames received at port 243 may be classified as being received from VLAN B.

EX1305, [0061].

Data routing device 214 can process the inserted Tag Header and transfer the EAPOL packet onto VLAN B. Server 215 can receive the EAPOL packet, which is transferred to authentication module 217 for authentication. Alternately, access point 209 and/or data routing device 214 may strip the 802.1X encapsulation and instead encapsulate the EAP-Response/Identity message within an EAP-RADIUS message that is transferred onto VLAN B. ... When credentials are sent to server 215, authentication module 217 can receive the credentials (e.g., user-identifier and password) and compare the credentials to entries in user database 218. If credential information matches an entry in user database 218, the identity of a user is authenticated (i.e., server 215 believes that the user represented by the user-identifier is the user who entered the credential information). If an authenticated user of client 205 is authorized to access resources located on VLAN C (e.g., the user is up to date on payments for their account), client 205 can then be authorized to access resources located on VLAN C.

EX1305, [0073]-[0076]. It is undeniable Krantz fails to disclose **any** reconfiguration of the access point 209. EX2001, ¶62. While Krantz's "data routing device 214" directs the traffic to either the VLAN B or VLAN C based on consideration of the user's identification information and may redirect the data based on the user's tagged identification information, there is no "configuring" *of the access point 209* based on approval of a device by a gatekeeper as claimed, however.

Lastly, as a fallback, Petitioners argue it would have been obvious for one to take the access point 209 and the data routing device 214 and combine these. Pet. at 59. There are numerous flaws with such an argument. First, regardless of whether access point 209 could be combined with data routing device 214, configuring client data with tag headers is not configuring of the access point. Rather, it is only

manipulating "data from client 205." EX1305 at, *e.g.*, [0061]. As such, the different data paths of Krantz still require the data routing device to check user identification information, namely, the tag header.

Further, Krantz expressly recites separate access point 209 and data routing device 214. Arbitrarily combining these separate and distinct component finds no support in Krantz. To the contrary, Petitioners' own cited portions of Krantz expressly teaches access point 209 and a different component data routing device 214. EX1305, [0073] ("[A]ccess point 209 and/or data routing device 214 may strip the 802.1X encapsulation and instead encapsulate the EAP-Response/Identity messages within an EAP-RADIUS message that is transferred onto VLAN B."). This teaching from Krantz further confirms that any configuration is of user identification data, not an access point as claimed, because "EAP-Response/Identity messages" expressly relate to user authentication.² Lastly, even it were possible to combine access point 209 and data routing device 214, this would not resolve the bottleneck problem with the prior art, such as Krantz. Instead, all traffic would still go through access point 209 and data routing device 214. See EX1305, [0060].

² This understanding is consistent with how a POSITA understands EAP-Response/Identity. *See*, https://techhub.hpe.com/eginfolib/networking/docs/switches/5130ei/5200-3946_security_cg/content/485048062.htm.

Krantz's failure to disclose the configuration limitation alone requires denial of institution.

2. Krantz Fails To Disclose The Claimed "Gatekeeper" For Device Auditing

The Challenged Claims recite a "gatekeeper" for auditing. In particular, such gatekeeper must (1) "formulate an audit request", (2) "evaluate device information received from the device in response to [an] audit request"; and (3) "approve the device based on evaluation of the device information." Despite Petitioners' attempts to conflate authentication with audit data, Krantz lacks *any* device auditing.

a. Krantz Fails to Disclose a Gatekeeper To "Formulate An Audit Request"

Petitioners argue Krantz discloses the claimed "gatekeeper" as "server 215." Pet. at 35.

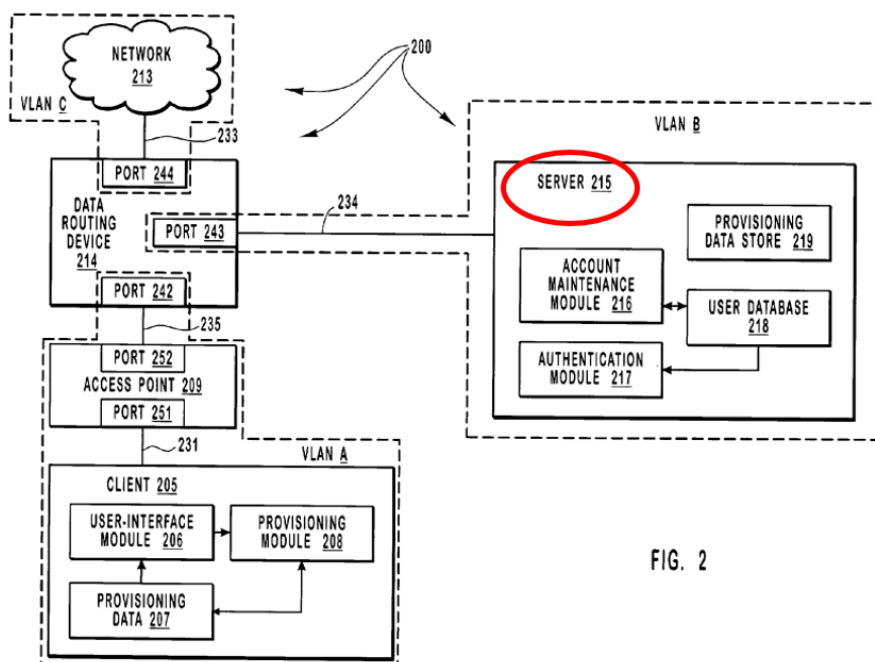


FIG. 2

But the Krantz server 215 is only for authentication as Petitioners concede:

Krantz explains that "[i]n some embodiments, server 215 logically represents a Remote Authentication Dial-In User Service ("RADIUS") server. . . . Dr. Houh states that RADIUS was *a well-known authentication software system* at the time, Ex.1320, 3 ("RADIUS is a client/server-based authentication software system")

Pet. at 36-37 (emphasis supplied).

In contrast, the Challenged Claims require a gatekeeper to "formulate an audit request." EX1301, 16:25. As claimed, authentication and auditing are separate and distinct elements:

1. A network access control system, comprising:
 - an authentication module stored in memory and executable by a processor to authenticate a device seeking network access based at least on authentication information received from the device;
 - a gatekeeper stored in memory and executable to:
 - formulate an audit request,
 - send the audit request to the device,
 - evaluate device information received from the device in response to the audit request, and
 - approve the device based on evaluation of the device information; and
 - an extensible authentication protocol (EAP) server layer (SL) stored in memory and executable to:
 - receive the authentication information from the device using an EAP encryption protocol, and
 - configure an access point in response to approval of the device by the gatekeeper.

Id. 16:24-36.

Accordingly, nothing in Krantz's authentication "gatekeeper" discloses or suggests "a gatekeeper stored in memory and executable to: formulate an audit request."

b. Krantz Fails to Disclose "Evaluate Device Information Received From The Device In Response To [An] Audit Request"

The Challenged Claims require evaluations of both "authentication information" and "device information." Krantz fails to disclose any evaluation of the "device information." Tellingly, Petitioners conflate the claimed "authentication information" and "device information." For example, Petitioners rely on Krantz's "user-identifier[s] and password[s]" for both the "authentication information" and "device information":

Other credentials or *"authentication information"* provided by *Krantz's "device"* may include, for example, a *"user-identifier[s] and password[s]."* Ex.1305, [0076]; Ex.1303, ¶84.

Pet. at 31

A number of different types of *device information* can be utilized for the audit, such as exchanging a *user-identifier and password* EAP-messages to pass certificate keys, as well as cipher suites. Ex.1305, [0074]. "When [the] credentials are sent to server 215, authentication module 217 can receive the credentials (e.g., user-identifier and password) and compare the credentials to entries in user database 218.

Pet. at 57

In another conflation, Petitioners mix and match "pass certificates, keys, and supported cipher suites" as being both "authentication information" and "device information."

Krantz discloses that “[s]erver 215 may request that client 205 provide a **password that is associated with a user-identifier. A user of client 205 can respond by providing a password to server 215.** It may also be that client 205 and server 215 exchange EAP-messages to pass **certificates, keys . . .** [*‘authentication information’*]. Depending on the EAP type, **other credential information may also**

Pet. at 52

Krantz discloses that “[s]erver 215 [*‘gatekeeper’*] may request that client 205 provide a password that is associated with a user-identifier. A user of client 205 can respond by providing a password to server 215. **It may also be that client 205 and server 215 exchange EAP-messages to pass certificates, keys, and supported cipher suites** [*‘device information’*]. Depending on the EAP type, **other credential**

Pet. at 42

Simply put, "device information" and "authentication information" are not the same thing. Otherwise, the claim limitations would be rendered meaningless.

The '645 Patent expressly distinguishes between evaluating "authentication information" and auditing "device information." The '645 Patent explains that "device information" is data about the device's software and/or hardware that is

necessary to comply with a security policy, such as "operating system status (version, updates, etc.), antivirus software status, information concerning devices connected to Access Device 230, Windows registry information, MAC address, IP addresses, cookies, status of applications executing on Access Device 230[.]" EX1301, 11:49-53. In contrast, the '645 Patent describes authentication of a user as merely confirming the identity of the user. EX1301, 1:33-39 ("A first level of access control is achieved by requiring authentication of a user. This may be accomplished by requiring the user to enter a username and password or by reading a MAC address or other identifying information from an access device. In some systems, a network switch is programmed to grant access to a secure network only after proper authentication is achieved.")

Authentication is a different technical concept, process, and implementation from the claimed "evaluate device information received from the device in response to the audit request." Indeed, a user can be properly authenticated, but if the access device does not have the proper antivirus software, then the network can be at risk. EX1301, 1:43-65.

Yet, Krantz only discloses user authentication, and fails to disclose anything about "evaluat[ing] device information in response to the audit request":

- "Krantz discloses that . . . '**authentication module 217** can receive the credentials (e.g. user-identifier and password) and compare the credentials to entries in the user database 218.'" Pet. at 69.

- "If an **authenticated user** of client 205 . . . is authorized to access resources..." EX1305, [0076] (cited in Pet. at 27, 54, 57).
- "Krantz discloses that the 'method 300 includes [the act of client 205] sending credentials to a server to **authenticate**" Pet. at 31.
- "If credentials do not authorize full access to the second network (e.g., credentials cannot be **authenticated**, credentials are guest credentials, or an **authenticated user is not authorized**) . . ." EX1305, [0019]

With no evidence for Krantz of auditing a device—checking the device for compliance with network security policies—Petitioners repeatedly cite to user authentication protocols and incorrectly conclude this is "device information" or an "audit request." *See* Pet. at 42-46. As Dr. Cole explains, such device authentication is different from device auditing. *See* EX2001, ¶¶49, 64.

Petitioners use several tactics to try and transform Krantz's authentication into the claimed "evaluate device information received from the device in response to the audit request." None of them work.

Petitioners claim that Krantz discloses "receiving audit data" because it "sends credentials to the server":

[Krantz] can include sending an Extensible Authentication Protocol ("EAP") Response/Identity message from the client to the server. . . . Other credentials or "authentication information" provided from Krantz's [access] "device" may include for example, "user-identifier[s] and password[s].

Pet. at 31 (quoting EX1305, [0018]. [0076]).

This "credentials" argument fails immediately. First, the '645 Patent explains user authentication and "audit data pertaining to a device" are different. *Compare* EX1301, 1:33-42 (authentication) *with* 11:48-54 (audit data). Second, the Krantz "credentials" are the "user-identifier[s] and password[s]" which the '645 Patent expressly explains relate to authentication; they are not audit data. *See* Pet. at 31; EX1301, 1:33-37. Indeed, a user may access different devices using the same username and password. Third, Petitioners claim credentials also "can include sending an Extensible Authentication Protocol ('EAP') Response/Identity message..." Pet. at 31. EAP is for authentication. In fact, it is an acronym that stands for Extensible **Authentication** Protocol. EX1301, 8:33-34, 14:26. EX2001, ¶54. Fourth, Petitioners assert "authentication module 217 can receive the credentials (e.g. user-identifier and password) and compare the credentials to entries in user database 218. If credential information matches an entry in user database 218, the identity of the user is authenticated[.]" Pet. at 57. Again, on its face, this is user data unrelated to audit data for the device. EX2001, ¶¶55-56.

Additionally, Petitioners baldly claim Krantz's disclosures are "consistent with the '645 Patent's description that audit data can be used to authenticate a user." Pet. at 52. This is wrong for several reasons. First, this is not what the '645 Patent says. Rather, the '645 Patent explains that **in addition to** conducting a security policy audit for a device, the authentication of the user can be conducted along with

the same process. *See* EX1301, Fig. 4, 11:35-42. Nowhere does it say that device information or audit data can be used to replace authentication information. Second, the claim requires "device information received from... [an] audit request." Not to "authenticate a *user*" which is a separate and distinct claim limitation. Lastly, the '645 Patent distinguishes between authenticating a user and the separate security evaluation for the device based on "device information":

[A]n AP (e.g., a switch or wireless access point (WAP) which is used to connect end points to the corporate network) may be programmed to prohibit access by the PC (e.g., notebook, desktop PC, PDA, or similar computing device) to the corporate network until authentication with the **authentication server passes AND an audit with the software agent** with the GK (e.g., software that acts as a gatekeeper by granting or denying access to the corporate network from end points after auditing the end point based on certain criteria) passes, while still supporting the existing encryption and authentication functionality. **The method used to support auditing functionality over the existing 802.1x protocol implementation is complicated and not an obvious variation of the 802.1x protocol.**

EX1301, 13:61-67, 14:1-8 (ALL CAPS emphasis of "AND" in original).

Accordingly, Krantz fails to disclose or suggest this claim limitation.

c. Krantz Fails to Disclose The "Approve The Device Based On Evaluation Of The Device Information" Limitation

As set forth above, Krantz does not disclose "device information." For those same reasons, Krantz also does not disclose "approve the device based on evaluation of the device information." Indeed, the '645 Patent expressly distinguishes the steps of user authentication for the steps for security audits for the device:

- "GateKeeper 225 authenticates a user, obtains audit data...", EX1301, 10:37-38.
- "Policy Auditor 325 collects further data to perform a security audit of Access Device 230 responsive to Security Policy 330A or Security Policy 330B." *Id.*, 11:43-46.

Notwithstanding the clear teachings of the '645 Patent, Petitioners again try to transform Krantz's authentication into something it is not. Petitioners argue "Krantz explains that access to the network may be controlled by 'configuration settings,' which can include 'supported types of encryption' or 'supported types of authentication. ' Pet. at 43 (quoting EX1305, [0066]-[0067]). Again, this does not suggest "approv[ing] the device based on evaluation of the device information." Petitioners' configuration settings argument is again based on user authentication, which is not device auditing.

Similarly, Petitioners' reference to an EAP-Response/Identity message and EAP-MSChapV2 does not change this. Each of the EAP-Response/Identity message or and EAP-MSChapV2 message relates to user authentication.³ Pet. at 45. But, the Challenged Claims require "approv[ing] the device based on evaluation of the device information." The '645 Patent makes this clear distinction:

According to embodiments like that disclosed in U.S. Provisional Patent Application No. 60/513,080, the disclosure of which has been incorporated herein by reference, an AP (e.g., a switch or wireless

³ See <https://www.portnox.com/cybersecurity-101/mschapv2/> (EAP-MSChapV2); https://techhub.hpe.com/eginfolib/networking/docs/switches/5130ei/5200-3946_security_cg/content/485048062.htm (EAP-Response/Identity).

access point (WAP) which is used to connect end points to the corporate network) may be programmed to prohibit access by the PC (e.g., notebook, desktop PC, PDA, or similar computing device) to the corporate network **until authentication with the authentication server passes AND an audit with the software agent with the GK** (e.g., Software that acts as a gatekeeper by granting or denying access to the corporate network from endpoints after auditing the end point based on certain criteria) passes, while still supporting the existing encryption and authentication functionality. **The method used to support auditing functionality over the existing 802.1X protocol implementation is complicated and not an obvious variation of the 802.1X protocol.**

EX1301, 13:59-67, 14:1-7.

Indeed, the known EAP or 802.1X user authentication mechanisms and associated credentials are distinct from "auditing the device." In fact, "MSCHAPv2" is an acronym for "Microsoft Challenge Handshake Authentication Protocol version 2," and is an authentication protocol used for securing remote access connections in Virtual Private Networks (VPNs). As the portnox article referenced in footnote 3 explains, "MSCHAPv2 is used to verify the identity of a user or device trying to establish a connection to a network or a remote server." It has nothing to do with "evaluat[ing] device information... in response to the audit request."⁴

⁴ Notably, Petitioners' secondary reference, Herrmann, confirms that authentication technology, e.g., NAS and RADIUS, are distinct from security policy compliance. "One problem that is not addressed by current NAS and RADIUS [authentication] technology is ensuring that all devices that connect to a network comply with and enforce applicable security policies." EX1306, [0011]

B. Ground 2: Krantz in Combination with Herrmann Fails To Render Obvious The Challenged Claims

Petitioners argue, to the extent that Krantz is deemed not to disclose certain claim limitations, a POSITA would have found it obvious to and been motivated to incorporate Herrmann with Krantz. Ground 2 also fails.

Ground 2 fails first because even the asserted combination of Krantz and Herrmann fails to disclose at least the "configur[ing] an access point in response to approval of the device by the gatekeeper" limitation.⁵ Regardless of whether one considers Krantz alone or in combination with Herrmann, this specifically required limitation of the Challenged Claims is missing.

In addition, the Petition relies on Krantz alone for several of the claimed limitations of claim 1. With respect to the limitations below, the Petition cherry-picks portions of Herrmann to fill them:

[1.3] formulate an audit request

[1.5] evaluate device information received from the device in response to the audit request

[1.6] approve the device based on evaluation of the device information.

⁵ Notably, Petitioners do not argue that Herrmann teaches the "configure an access point in response to approval of the device by the gatekeeper" limitation.

Petitioners' contentions regarding these limitations still fail. Also, the motivation to combine isolated teachings from Herrmann with Krantz argued in the Petition do not pass muster.

1. The Petition Fails to Demonstrate Krantz, as Modified by Herrmann, Teaches A Gatekeeper To "Formulate An Audit Request"

The Challenged Claims require a gatekeeper to "formulate an audit request." As discussed for Ground 1 above, Krantz does not teach this. The Petition, however, says that to the extent Krantz does not teach "formulate," Herrmann does. Pet. at 70-71. Specifically, the Petition relies on Herrmann's disclosure where "access implementation module 553 **formulates** a RADIUS Access-Accept package for transmission by the proxy server 440." EX1306, [0079] (cited in Pet. at 71) (emphasis in Petition).⁶ But Herrmann's "RADIUS Access-Accept package" is directed to authentication and is not an audit request:

- "On the other hand, if *the client is authenticated*, the RADIUS server 330 returns an *Access-Accept message*." EX1306, [0056],
- If the *authentication information is correct (e.g. password is correct)*, the RADIUS server 330 sends an *Access-Accept packet...*" *Id.*, [0073].

⁶ Essentially, Petitioners argue that while Krantz discloses generating a request, that Herrmann explains that "formulate" and "generate" are synonymous, and therefore Krantz's teaching of generating a request (albeit only an authentication request, not audit request) is the same as formulating one.

Petitioners cite to no other evidence in Herrmann to suggest any disclosure of to "formulate an audit request." Thus, Herrmann fails for the same reason as Krantz.

2. The Petition Fails To Demonstrate It Would Have Been Obvious To Modify Krantz According To Herrmann For A Gatekeeper To "Evaluate Device Information Received From The Device In Response To The Audit Request" Or "Approve The Device Based On Evaluation Of The Device Information"

The Petition argues, "[t]o the extent [] one asserts [] Krantz does not teach or suggest evaluating 'device information,' it would have been obvious in view of Herrmann." Pet. at 71. But Petitioners' application of Herrmann continues to conflate authentication and auditing just as with Krantz. Petitioners argue "[c]hecking for anti-virus software would merely be an additional item for server 215 ("gatekeeper") to evaluate in the authentication process already disclosed by Krantz[.]" Pet. at 72.

Thus, Petitioners claim that Herrmann's supposed "device information" would be evaluated through Krantz "authentication process"; not the audit process—which is a separate claim element. Thus—even with Herrmann—Petitioners continue to conflate two different evaluations required in the Challenged Claims for two different features of the claimed system. The Challenged Claims require an "authentication module" for performing an **authentication** of a device attempting to access a network. The Challenged Claims separately recite a "gatekeeper" for **auditing** the device.

Petitioners' conflation is particularly troublesome because the '645 Patent expressly says: "The method used to support auditing functionality over the existing 802.1x protocol implementation is complicated and not an obvious variation of the 802.1x protocol." EX1301, 14:5-7. The '645 Patent then provides a specific explanation for exactly how to do this complicated process. *See, e.g.*, EX1301, 14:46-60 ("The ECL calls the corresponding CF to perform authentication... If the SF receives a success response from the server EAPM... the SF changes to the audit state and calls GK to obtain audit requests to send back to the client. In this state, the SF returns specifically formatted audit requests to the ESL..."). None of this is suggested by Krantz or Herrmann, and this is clearly not simply a matter of "merely be an additional item" (Pet. at 72) to add to the authentication process.

Notwithstanding the '645 Patent explaining that combination of authentication and device auditing "is complicated and not an obvious variation," Petitioners argue a POSITA would have modified Krantz based on the generalized notion that Krantz is "specifically focused on network authentication and security." Pet. at 72. The Petition cites to Krantz's abstract to support this argument. Krantz's Abstract, like the rest of Krantz, is limited to authentication, and includes nothing about device auditing. EX2001, ¶55. Indeed, the lack of any recognition in Krantz of security policy compliance by a device further demonstrates the argument to merely be impermissible hindsight. *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1068

(Fed. Cir. 2018) (cautioning that hindsight "often overlooks that the genius of invention is often a combination of known elements which in hindsight seem preordained" and disparages looking to "what a skilled artisan would have been *able* to do, rather than what a skilled artisan would have been *motivated* to at the time of the invention.") (emphasis in original, internal quotations and citations omitted). This lack of any recognition in Krantz to security policy compliance further highlights the smoke and mirrors of the Petition's reliance on Krantz's paragraph [0019] for Krantz's purported goal of "security."

VI. All Grounds: Neither Reference Constitutes Prior Art

The Board has previously found antedating prior art references is sufficient grounds for denying *inter partes* review institution. *LG Elecs., Inc. v. Wi-LAN Inc.*, No. IPR2018-00704, Paper No. 14 at 20 (P.T.A.B. Sept. 5, 2018) ("[W]e determine that Patent Owner has provided sufficient evidence to antedate ZTE . . . [and therefore] Petitioner has not demonstrated a reasonable likelihood of prevailing[.]").

Neither Krantz nor Herrmann are prior art because the InfoExpress inventors conceived of the invention before the effective dates and exercised reasonably continuous diligence in reducing to the claimed inventions to practice.

A. Legal Standard

A reference is prior art only if filed before the date of "the invention by the [patent owner]." 35 U.S.C. § 102(e) (pre-AIA). *See, e.g., Sequenom v. Leland Stanford Junior Univ.*, No. IPR2013-00390, at 5 (P.T.A.B. Nov. 25, 2014).

To antedate a reference, a Patent Owner must show that there was conception prior to the critical date and "reasonably continuous diligence" throughout the critical period from just before the effective date of the prior art until reduction to practice. *E.g., ATI Techs. v. Iancu*, 920 F.3d 1362, 1369 (Fed. Cir. 2019); *Tyco Healthcare Grp. v. Ethicon Endo-Surgery, Inc.*, 774 F.3d 968, 975 (Fed. Cir. 2014).

Under the reasonably continuous diligence standard, an inventor is not required to work on reducing the invention to practice every day during the critical period, and periods of inactivity within the critical period do not automatically vanquish a claim of reasonable diligence. *ATI*, 920 F.3d at 1369; *Monsanto Co. v. Mycogen Plant Sci., Inc.*, 261 F.3d 1356, 1369 (Fed. Cir. 2001); *Perfect Surgical Techniques, Inc. v. Olympus Am., Inc.*, 841 F.3d 1004, 1009 (Fed. Cir. 2016).

Additionally, an attorney's work preparing a patent application can demonstrate diligence. *Perfect Surgical*, 841 F.3d at 1009-1012; *Bey v. Kollonitsch*, 806 F.2d 1024, 1030 (Fed. Cir. 1986).

Inventor declarations submitted to establish conception and diligence must be corroborated. *Perfect Surgical*, 841 F.3d at 1007. The "rule of reason" analysis

governs whether corroboration is sufficient to establish diligence. *Id.* at 1009. "A variety of activities may corroborate an inventor's testimony of reasonable diligence, and such corroborating evidence is considered 'as a whole.'" *Id.* at 1007-08 (quoting *Brown v. Barbacid*, 436 F.3d 1376, 1380 (Fed. Cir. 2006)). The patent owner need not corroborate every contested factual issue, but instead merely needs to produce sufficient independent circumstantial evidence to support the testimony. *Perfect Surgical*, 841 F.3d at 1009.

The purpose of diligence is to show that the invention was not abandoned, set aside, or unreasonably delayed, not to "scour the patent owner's corroborating evidence in search of intervals of time where the patent owner has failed to substantiate some sort of activity." *Id.*

B. The Inventors Conceived of the Claimed Inventions Prior to the Critical Dates of Both Krantz and Herrmann.

Petitioner asserts that Krantz has an effective date of December 6, 2002 (Pet. at 7) and Herrmann has an effective date of March 13, 2003.⁷ *Id.* at 10. InfoExpress conceived of the claimed invention before that.

⁷ Herrmann's provisional date is listed as December 2, 2002. Petitioners waived any right to establish this provisional date as the §102(e) date because they failed to submit, mention, or analyze its provisional filing in the Petition. *SAS Institute Inc. v. Iancu*, 138 S.Ct. 1348, 1355 (2018) (the petition must define the boundaries of the IPR); *Globus Med., Inc. v. Depuy Synthes Prods., LLC*, No. IPR2015-00107, at *3 (P.T.A.B. May 1, 2015). Notwithstanding, the Herrmann provisional date is still later in time than the November 14, 2002 conception of the claimed inventions and thus would not be prior art regardless.

On November 14, 2002, the InfoExpress inventors had the "CyberGatekeeper LAN Based Policy Enforcement Engineering Specification" (EX2011: "LAN Engineering Specification") prepared demonstrating that the claimed inventions were conceived of at least as of that date. EX2012; EX2003 (Lum Declaration), ¶ 12. This conception is demonstrated in the claim chart mapping by Dr. Smith showing the LAN Engineering Specification mapped to the challenged claims as set forth in EX2009. EX2007.

Indeed, leading up to the November 14, 2002 LAN Engineering Specification, InfoExpress had started diligently working.



This was groundbreaking because preexisting security technologies did not include the implementation of auditing support functionality over authentication protocols such as 802.1x. Mr. Lum and the InfoExpress team diligently worked in October 2002 and November 2002 to produce the LAN Engineering Specification of November 14, 2002. EX2021; EX2056; EX2061; EX2273; EX2274; EX2275; EX2342.

C. The Inventors Exercised Reasonably Continuous Diligence Up and Through Constructive Reduction to Practice.

Before and after the November 14, 2002 LAN Engineering Specification, InfoExpress exercised reasonably continuous diligence up and through at least the filing of U.S. Patent Application No. 60/513,080 on October 21, 2003. The filing of this application constitutes constructive reduction to practice of the claimed inventions. EX2007, EX2010.

The InfoExpress inventors, employees, and team members diligently pursued reducing the claimed invention to practice from conception until constructive reduction to practice on at least October 21, 2003. This diligence is shown by substantial InfoExpress evidence including:

- i. emails (e.g., EX2015-EX2065; EX2067; EX2068; EX2071; EX2074-EX2200; EX2202-EX2271; EX2273; EX2274; EX2276-EX2283; EX2285; EX2287-EX2326; EX2331-EX2340; EX2342-EX2382; EX2384-EX2390; EX2395-EX2397; EX2399-EX2410);
- ii. technical specifications and analyses (e.g., EX2011-EX2014; EX2066; EX2069; EX2070; EX2072; EX2073; EX2201; EX2275; EX2329; EX2330);
- iii. source code (e.g., EX2113; EX2114; EX2121; EX2129; EX2138; EX2178; EX2191; EX2197; EX2206; EX2298; EX2303; EX2314; EX2339; EX2348; EX2352; EX2359; EX2364; EX2384; EX2399; EX2404; EX2405); and
- iv. the inventor declaration of InfoExpress CEO Stacey Lum (EX2003).

As further detailed in the diligence calendar submitted herewith (EX2004), InfoExpress worked consistently to reduce the claimed invention to practice. This

evidence leaves no doubt that the InfoExpress inventors conceived of and diligently pursued reduction to practice during the critical period. *See ATI*, 920 F.3d at 1373 (Court finding that Patent Owner's evidence did "not point to the remotest suggestion of abandonment or setting aside" where the Patent Owner provided a calendar demonstrating that designated activity on the majority of days in the diligence period, and a declaration summarizing various documents in support of diligence); *Monsanto*, 261 F.3d at 1369 (Court finding substantial diligence evidence where the Patent Owner identified record evidence showing activity multiple times per month during the critical period, and there was no reason to doubt that the activity was relevant in reducing the invention to practice).

December 2002:

- [REDACTED]
- [REDACTED]
- [REDACTED]
- See EX2003, ¶¶6-7, 30, 33, 37, 49 (Lum Declaration).

January 2003:

- [REDACTED]
- [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
- Mr. Lum spoke with eventual patent counsel to clear conflicts. EX2212.
- See EX2003, ¶¶6-7, 30, 33, 37, 49) (Lum Declaration).

February 2003:

- [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

○

[REDACTED]

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[REDACTED]

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[REDACTED]

- See EX2003, ¶¶32-33, 38, 40-43, 50-51, 56-57 (Lum Declaration).

March 2003:

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[REDACTED]

■

[REDACTED]

- See EX2003, ¶¶44, 52, 58 (Lum Declaration)

April 2003:

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[REDACTED]

- [REDACTED]

■ [REDACTED]

May 2003:

- [REDACTED]

■ [REDACTED]

○ [REDACTED]

■ [REDACTED]

■ [REDACTED]

- See EX2003, ¶¶44-45, 52 (Lum Declaration).

June 2003:

- [REDACTED]:

○

[REDACTED]

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[REDACTED]

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July 2003:

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August 2003

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[REDACTED]

[REDACTED]

September 2003

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

October 2003

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

D. The inventors exercised achieved a constructive reduction to practice by the filing of U.S. Provisional Patent Application Serial No. 60/513,080 was filed on October 21, 2003.

As set forth in EX2010 and discussed by Prof. Smith (EX2007), the '080 Provisional provides written description support for the Challenged Claims in accordance with pre-A.I.A. 35 U.S.C. §§ 119(e) & 112, ¶ 1.

The evidence discussed above demonstrates diligence on the part of the inventors towards reducing the claimed invention to practice. *ATI*, 920 F.3d at 1374.

VII. Conclusion

For these reasons, Patent Owner respectfully requests the Board reject the Petition and not institute an *inter partes* review of the Challenged Claims.

Respectfully submitted,

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Certification of Word Count Under 37 C.F.R. § 42.6(d)

The undersigned hereby certifies that the foregoing complies with the type-volume limitation in 37 C.F.R. § 42.24(b)(1). According to the word-processing system's word count, the document contains 12,813 words, excluding the parts of the brief exempted by 37 C.F.R § 42.24(b).

Date: July 17, 2024

/Brian R. Landry/
Reg. No. 62,074

Certification of Service Under 37 C.F.R. § 42.6(e)(4)

The undersigned hereby certifies that the foregoing was served in its entirety by filing through the Patent Trial and Appeal Board P-TACTS, as well as providing a courtesy copy via e-mail to the attorneys of record.

Date: July 17, 2024

/Brian R. Landry/
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