

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

PATENTMARKS COMMUNICATIONS,	)	
LLC,	)	
	)	
Plaintiff,	)	
	)	C.A. No. 2:16-cv-1484
v.	)	
	)	JURY TRIAL DEMANDED
INFOVISTA CORPORATION	)	
	)	
Defendant.	)	

COMPLAINT FOR PATENT INFRINGEMENT

This is an action for patent infringement in which Plaintiff PatentMarks Communications, LLC (“PMC”) makes the following allegations against InfoVista Corporation (“InfoVista”):

PARTIES

1. PMC is a Delaware limited liability company with a registered address of 2140 S. Dupont Highway, Camden, Delaware 19934.

2. On information and belief, InfoVista is a Delaware corporation with its principal place of business at 20405 Exchange Street, Suite 301, Ashburn, VA 20147 USA. InfoVista has appointed CT Corporation System, located at 350 N. Saint Paul St., Dallas, TX 75201, as its agent for service of process. On information and belief, InfoVista acquired Ipanema Technologies on April 8, 2015. See <http://www.infovista.com/company/pr/InfoVista-Acquires-Ipanema-Technologies-to-Maximize-Business-Application-Experience>.

JURISDICTION AND VENUE

3. This action arises under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*, including § 271. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331

and 1338(a).

4. This Court has personal jurisdiction over InfoVista because, among other reasons, InfoVista has done business in this District, has offices, personnel, equipment, and clients in this District, has committed and continues to commit acts of patent infringement in this District, and has harmed and continues to harm PMC in this District, by, among other things, using, selling, offering for sale, and importing infringing products and services in this District. On information and belief, InfoVista has offices, personnel, and equipment in this district located at its Regional Office at 5851 Legacy Circle Suite 600 Plano, Texas, 75024 USA. *See* <http://www.infovista.com/company/contact-us>.

5. Venue is proper in this District under 28 U.S.C. §§ 1391(b)-(c) and 1400(b) because, among other reasons, InfoVista is subject to personal jurisdiction in this District, and has committed and continues to commit acts of patent infringement in this District. On information and belief, for example, InfoVista has used, sold, offered for sale, and imported infringing products in this District, and has offices, personnel, and equipment in this district located at its Regional Office at 5851 Legacy Circle Suite 600 Plano, Texas, 75024 USA.

BACKGROUND

6. The competition to be the quickest is fierce. As reported in the New York Times, speed matters in every context of computer and network communications. People will visit a web site less often if it is slower than a close competitor by a mere 250 milliseconds, less than the blink of an eye. Lohr, Steve, *For Impatient Web Users, an Eye Blink Is Just Too Long to Wait*, The New York Times, Feb. 29, 2012.

7. In lab test after lab test, going back as far as Robert B. Miller's 1968 paper "Response Time in Man-Computer Conversational Transactions," studies have found that people

are most comfortable, most efficient, and most productive with response times of less than two seconds.

8. With the astronomical growth of network communications, ecommerce, and the digital economy in general, speed of network communications is critical and is now widely recognized as a competitive advantage. According to a paper published by researchers at Google Inc. and the University of Southern California, “user-perceived Web performance is now *the* primary metric for modern network services. Since bandwidth remains relatively cheap, Web latency is now the main impediment to improving user perceived performance.” T. Flach, *et al.*, Reducing Web Latency: the Virtue of Gentle Aggression, SIGCOMM’13, ACM, Aug. 2013.

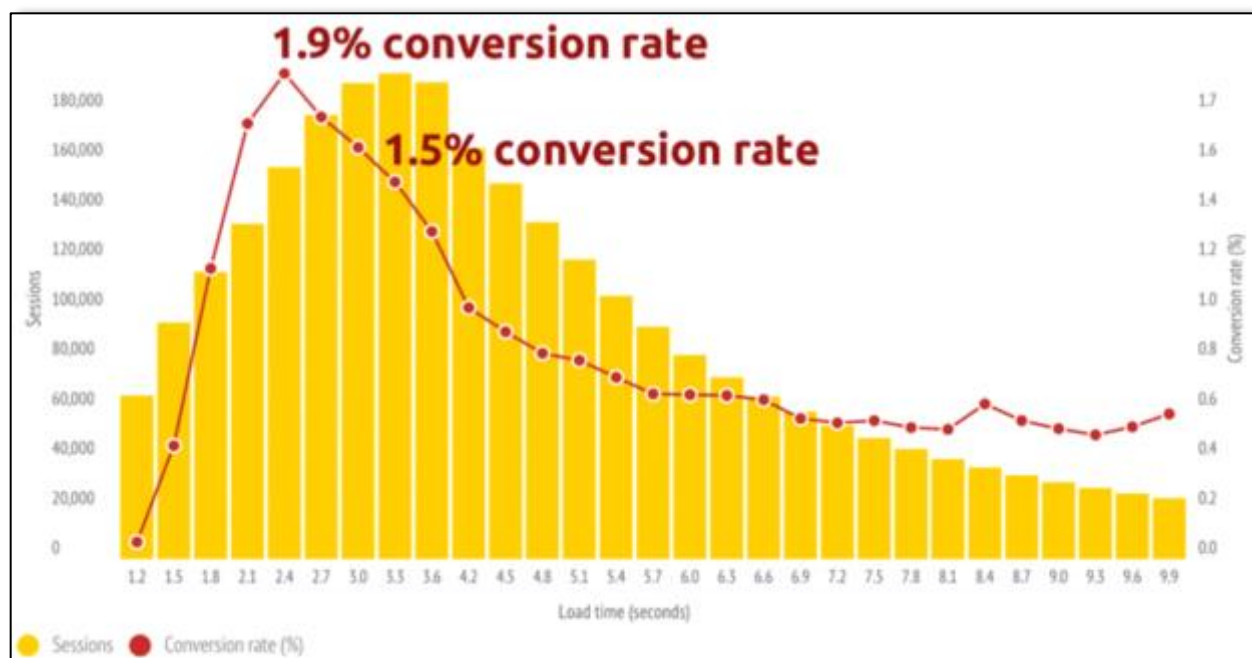
9. The time it takes to load a webpage is one of the greatest factors in determining an individual’s satisfaction with a web site. Almost half of all online shoppers say they will abandon a site that takes more than two seconds to load. For thirty-five percent of users, slow load times result in negative perceptions of the entity associated with the website, and twenty-two percent of users say they will never return to the slow site.

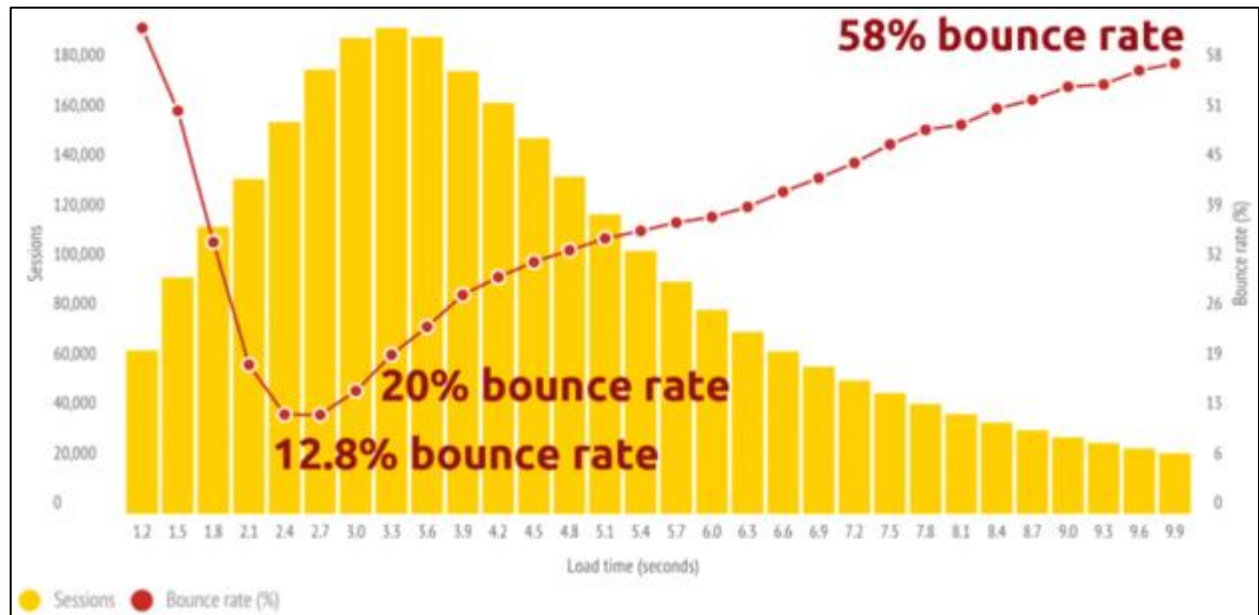


10. Studies of mobile computing yield similar results. Seventy-four percent of users

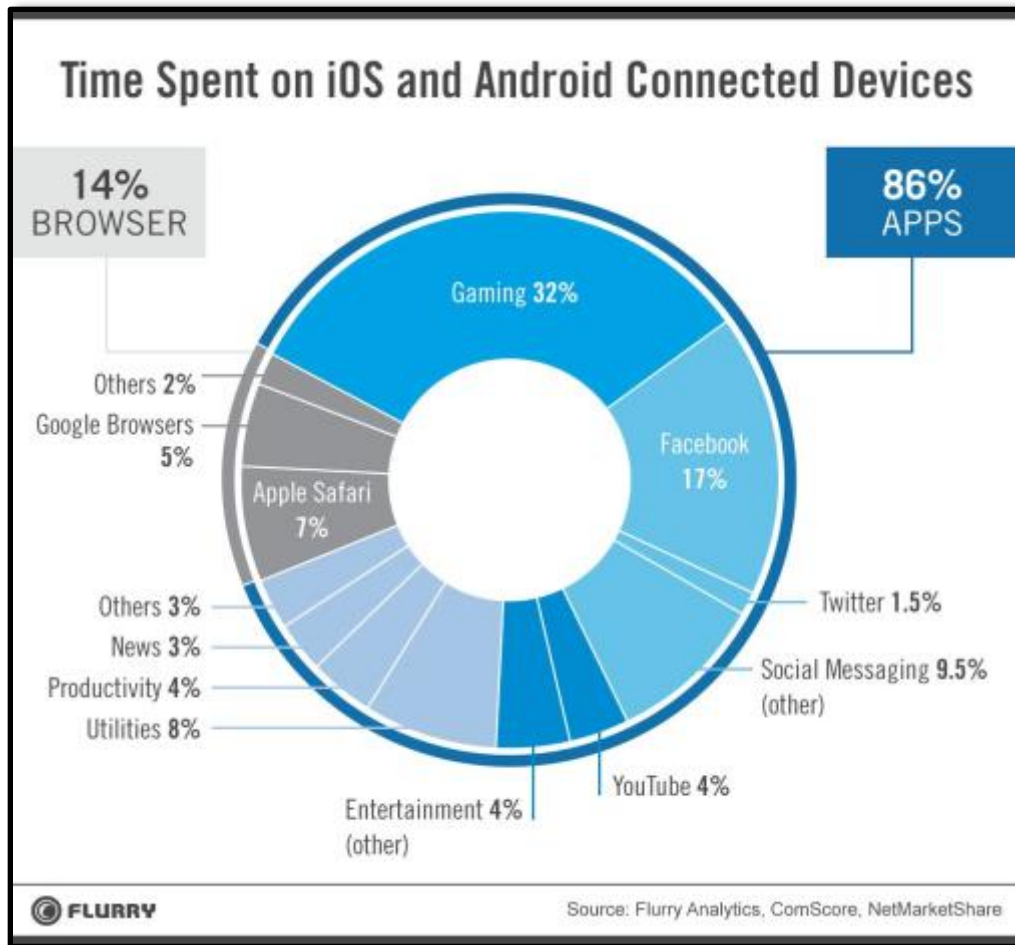
say that five seconds is the maximum amount of time they'll wait before abandoning a site. When those disappointed users leave the site, most say a competing site is their next stop. And forty-six percent say they will never return to the slow site.

11. Research published in September 2015 concerning mobile computing reveals an even more drastic relationship between load time and conversions and bounce rates (the percentage of visitors who enter the site and then leave rather than continuing on to view other pages within the same site). Webpages that were just one second faster, for instance, experienced a twenty-seven percent conversion rate increase, while pages that were just one second slower experienced a fifty-six percent increase in bounce rate:

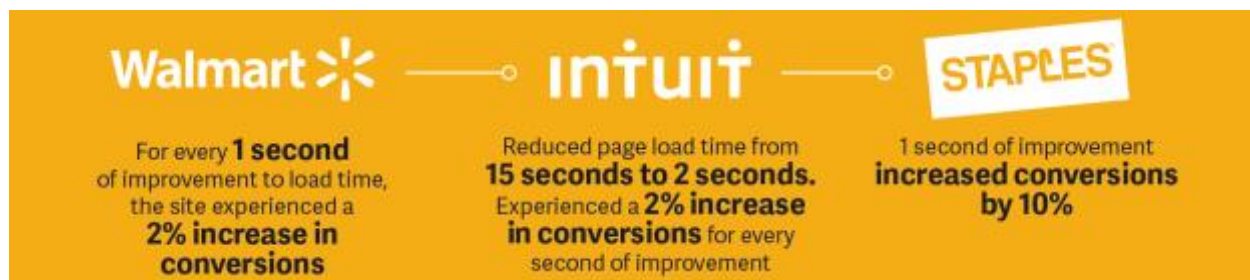




12. Network latency has a particularly acute effect in the context of mobile gaming, which is the most popular mobile activity, accounting for nearly a third of the time spent on mobile devices. Real-time interactivity in the gaming context requires client displays to quickly reflect client input events. User studies have shown that players are sensitive to as little as sixty milliseconds of latency, and are aggravated by latencies in excess of 100 milliseconds. A further delay degradation from 150 milliseconds to 250 milliseconds lowers user engagement by seventy-five percent. K. Lee, *et al.*, *Outatime: Using Speculation to Enable Low-Latency Continuous Interaction for Mobile Cloud Gaming*, MobiSys'15, ACM, May 2015ACM.



13. It is also widely accepted that Web latency inversely correlates with revenue and profit. Amazon.com estimates that every 100-millisecond increase in latency cuts profits by one percent. T. Flach, *et al.*, Reducing Web Latency: the Virtue of Gentle Aggression, SIGCOMM'13, ACM, Aug. 2013. Similarly, for every 100 milliseconds of improvement, Walmart.com grew incremental revenue by up to one percent, and for every one second of improvement to load time, Walmart.com experienced a two percent increase in conversions. For Intuit, reducing page load times from fifteen seconds to two seconds resulted in a two percent increase in conversions for every second of improvement. And for Staples.com, a one second of improvement in the median load time for its home page, improved the site's conversion rate by roughly ten percent.



14. Demands on network communications and the need to optimize such communications show no signs of diminishing. Web pages are bigger and more complex than ever. In 1996, the average web page was just 14.1 KB and contained only 2.3 objects. By 2015, the average page was 2,161 KB, and contained 108 objects, more than 60% of which were images. At the current rate of growth, the average web page could reach 3 MB by 2017.

15. Widespread adoption of mobile Internet devices combined with rising expectations for the performance and availability of both consumer and business applications places increasing pressure on enterprises to deliver a seamless end-user experience on any device, at any time, and at any location. There is a need for Internet infrastructure services that make applications faster and more scalable, and that maximize uptime and minimize latency for customer applications.

16. The real growth in bandwidth-intensive Web content, rich media, and Web- and IP-based applications is just beginning. The challenges presented by this growth are many: as businesses move more of their critical functions online, and as consumer entertainment (games, movies, sports) shifts to the Internet from other broadcast media, the stresses placed on the network infrastructure will become increasingly apparent and detrimental. T. Leighton, *Improving Performance on the Internet*, Communications of the ACM, Feb. 2009.

17. In response to these demands, enterprises have made and are continuing to make major structural changes to their service delivery infrastructure. These changes include, for

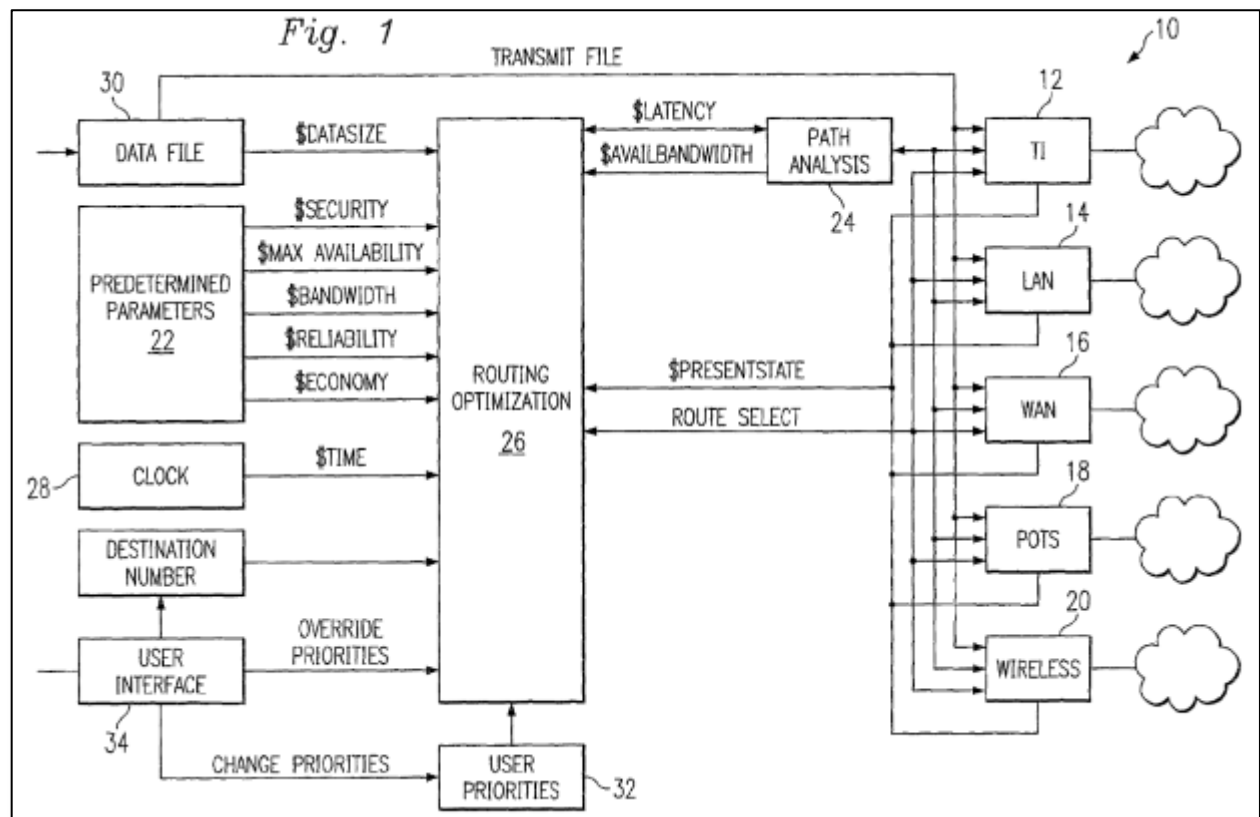
example, careful reengineering of routing, DNS redirection, and backbone and point of presence expansions to achieve proximity to clients. These changes enable enterprises to ensure that clients quickly reach the nearest ingress point, thereby minimizing the extent to which the client traffic traverses the public Internet. Further improvements to latency include engineering the capacity of, and traffic over, internal backbones, and the use of multi-stage connections to isolate internal access latency from the vagaries of the public Internet. Using persistent connections and request pipelining further reduces latency. See T. Flach, *et al.*, Reducing Web Latency: the Virtue of Gentle Aggression, SIGCOMM'13, ACM, Aug. 2013.

18. Various other optimization techniques have been implemented to improve network performance. For instance, “a network that uses persistent connections and optimizes parameters for efficiency (given knowledge of current network conditions) can significantly improve performance by reducing the number of round-trips needed to deliver ... data.” T. Leighton, *Improving Performance on the Internet*, Communications of the ACM, Feb. 2009. And by “leveraging a highly distributed network – one that offers potential intermediary servers on many different networks – [enterprises] can actually speed up [certain] communications by 30% to 50% or more, by using routes that are faster and much less congested. [Enterprises] can also achieve much greater communications reliability by finding alternate routes when the default routes break.” *Id.*

THE PATENTMARKS' PATENTS:
MULTI-PROTOCOL COMMUNICATIONS ROUTING OPTIMIZATION

19. The PMC patents disclose technology that optimizes network communications. The patents describe multi-protocol routing optimization techniques that utilize predetermined and measured parameters in accordance with user priorities to determine and select a communications path to transmit data to a remote destination. Figure 1 from U.S. Patent No.

9,036,499 is a functional block diagram of the disclosed multi-protocol routing optimization:



20. The PMC patents describe dynamically selecting an optimal telecommunications path from any number of paths based on an analysis of static and dynamically changing variable and user priorities. The optimization of routing selection can take into consideration the lowest cost path, transmission bandwidth, path availability, security, reliability, latency, the available media or data to be transmitted, user priorities, etc. Static parameters may include, for example, those listed in Table A, below:

TABLE A

\$maxbandwidth(i)	the maximum amount of bandwidth available for interface(i). For example, a 28.8 kbs modem would have a \$maxbandwidth variable set to 28.8.
\$reliability(i)	an indication of the reliability of interface(i) according to the following scale: 10 = non-reliable transfer (e.g. wireless) 50 = moderately reliable (e.g. modem) 75 = very reliable (e.g. T1, WAN) 100 = ultra reliable (e.g. Ethernet LAN)
\$economy(i)	the currency expenditure of interface(i) for a period of time, normalized so that a high cost interface yields a low measure of economy: $\$economy(i) = 100 - \text{cost/minute}$
\$availability(i)	the availability of interface(i) to a particular user. Not all users of the system will have access to each interface; e.g. in a shared PBX environment only certain subscribers may have access to the T1 interface. $\$availability = 0$ Not available $\$availability = 1$ Available
\$security(i)	an indication of the relative data security of the path, which may example be a function of the number of bits in an encryption key (e.g. 1024)

Variable parameters may include, for example, those listed in Table B, below:

TABLE B

\$presentstate(i)	the present state of interface(i), indicating if the telecommunications path is presently operational. $\$presentstate = 0$ Not operational $\$presentstate = 1$ Operational
\$avgstate(i)	average of \$presentstate(i) over prior five minute window
\$datasize(i)	the size in KB of the data file to be transmitted.
\$latency(i)	measure in msec of delay through path(i). This is based on a real-time test on the interface such as by a so-called ping to the remote host.
\$time	time of day/day of week; this is the same for all interfaces.
\$availbandwidth(i)	available bandwidth of interface (i) at a given time of file transfer

21. The PMC patents consist of a family of seven U.S. patents, one pending U.S.

patent application and three foreign patents and applications. The U.S. patents consist of Patent Nos. 6,016,307; 6,144,641; 6,456,594; 6,473,404; 7,307,956; 8,400,926; and 9,036,499, all of which are entitled either Multi-Protocol Telecommunications Routing Optimization, or Multi-Protocol Communications Routing Optimization (collectively, excluding the '956 patent, the "Asserted PMC Patents"). True and correct copies of the Asserted PMC Patents are attached as Exhibits A-F.

22. The following are two examples of claims from the Asserted PMC Patents:

'307 patent, claim 1:

1. In a telecommunications switching system comprising a plurality of interfaces, each of said interfaces interconnected with an associated telecommunications path capable of transferring a data file from a first memory to a remote destination, each of said telecommunications paths having predetermined parameters associated therewith stored in a second memory in said switching system and variable parameters associated therewith, a method of determining which of said plurality of telecommunications paths should be utilized for transferring the data file from said first memory, said method comprising the steps of:

- a) analyzing a property of the data file to be transferred;
- b) measuring said variable parameters for each of said paths;
- c) analyzing said measured variable parameters and said predetermined parameters; and
- d) determining which of said paths provides an optimal set of characteristics for transferring the file to the remote destination in accordance with said analyzed variable parameters and predetermined parameters and said analyzed data file property.

'499 patent, claim 19:

19. A telecommunications switching system comprising:

a plurality of interfaces, each of said interfaces interconnected with an associated telecommunications path capable of transferring a data file to a remote destination;

a predetermined parameter associated with each associated telecommunications path stored in memory; and

a processor capable of determining which associated telecommunications path should be

utilized for transferring the data file to the remote destination by taking into account the associated predetermined parameter and a variable parameter associated with the telecommunications path measured by the processor.

23. The PMC patents have been cited as prior art during the prosecution of nearly 400 patent applications of other companies. Those companies, which had knowledge of one or more PMC patents and for which one or more PMC patents were considered relevant to their pending patent applications, included some of the most well-known technology companies, such as Comcast, VISA, Sony, HP, Dell, Cisco, Verizon, Level 3 Communications, Texas Instruments, Ericsson, AT&T, Avaya, Bosch, Intel, Fujitsu, IBM, Smith Micro, JDC Uniphase, Microsoft, Alcatel, Nokia, Siemens, NEC, Qualcomm, General Electric, Samsung, and CenturyLink.

24. Several well-known technology companies have licensed the rights to the inventions of the PMC patents through multi-million dollar agreements that allow them to make, use and sell products and services in, for example, the routing, hosting, telecommunication and mobile markets. These companies validly secured such rights through licenses to the PMC patents, in contrast to the infringing activities of defendant Infovista.

25. The PMC patents have withstood scrutiny by the U.S. Patent and Trademark Office (USPTO). The USPTO reviewed the applications of each of the PMC patents and issued the patented claims over 2,500 prior art references. During the prosecution of the PMC patents, the patentee overcame challenges based on definiteness (§112 ¶6), obviousness (§103), and anticipation (§102(b)). And the most recently issued PMC patent, the '499 patent, issued after the Supreme Court's decision in *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, and was prosecuted under the USPTO's post-*Alice* practice of reviewing every allowed application to ensure that the claims are patent eligible under §101.

26. The claims of the Asserted PMC Patents are not directed to a law of nature, a

natural phenomenon, or an abstract idea. The claimed inventions include, for instance, inventions relating to software technology for analyzing data file properties, measuring variable parameters of communication paths, analyzing the variable and predetermined parameters, and determining the optimal path to transfer files to remote destinations. The inventions are directed towards improved communication switching systems that determine which of a plurality of paths provides an optimal set of characteristics for transferring data to a remote destination, where network paths are abundant, network resources are constrained, and network variables and user priorities are both static and dynamic. Such actions do not describe an abstract concept, or a concept similar to those found by the courts to be abstract, such as a fundamental economic practice, a method of organizing human activity, an idea itself (standing alone), or a mathematical relationship. In contrast, the inventions are directed towards, among other things, performing communication path and data file analysis to select a path that provides an optimal set of characteristics to transfer files to a remote destination, concepts inextricably tied to computer technology and distinct from the types of concepts found by the courts to be abstract.

27. The claims of the Asserted PMC Patents differ from other claims found by the courts to recite abstract ideas in that they do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claimed solutions are necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of data transmission in an environment of multiple networks, constrained network resources, and static and dynamic network variables and user priorities.

28. Claim elements, alone or in combination, of the Asserted PMC Patents are sufficient to ensure that the claims as a whole amount to significantly more than any judicial

exception. Several claims, for instance, claim switching systems comprising switched and private virtual circuits, means for discarding data received by the switching system where the data does not match defined variable parameters, processors that analyze various static and dynamic parameters, including data transfer reliability, data transfer bandwidth, cost per unit time of utilizing a given path, and data transfer speed at a given time, and network interfaces using various protocols and standards, such as the V.92, MPEG, OSP, XML, and CAS. These elements, alone or in combination, add meaningful limitations to any possible abstract idea relevant to the patents, and add significantly more to any abstract idea than mere computer implementation. Thus, the claimed inventions of the Asserted PMC Patents do not pose a risk of preempting any abstract idea.

29. The PTO's notices of allowance of the PMC patents, such as the notice of allowance for PMC's '926 patent is additional evidence that the Asserted PMC Patents do not pose a risk of preempting any abstract idea. The patent examiner explained that: "The closest prior art, Higgins et al. (USP 5,953,350) discloses a system and method for determining an isochronous user information path to transfer video, voice and data to a remote destination in accordance with the bandwidth availability. However, Higgins fails to anticipate or render obvious the above quoted limitations. This renders it allowable." Application No. 11/948,746, 12/10/12 Notice of Allowance at 3. The examiner described the "quoted limitations" as, *inter alia*, "the unique method steps of: 'a) measuring said variable parameters for each of said paths; b) analyzing said measured variable parameters and said predetermined parameters; and c) determining which of said paths provides an optimal set of characteristics for transferring the file to the remote destination" in combination with other recited elements' in combination with other recited elements in claim 1." *Id.* at 2.

INFOVISTA INFRINGES THE ASSERTED PMC PATENTS

30. Routing in computer telecommunications involves accepting data, making a decision on where to send the data, and forwarding the data to another device. Router products are made to run a set of protocols. Network engineers implement the type of protocol that is most appropriate to meet their design needs. Some protocols tolerate failures better than others, some use minimal amounts of bandwidth, while others scale to support a large number of devices across large areas. The telecommunications industry has accepted a standard set of protocols since interoperability between devices is critical. But there are built-in limitations to standard routing protocols.

31. A large-scale network that requires no downtime requires a system that can dynamically change the routing based on variable conditions, instead of relying solely on a standard routing protocol. For example, a large Internet service provider that runs Internet backbone links that serve thousands of customers experiences shifts in Internet traffic patterns. The predetermined parameters that are built into a standard routing protocol such as BGP typically cannot satisfy all the requirements for dynamically re-routing traffic based on load or failure conditions. Such organizations require systems that can predict traffic patterns, react quickly to changing usage patterns, and tolerate failures. Examples of products that provide such functionality is InfoVista's Ipanema and IpanemaGO products that support Hybrid WAN.

32. For example, InfoVista's Ipanema and IpanemaGO products support Hybrid WAN. As InfoVista's website states, "Ipanema automatically maximizes application performance over the WAN by uniquely integrating the capabilities that IT needs to holistically orchestrate business application performance for every user, regardless of the IT complexity (number of applications, number of sites, telecom providers, number of users, etc.)," which

includes “dynamic Hybrid WAN.” <http://www.infovista.com/products/Ipanema-Application-performance-optimization-and-management>.

33. InfoVista’s website further states: “Ipanema should be considered for all hybrid WAN scenarios as it offers the most sophisticated and solid all-in-one solution to dynamically orchestrate and steer individual application-flows on the hybrid WAN. It maximizes bandwidth usage by automatically directing every single flow to the link that best matches flow business-criticality with real-time conditions of all available WAN links (MPLS, Internet, wireless, etc.), regardless of the application hosting model: private datacenter, hosted datacenter, private cloud, or SaaS.” *Id.* Among Ipanema’s “Key Features” is “Dynamic WAN Selection,” which: “Enables Dynamic hybrid WAN for multi-networked branch offices, selecting in real-time the best path according to actual performance and application traffic characteristics.” *Id.*

34. “InfoVista’s Dynamic WAN Selection (DWS) . . . provides **user-centric, dynamic path section.**” InfoVista Datasheet, Dynamic WAN Selection (“DWS Datasheet”) (publicly available at http://www.infovista.com/Portals/0/ds_hybrid_wan_en.pdf and attached as Exhibit G) at 1 (emphasis in original). “It automatically chooses the best WAN connection for each application flow, taking into account the end-to-end performance of all available links. Metrics that include capacity, availability and quality are used to maximize the end-user experience and optimize the usage of all network resources.” *Id.*

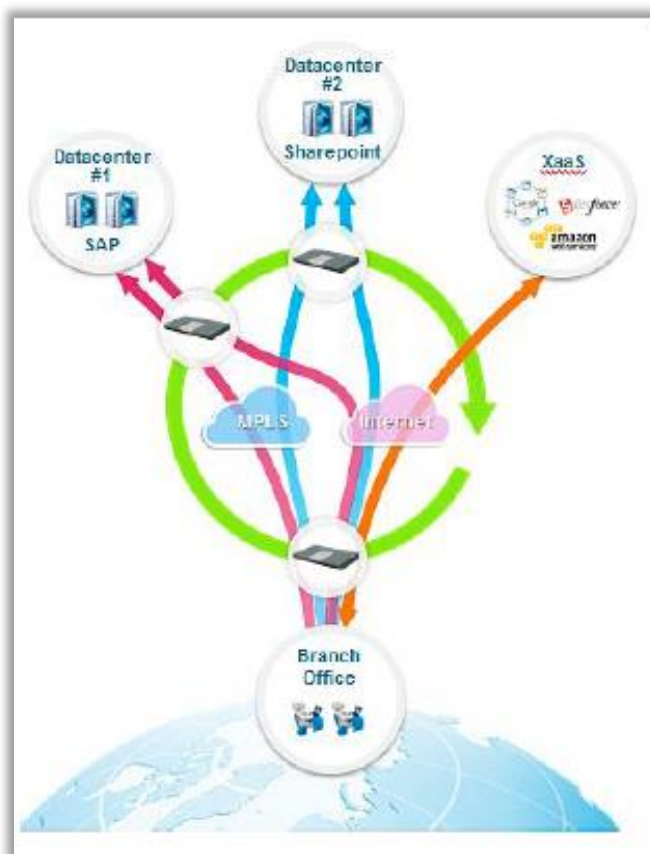
35. InfoVista uses “DWS to distribute up/down traffic over two or more network accesses. Thus, DWS allocates bandwidth for every single flow, given its priority and the performance state of every available link on the network path.” *Id.* “It supports multiple WAN access combinations, such as multiple MPLS access, dual or triple service providers, MPLS and Ethernet, MPLS and Internet, and more.” *Id.*

36. InfoVista's DWS "identifies all application flows that cross the network.

Contrary to other mechanisms that are limited to Layers 3 and 4 inspection, such as Policy-Based Routing (PBR), [DWS] analyses traffic up to Layer 7 to identify the patterns of applications flows. Then, flows are continuously classified based on their Application Performance Objectives (APO), which are strategically defined by the enterprise." *Id.* "Measuring bandwidth availability requires knowing the current network performance. Contrary to other technologies, (e.g. Path Controllers), DWS not only considers the local availability of links, but also end-to-end performance metrics, such as available bandwidth, delay, jitter and packet loss." *Id.* at 2.

37. InfoVista's DWS relies on an ip|engine. "Based on the global knowledge of application usage and bandwidth availability, the ip|engine devices select the best path for each flow to match its Performance Objectives." *Id.* "For example, real-time flows are usually allocated on the fastest path, while email can be allocated to the largest path. DWS works simultaneously with the Application Control feature to enforce priorities and avoid traffic congestion." *Id.*

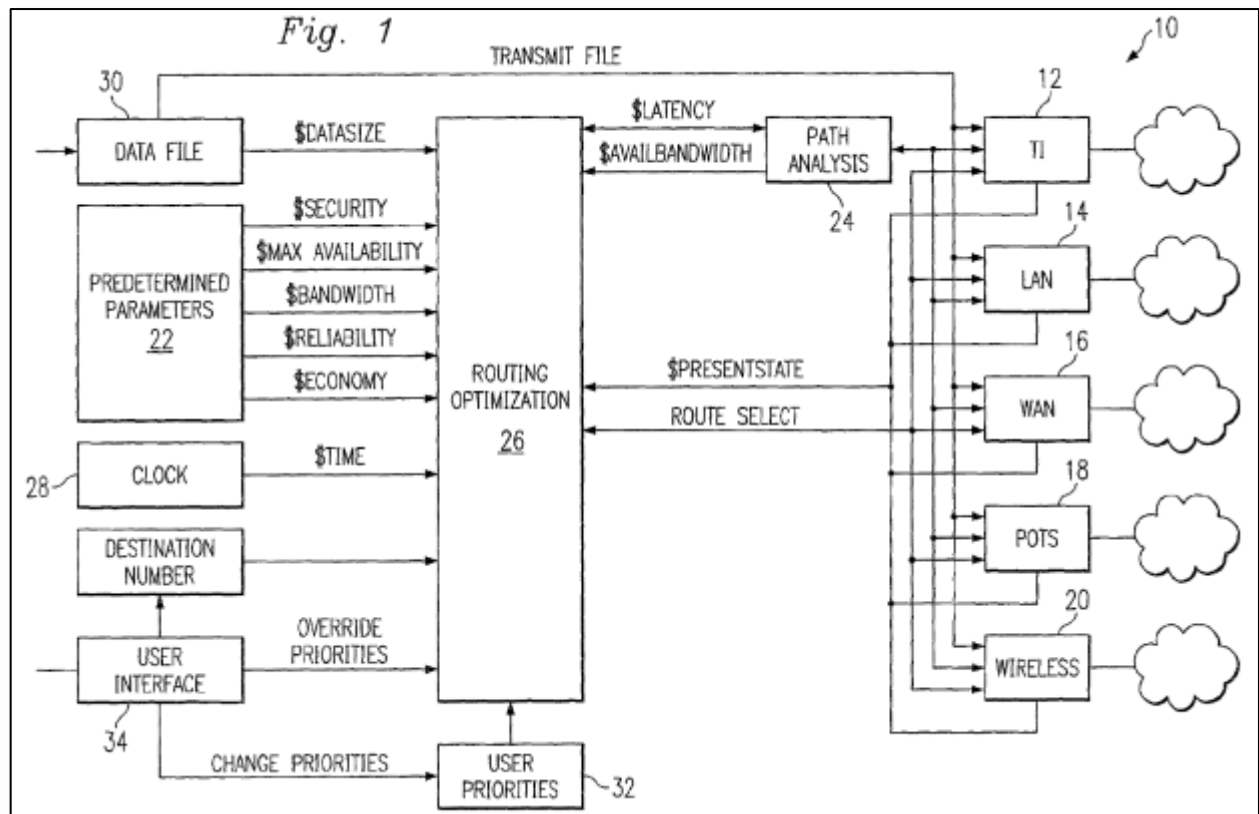
38. "Options for network path preference allow for a variety of path selection strategies – from fully automated, to partially constrained or fully constrained – in order to adapt to various enterprise policies." *Id.* "For example, as the figure shows, a user can decide to use a path from network #2 (Internet) when network #1 (MPLS) does not match with the APOs ('Fully Dynamic'), or only when network #1 (MPLS) is not available ('Primary/Backup' usage)." *Id.*

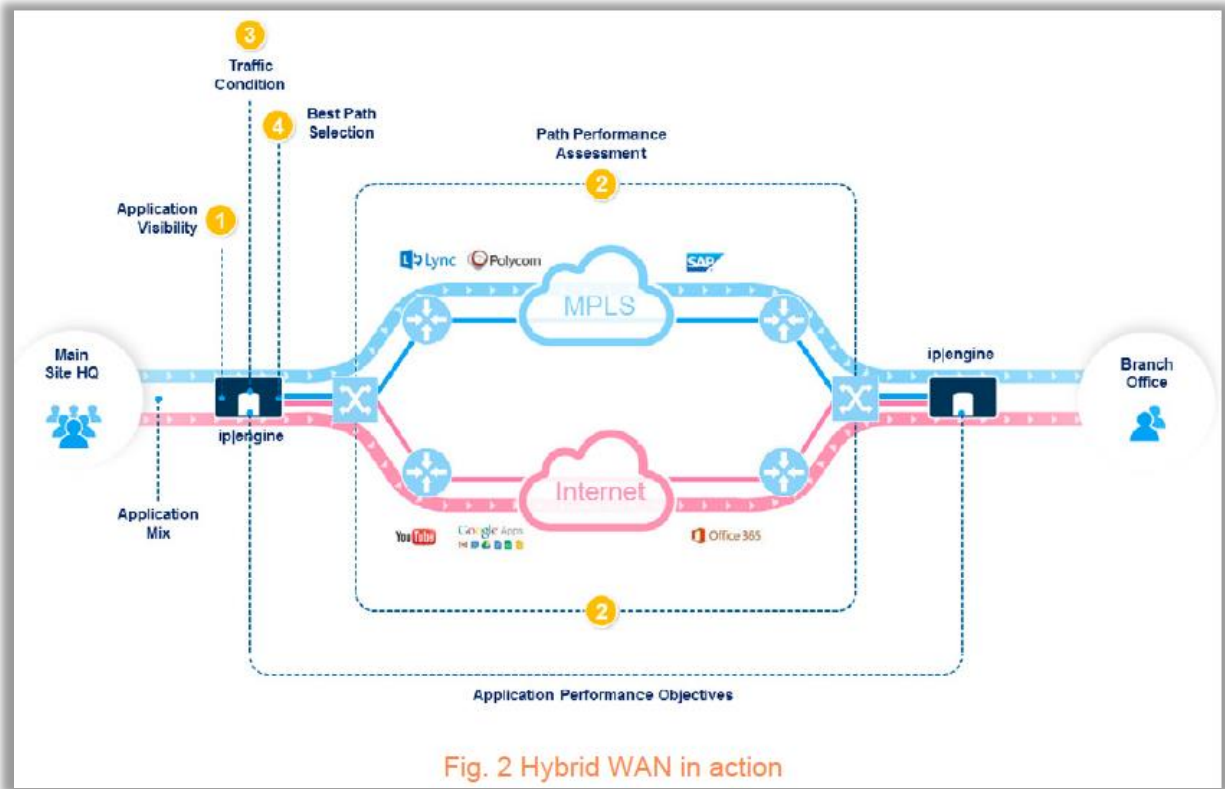


39. “For certain applications, it can be decided to never use network #2 even when network #1 is not available (this usage is driven by ‘best practices’ that may prohibit the transmission of highly sensitive information through Internet, even if encryption is used).” *Id.* “Other options can be set centrally per application, such as whether to use or not use the same path for a whole IP session.” *Id.*

40. InfoVista’s DWS maps to the block diagram of Figure 1 of the PMC patents (depicted in ¶19). In the DWS image below, the ip|engine is equivalent to Routing Optimization 26. The ip|engine uses Best Path Selection 4 to evaluate the plurality of paths associated with the Path Performance Assessment 2, which are equivalent to the plurality of paths 12, 14, 16, 18 and 20 of Figure 1. DWS evaluates path characteristics such as such as capacity, availability, quality, bandwidth, delay, jitter and packet loss, and analyzes performance, which are equivalent

to Path Analysis 24 and Figure 1's references to latency, availbandwidth, reliability, presentstate, etc. DWS considers certain cost and performance metrics, which is equivalent to Predetermined Parameters 22 and User Priorities 32. And DWS "select the best path," which is the result of Routing Optimization 26 and leads to Transmit File in Figure 1.





InfoVista White Paper, Guarantee Application Performance over Hybrid WAN (“DWS White Paper”) (publicly available at http://www.infovista.com/Portals/0/wp_dynamic_hybrid_networking_en.pdf and attached as Exhibit H) at 10.

41. Additional detail with respect to limitations of the Asserted PMC Patents is provided below.

THE ACCUSED PRODUCTS COMPRISE A “PLURALITY OF INTERFACES”

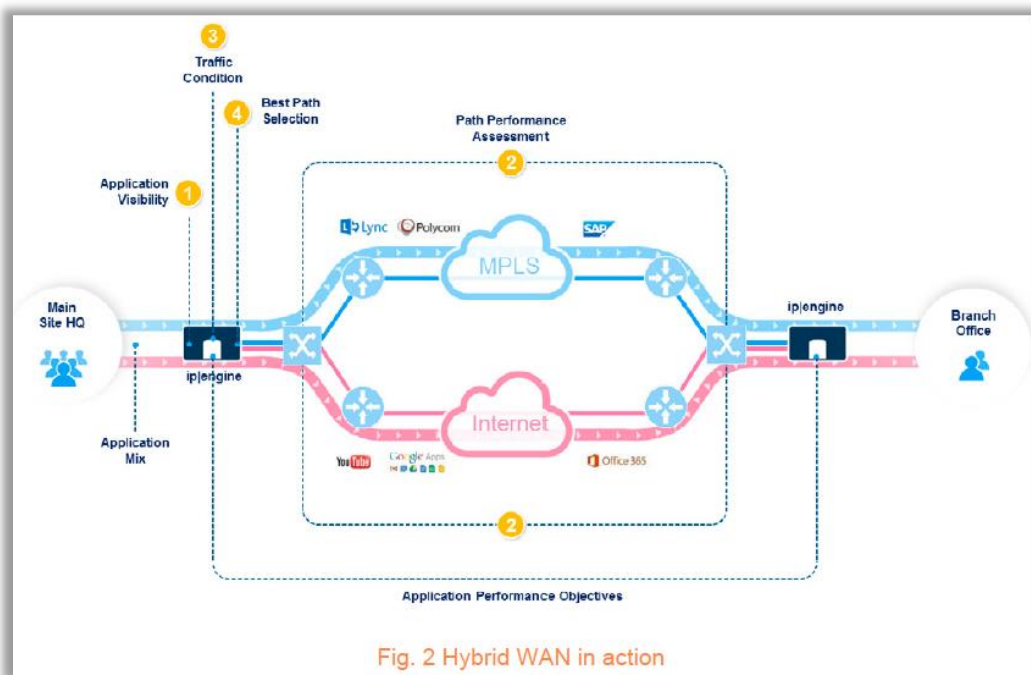
42. In the accused products, including Ipanema and IpanemaGO, there are multiple interfaces for forwarding traffic.

43. In the accused products, DWS “automatically chooses the best WAN connection for each application flow, taking into account the end-to-end performance of all available links. Metrics that include capacity, availability and quality are used to maximize the end-user

experience and optimize the usage of all network resources.” DWS Datasheet at 1.

44. The accused products use “DWS to distribute up/down traffic over two or more network accesses. Thus, DWS allocates bandwidth for every single flow, given its priority and the performance state of every available link on the network path.” *Id.* “It supports multiple WAN access combinations, such as multiple MPLS access, dual or triple service providers, MPLS and Ethernet, MPLS and Internet, and more.” *Id.*

45. Multi-homed computers provide access to network resources over parallel paths. A multi-homed computer can have multiple network interfaces to connect the computer to two or more networks. In the sample network configuration below, there will be interfaces for different nodes within the Path Performance Assessment 2, and for MPLS and Internet.



DWS White Paper at 10.

46. In the accused products, the interfaces are consistent with how the term is used in the claims of the PMC patents:

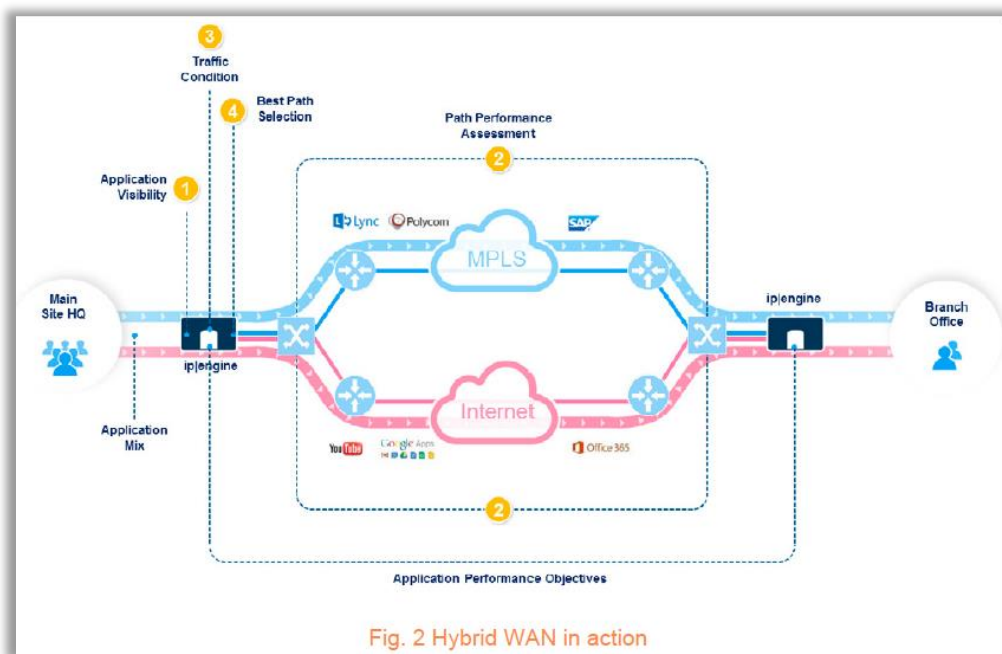
“The switching system 10 is connected to various communications media in accordance with the user’s resources. In particular, the switching system 10 may be configured to a high speed digital link via a T1 interface 12, to a local area network (LAN) via LAN interface 14, to a wide area network (WAN) via a WAN interface 16, to a local loop in a plain old telephone system (POTS) via POTS interface 18, and to a wireless communication network via 15; wireless interface 20. The interfaces 12, 14, 16, 18 and 20 are exemplary and are provided for the purposes of illustrating the preferred embodiment of the present invention.”

‘307 patent, 3:58-4:2.

THE ACCUSED PRODUCTS COMPRISE PATHS
ASSOCIATED WITH EACH INTERFACE

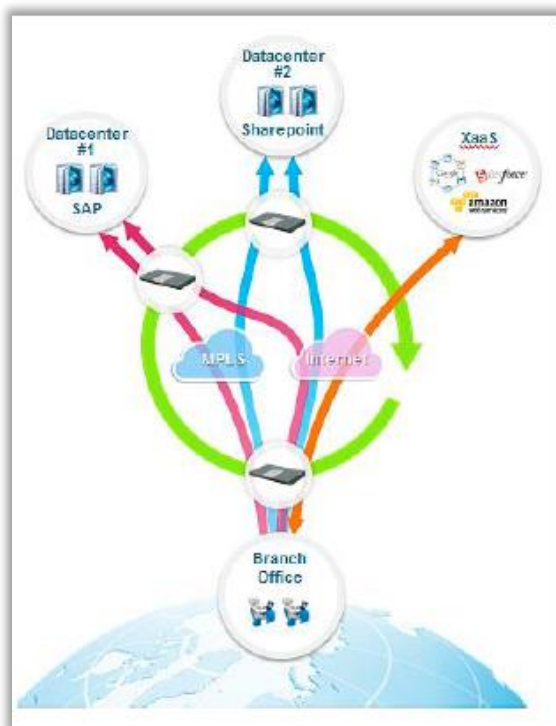
47. In the accused products, such as Ipanema and IpanemaGO, paths are associated with each interface.

48. In the image below, the paths are shown in Path Performance Assessment 2. The paths are analyzed by Best Path Selection 4.



DWS White Paper at 10. Further: “At point 2 of Fig. 2., we can see both WAN segments, the one associated to the MPLS path and the one associated to the Internet Path.” *Id.*

49. “Options for network path preference allow for a variety of path selection strategies – from fully automated, to partially constrained or fully constrained – in order to adapt to various enterprise policies.” *Id.* “For example, as the figure shows, a user can decide to use a path from network #2 (Internet) when network #1 (MPLS) does not match with the APOs (‘Fully Dynamic’), or only when network #1 (MPLS) is not available (‘Primary/Backup’ usage).” *Id.*



THE ACCUSED PRODUCTS COMPRISE “PREDETERMINED PARAMETERS”

50. The accused products, such as Ipanema and IpanemaGO, take into consideration predetermined parameters.

51. For example, the accused products describe Application Performance Objectives (APO). In the accused products, application flows “are continuously classified based on their Application Performance Objections (APO), which are strategically defined by the enterprise.” DWS Datasheet at 1. “DWS not only considers the local availability of links, but also end-to-end performance metrics, such as available bandwidth, delay, jitter and packet loss.” *Id.* at 2.

52. “Based on the global knowledge of application usage and bandwidth availability, the ip|engine devices select the best path for each flow to match its Performance Objectives.” *Id.* “For example, real-time flows are usually allocated on the fastest path, while email can be allocated to the largest path. DWS works simultaneously with the Application Control feature to enforce priorities and avoid traffic congestion.” *Id.*

53. In particular, APOs “are centrally-defined by the enterprise priorities.” DWS White Paper at 10. For instance, in Fig. 3 we can see that we have 10 application groups with four levels of criticality that range from Top to Low.” *Id.*

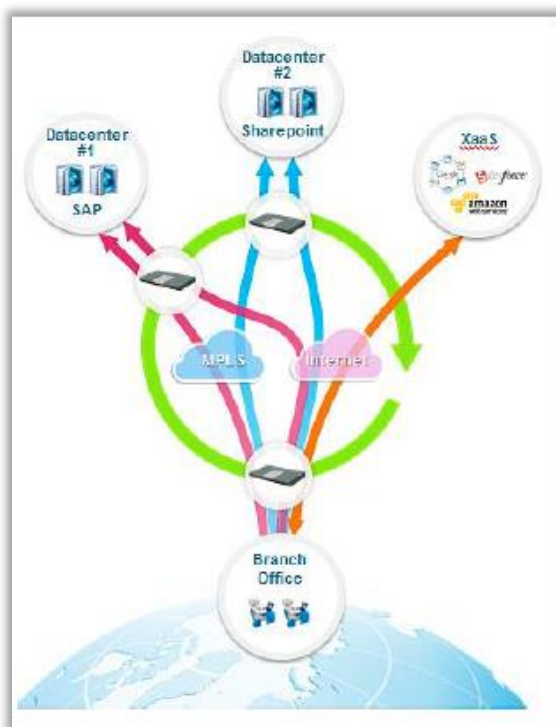
Enterprise Applications				
Application name	Criticality	Obj. BW (Kbps)	Link 1	Link 2
ERP	Top	30 Kbps	Main	Dynamic Backup
UC-VoIP	Top	80 Kbps	Main	Dynamic Backup
SaaS	High	50 Kbps	Dynamic Backup	Main
Email	High	40 Kbps	Quality-Based Dynamic Selection (Link 1 is Preferred)	
File Sharing	Medium	100 Kbps	Quality-Based Dynamic Selection (Link 1 is Preferred)	
UC-Screen Sharing	Medium	100 Kbps	Quality-Based Dynamic Selection (Link 2 is Preferred)	
Recreational Traffic, Video	Low	200 Kbps	Never Used	Main

Fig. 3 Application Performance Objectives

Id. at 11.

54. “SAP and UCC-voice applications groups have top criticality, which means that every single flow of these two application groups will be protected before other flows with other criticalities. In other words, the performance objectives (Bandwidth, Delay, Jitter and Loss) on the right table will always be protected, even in a strong congestion episode.” *Id.*

55. As another example, the accused products describe predetermined options. “Options for network path preference allow for a variety of path selection strategies – from fully automated, to partially constrained or fully constrained – in order to adapt to various enterprise policies.” *Id.* “For example, as the figure shows, a user can decide to use a path from network #2 (Internet) when network #1 (MPLS) does not match with the APOs (‘Fully Dynamic’), or only when network #1 (MPLS) is not available (‘Primary/Backup’ usage).” *Id.*



56. “For certain applications, it can be decided to never use network #2 even when network #1 is not available (this usage is driven by ‘best practices’ that may prohibit the transmission of highly sensitive information through Internet, even if encryption is used).” *Id.* “Other options can be set centrally per application, such as whether to use or not use the same path for a whole IP session.” *Id.*

57. A predetermined parameter such as a bandwidth constraint is an expressly identified predetermined parameter in the PMC patents:

TABLE A	
$S_{\max bandwidth(i)}$	the maximum amount of bandwidth available for interface(i). For example, a 28.8 kbs modem would have a $S_{\max bandwidth}$ variable set to 28.8.

‘307, 4:26-30.

THE ACCUSED PRODUCTS COMPRISE “VARIABLE PARAMETERS”

58. The accused products, such as Ipanema and IpenameGO, take into consideration variable parameters.

59. The use of variable parameters is key part of dynamic WAN in the accused products. “Dynamic path selection is simple to operate as it automatically adapts individual flows to constantly changing application traffic conditions. New applications, number of users, employees’ real-time activity, application criticality and network performance – All of these parameters evolve constantly, and so do dynamic solutions.” DWS White Paper at 9.

60. The accused products describe the path selection as “Automatic,” “Dynamic,” “End-to-End” and “Fine-grained”:

- **Automatic:** driven from global application performance objectives, the selection of the WAN does not require any manual configuration in the long run.

- **Dynamic:** the WAN path is selected according to the real-time dynamics of traffic evolution (WAN access load, network quality, application performance, balance between different applications, etc.).
- **End-to-end:** the WAN path is chosen accordingly to what is happening along of the whole paths (having the local and far end state of the path).
- **Fine-grained:** WAN selection is individually performed for each user flow to guarantee the user experience, whatever the application and network activity.

Id.

61. These disclosed variable parameters, such as real-time performance, are consistent with the examples provided in the PMC '307 patent:

TABLE B	
\$presentstate(i)	the present state of interface(i), indicating if the telecommunications path is presently operational. \$presentstate = 0 Not operational \$presentstate = 1 Operational
\$avgstate(i)	average of \$presentstate(i) over prior five minute window
\$datasize(i)	the size in KB of the data file to be transmitted.
\$latency(i)	measure in msec of delay through path(i). This is based on a real-time test on the interface such as by a so-called ping to the remote host.
\$time	time of day/day of week; this is the same for all interfaces.
\$availbandwidth(i)	available bandwidth of interface (i) at a given time of file transfer

'307, 4:51-64.

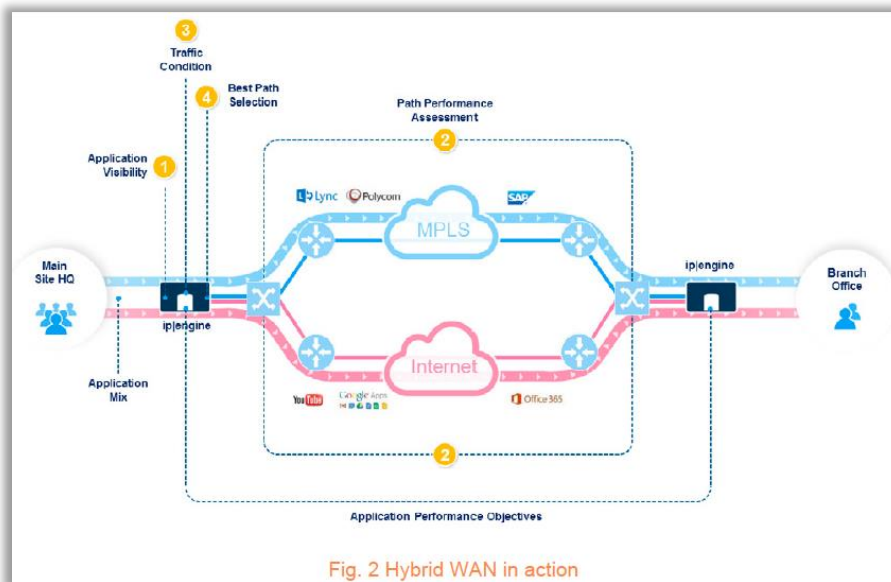
THE ACCUSED PRODUCTS COMPRISE MEASURING VARIABLE PARAMETERS

62. The accused products, such as Ipanema and IpanemaGO, measure variable parameters.

63. As shown above, variables such as: “New applications, number of users, employees’ real-time activity, application criticality and network performance” are “measured variables.” *Id.* Measured variables may also include “real-time dynamics of traffic evolution (WAN access load, network quality, application performance, balance between different applications, etc.).” *Id.*

64. For example, in the accused products, DWS “identifies all application flows that cross the network,” which includes “identify[ing] the patterns of application flows.” DWS Datasheet at 1. “Then, flows are continuously classified based on their Application Performance Objectives (APO), which are strategically defined by the enterprise.” *Id.* “Measuring bandwidth availability requires knowing the current network performance.” *Id.* “DWS not only considers the local availability of links, but also end-to-end performance metrics, such as available bandwidth, delay, jitter, and packet loss.” *Id.*

65. As another example: “At point 1 of Fig. 2., the InfoVista’s appliance identifies all application flows which cross the network.” DWS White Paper at 9-10. InfoVista “identif[ies] holistic patterns of application flows.” *Id.* at 10. “Then, those flows are classified by matching Application Performance Objectives (APO).” *Id.*



Id.

66. Further, “the applications groups are characterized by performance objectives (traffic metrics). Therefore, to select the best path for every flow, it is necessary to assess those metrics in each path. So, both InfoVista’s engines transmit periodically, one to each other its performance state of ingress and egress interfaces and queues. This allows measuring available bandwidth and Delay/Jitter/Loss metrics in an end-to-end manner. Done this way, a state-full correlation of path performance is available all the time.” *Id.* at 11.

67. The accused products’ real-time evaluation of variable parameters is consistent with the disclosures of the ‘307 patent: “the present invention recognizes that the selection of the optimal route for data transmission at a given time is a dynamic analysis that must be done in real-time” ‘307, 2:10-13; *see also id.* at 4:10-21 (“the measurable parameters must be collected by path analysis block 24 from each interface in real-time at or about the time the date file is transferred”).

THE ACCUSED PRODUCTS ANALYZE THE PARAMETERS

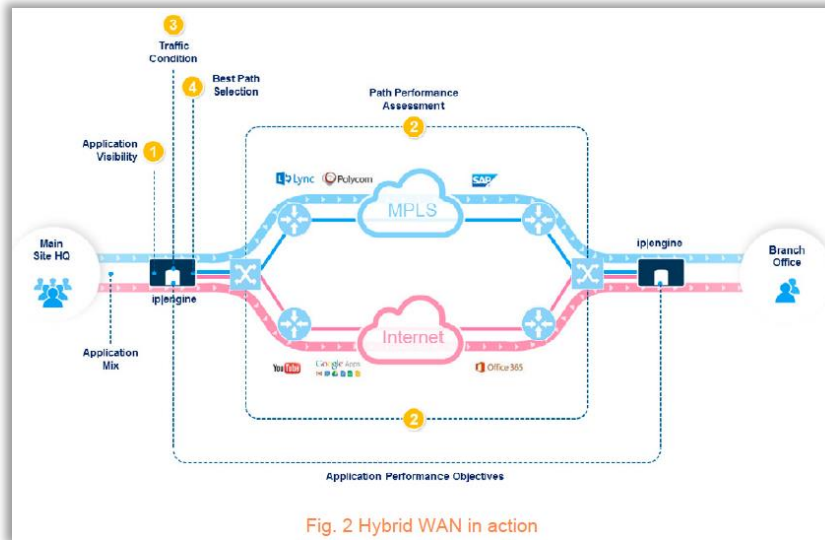
68. The accused products, including Ipanema and IpanemaGO, analyze the

predetermined and variable parameters.

69. For example, in the accused products, DWS “automatically chooses the best WAN connection for each application flow, taking into account the end-to-end performance of all available links. Metrics that include capacity, availability and quality are used to maximize the end-user experience and optimize the usage of all network resources.” DWS Datasheet at 1. DWS “identifies all application flows that cross the network.” *Id.* DWS “analyses traffic up to Layer 7 to identify the patterns of application flows.” *Id.*

70. “Then, flows are continuously classified based on their Application Performance Objectives (APO), which are strategically defined by the enterprise.” *Id.* “Measuring bandwidth availability requires knowing the current network performance.” *Id.* “DWS not only considers the local availability of links, but also end-to-end performance metrics, such as available bandwidth, delay, jitter, and packet loss.” *Id.*

71. As another example: “At point 1 of Fig. 2., the InfoVista’s appliance identifies all application flows which cross the network.” DWS White Paper at 9-10. “InfoVista relies on DPI (Deep Packet Inspection) to analyze traffic up to Layer 7 and identify holistic patterns of application flows.” *Id.* at 10. “Then, those flows are classified by matching Application Performance Objectives (APO). APOs are centrally-defined by the enterprise priorities.” *Id.*



Id.

72. “For instance, in Fig. 3 we can see that we have 10 application groups with four levels of criticality that range from Top to Low.” *Id.* “SAP and UCC-voice application groups have top criticality, which means that every single flow of these two application groups will be protected before other flows with other criticalities. In other words, the performance objectives (Bandwidth, Delay, Jitter and Loss) on the right table will always be protected, even in a strong congestion episode.” *Id.*

Enterprise Applications				
Application name	Criticality	Obj. BW (Kbps)	Link 1	Link 2
ERP	Top	30 Kbps	Main	Dynamic Backup
UC-VoIP	Top	80 Kbps	Main	Dynamic Backup
SaaS	High	50 Kbps	Dynamic Backup	Main
Email	High	40 Kbps	Quality-Based Dynamic Selection (Link 1 is Preferred)	
File Sharing	Medium	100 Kbps	Quality-Based Dynamic Selection (Link 1 is Preferred)	
UC-Screen Sharing	Medium	100 Kbps	Quality-Based Dynamic Selection (Link 2 is Preferred)	
Recreational Traffic, Video	Low	200 Kbps	Never Used	Main

Fig. 3 Application Performance Objectives

Id. at 11.

73. “As it is shown in Fig. 3, the applications groups are characterized by performance objectives (traffic metrics). Therefore, to select the best path for every flow it is necessary to asses those metrics in each path.” *Id.* at 10-11. “So, both InfoVista’s engines transmit periodically, one to each other its performance state of ingress and egress interfaces and queues.” *Id.* at 11. “This allows measuring available bandwidth and Delay/Jitter/Loss metrics in an end-to-end manner. Done this way, a state-full correlation of path performance is available all the time.” *Id.*

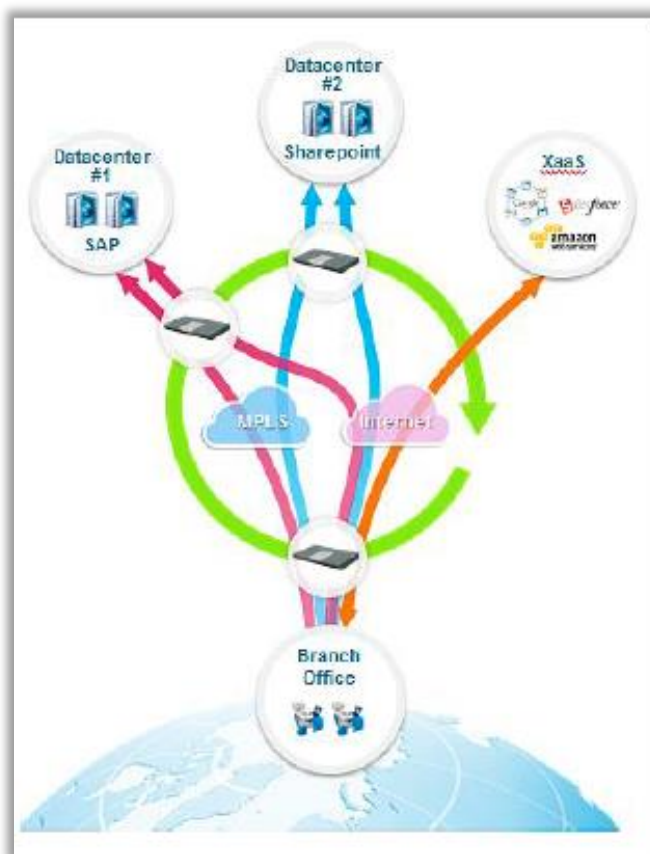
THE ACCUSED PRODUCTS DETERMINE

THE (BEST) PATH FOR TRANSFERRING A FILE

74. The accused products, such as the Ipanema and IpanemaGO, determine a path for transferring a file.

75. For example, in the accused products: “Based on the global knowledge of application usage and bandwidth availability, the ip|engine devices select the best path for each flow to match its Performance Objectives.” DWS Datasheet at 2. “For example, real-time flows are usually allocated on the fastest path, while email can be allocated to the largest path. DWS works simultaneously with the Application Control feature to enforce priorities and avoid traffic congestion.” *Id.*

76. “Options for network path preference allow for a variety of path selection strategies – from fully automated, to partially constrained or fully constrained – in order to adapt to various enterprise policies.” *Id.* “For example, as the figure shows, a user can decide to use a path from network #2 (Internet) when network #1 (MPLS) does not match with the APOs (‘Fully Dynamic’), or only when network #1 (MPLS) is not available (‘Primary/Backup’ usage).” *Id.*

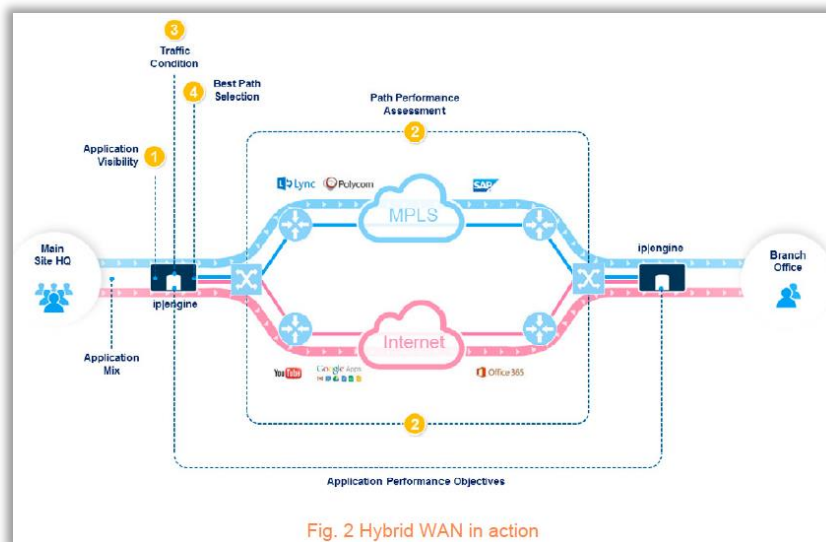


77. “For certain applications, it can be decided to never use network #2 even when network #1 is not available (this usage is driven by ‘best practices’ that may prohibit the transmission of highly sensitive information through Internet, even if encryption is used).” *Id.* “Other options can be set centrally per application, such as whether to use or not use the same path for a whole IP session.” *Id.*

78. As another example: “At point 4 of Fig. 2, for each flow with its specified Application Performance Objectives, the InfoVista’s engine decides:”

- **The predefined network path preference, when both paths perform correctly;**
- **The best path that matches the flow performance objectives (Bandwidth, Delay/Jitter/Loss), when the preferred path is degraded.**

DWS White Paper at 11.



Id. at 10.

79. “For example, UCC voice will usually look for the fastest path (MPLS in this case) while Webcam might prefer the path with largest available bandwidth. DWS works simultaneously with Application Control and continually decides the best network paths for application flows to avoid traffic congestion.” *Id.* at 11. “Other criteria can define the selection of the best path. For instance, for certain applications, it can be decided to never use Internet

even when MPLS is not available (this usage is driven by ‘best practices’ for not sending very high sensitive information through Internet, even if encryption is used). Other options can be set centrally per application, such as to use or not use the same path for a whole IP session.” *Id.*

**INFOVISTA INFRINGES MANY DEPENDENT CLAIMS
OF THE ASSERTED PMC PATENTS**

80. Numerous dependent claims of the Asserted PMC Patents are also met by Ipanema. For instance, the InfoVista’s disclosures above and other disclosures are also relevant to dependent claims concerning (a) “user priorities”; (b) “data transfer speed,” “time,” “reliability,” and “cost” as parameters to consider; (c) “interface ... availab[ility]”; (d) “weighted” analysis of parameters; and (e) specific data files/types.

**COUNT I
INFRINGEMENT OF U.S. PATENT NO. 6,016,307**

81. PMC realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

82. PMC is the owner of the entire right, title and interest in and to the ’307 patent.

83. PMC is informed and believes, and on that basis alleges, that InfoVista has directly and indirectly infringed and is currently directly and indirectly infringing one or more claims (*e.g.*, claim 1) of the ’307 patent, in violation of 35 U.S.C. § 271.

84. InfoVista infringes literally and/or under the doctrine of equivalents, by, among other things, making, using, offering for sale, selling, and/or importing within this judicial district and elsewhere in the United States, without license or authority, infringing products, such as the Ipanema and IpanemaGO.

85. InfoVista’s acts of making, using, selling, offering to sell, and importing infringing products, such as the Ipanema and IpanemaGO, and related products and/or processes

satisfy, literally or under the doctrine of equivalents, every claim limitation, including without limitation claim 1 of the '307 patent.

86. In addition, InfoVista has actively induced, and continues to actively induce others, such as its customers and end users of infringing products, such as the Ipanema and IpanemaGO, and related products and/or processes, to directly infringe every claim limitation, including without limitation claim 1 of the '307 patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, InfoVista's customers and/or end users have directly infringed and are directly infringing every claim limitation, including without limitation claim 1 of the '307 patent. InfoVista has knowingly induced and is knowingly inducing its customers and/or end users to directly infringe the '307 patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. InfoVista's inducement includes, for example, providing technical guides, product data sheets, demos, software and hardware specifications, installation guides, FAQs, on-site or phone installation by InfoVista engineers, tutorials, and network configuration guides that induce its customers and/or end users to directly infringe the '307 patent.

87. InfoVista's acts of infringement have caused damage to PMC in an amount to be proven at trial. Consequently, PMC is entitled to recover damages adequate to compensate it for the infringement complained of herein, but in no event less than a reasonable royalty, together with interest and costs as fixed by the Court.

88. PMC has suffered irreparable injury as a direct and proximate result of InfoVista's acts of infringement for which there is no adequate remedy at law. Unless InfoVista is enjoined, PMC will continue to suffer such irreparable injury as a direct and proximate result of the conduct of InfoVista.

89. To the extent that facts learned in discovery show that InfoVista's infringement of the '307 patent is or has been willful, PMC reserve the right to request such a finding at the time of trial.

90. Given the facts of this case, PMC is further entitled to enhanced damages of three times the amount found or assessed under 35 U.S.C. § 284.

COUNT II
INFRINGEMENT OF U.S. PATENT NO. 6,144,641

91. PMC realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

92. PMC is the owner of the entire right, title and interest in and to the '641 patent.

93. PMC is informed and believes, and on that basis alleges, that InfoVista has directly and indirectly infringed and is currently directly and indirectly infringing one or more claims (*e.g.*, claim 1) of the '641 patent, in violation of 35 U.S.C. § 271.

94. InfoVista infringes literally and/or under the doctrine of equivalents, by, among other things, making, using, offering for sale, selling, and/or importing within this judicial district and elsewhere in the United States, without license or authority, infringing products, such as the Ipanema and IpanemaGO.

95. InfoVista's acts of making, using, selling, offering to sell, and importing infringing products such as the Ipanema and IpanemaGO, and related products and/or processes satisfy, literally or under the doctrine of equivalents, every claim limitation, including without limitation claim 1 of the '641 patent.

96. In addition, InfoVista is actively inducing others, such as its customers and end users of infringing products, such as the Ipanema and IpanemaGO, and related products and/or processes, to directly infringe every claim limitation, including without limitation claim 1 of the

'641 patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, InfoVista's customers and/or end users have directly infringed and are directly infringing every claim limitation, including without limitation claim 1 of the '641 patent. InfoVista has actual knowledge of the '641 patent at least as of service of this complaint. InfoVista is knowingly inducing its customers and/or end users to directly infringe the '641 patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. InfoVista's inducement includes, for example, providing technical guides, product data sheets, demos, software and hardware specifications, installation guides, FAQs, on-site or phone installation by I InfoVista engineers, tutorials, and network configuration guides that induce its customers and/or end users to directly infringe the '641 patent.

97. InfoVista's acts of infringement have caused damage to PMC in an amount to be proven at trial. Consequently, PMC is entitled to recover damages adequate to compensate it for the infringement complained of herein, but in no event less than a reasonable royalty, together with interest and costs as fixed by the Court.

98. PMC has suffered irreparable injury as a direct and proximate result of InfoVista's acts of infringement for which there is no adequate remedy at law. Unless InfoVista is enjoined, PMC will continue to suffer such irreparable injury as a direct and proximate result of the conduct of InfoVista.

99. To the extent that facts learned in discovery show that InfoVista's infringement of the '641 patent is or has been willful, PMC reserve the right to request such a finding at the time of trial.

100. Given the facts of this case, PMC is further entitled to enhanced damages of three times the amount found or assessed under 35 U.S.C. § 284.

COUNT III
INFRINGEMENT OF U.S. PATENT NO. 6,456,594

101. PMC realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

102. PMC is the owner of the entire right, title and interest in and to the '594 patent.

103. PMC is informed and believes, and on that basis alleges, that InfoVista has directly and indirectly infringed and is currently directly and indirectly infringing one or more claims (*e.g.*, claim 1) of the '594 patent, in violation of 35 U.S.C. § 271.

104. InfoVista infringes literally and/or under the doctrine of equivalents, by, among other things, making, using, offering for sale, selling, and/or importing within this judicial district and elsewhere in the United States, without license or authority, infringing products, such as the Ipanema and IpanemaGO.

105. InfoVista's acts of making, using, selling, offering to sell, and importing infringing products, such as the Ipanema and IpanemaGO, and related products and/or processes satisfy, literally or under the doctrine of equivalents, every claim limitation, including without limitation claim 1 of the '594 patent.

106. In addition, InfoVista is actively inducing others, such as its customers and end users of infringing products, such as the Ipanema and IpanemaGO, and related products and/or processes, to directly infringe every claim limitation, including without limitation claim 1 of the '594 patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, InfoVista's customers and/or end users have directly infringed and are directly infringing every claim limitation, including without limitation claim 1 of the '594 patent. InfoVista has actual knowledge of the '594 patent at least as of service of this complaint. InfoVista is knowingly inducing its customers and/or end users to directly infringe the '594 patent, with the specific

intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. InfoVista's inducement includes, for example, providing technical guides, product data sheets, demos, software and hardware specifications, installation guides, FAQs, on-site or phone installation by InfoVista engineers, tutorials, and network configuration guides that induce its customers and/or end users to directly infringe the '594 patent.

107. InfoVista's acts of infringement have caused damage to PMC in an amount to be proven at trial. Consequently, PMC is entitled to recover damages adequate to compensate it for the infringement complained of herein, but in no event less than a reasonable royalty, together with interest and costs as fixed by the Court.

108. PMC has suffered irreparable injury as a direct and proximate result of InfoVista's acts of infringement for which there is no adequate remedy at law. Unless InfoVista is enjoined, PMC will continue to suffer such irreparable injury as a direct and proximate result of the conduct of InfoVista.

109. To the extent that facts learned in discovery show that InfoVista's infringement of the '594 patent is or has been willful, PMC reserve the right to request such a finding at the time of trial.

110. Given the facts of this case, PMC is further entitled to enhanced damages of three times the amount found or assessed under 35 U.S.C. § 284.

COUNT IV
INFRINGEMENT OF U.S. PATENT NO. 6,473,404

111. PMC realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

112. PMC is the owner of the entire right, title and interest in and to the '404 patent.

113. PMC is informed and believes, and on that basis alleges, that InfoVista has

directly and indirectly infringed and is currently directly and indirectly infringing one or more claims (*e.g.*, claim 1) of the '404 patent, in violation of 35 U.S.C. § 271.

114. InfoVista infringes literally and/or under the doctrine of equivalents, by, among other things, making, using, offering for sale, selling, and/or importing within this judicial district and elsewhere in the United States, without license or authority, infringing products, such as the Ipanema and IpanemaGO.

115. InfoVista's acts of making, using, selling, offering to sell, and importing infringing products, such as the Ipanema and IpanemaGO, and related products and/or processes satisfy, literally or under the doctrine of equivalents, every claim limitation, including without limitation claim 1 of the '404 patent.

116. In addition, InfoVista is actively inducing others, such as its customers and end users of infringing products, such as the Ipanema and IpanemaGO, and related products and/or processes, to directly infringe every claim limitation, including without limitation claim 1 of the '404 patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, InfoVista's customers and/or end users have directly infringed and are directly infringing every claim limitation, including without limitation claim 1 of the '404 patent. InfoVista has actual knowledge of the '404 patent at least as of service of this complaint. InfoVista is knowingly inducing its customers and/or end users to directly infringe the '404 patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. InfoVista's inducement includes, for example, providing technical guides, product data sheets, demos, software and hardware specifications, installation guides, FAQs, on-site or phone installation by InfoVista engineers, tutorials, and network configuration guides that induce its customers and/or end users to directly infringe the '404 patent.

117. InfoVista's acts of infringement have caused damage to PMC in an amount to be proven at trial. Consequently, PMC is entitled to recover damages adequate to compensate it for the infringement complained of herein, but in no event less than a reasonable royalty, together with interest and costs as fixed by the Court.

118. PMC has suffered irreparable injury as a direct and proximate result of InfoVista's acts of infringement for which there is no adequate remedy at law. Unless InfoVista is enjoined, PMC will continue to suffer such irreparable injury as a direct and proximate result of the conduct of InfoVista.

119. To the extent that facts learned in discovery show that InfoVista's infringement of the '404 patent is or has been willful, PMC reserve the right to request such a finding at the time of trial.

120. Given the facts of this case, PMC is further entitled to enhanced damages of three times the amount found or assessed under 35 U.S.C. § 284.

COUNT V
INFRINGEMENT OF U.S. PATENT NO. 8,400,926

121. PMC realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

122. PMC is the owner of the entire right, title and interest in and to the '926 patent.

123. PMC is informed and believes, and on that basis alleges, that InfoVista has directly and indirectly infringed and is currently directly and indirectly infringing one or more claims (*e.g.*, claim 1) of the '926 patent, in violation of 35 U.S.C. § 271.

124. InfoVista infringes literally and/or under the doctrine of equivalents, by, among other things, making, using, offering for sale, selling, and/or importing within this judicial district and elsewhere in the United States, without license or authority, infringing products, such

as the Ipanema and IpanemaGO.

125. InfoVista's acts of making, using, selling, offering to sell, and importing infringing products, such as the Ipanema and IpanemaGO, and related products and/or processes satisfy, literally or under the doctrine of equivalents, every claim limitation, including without limitation claim 1 of the '926 patent.

126. In addition, InfoVista is actively inducing others, such as its customers and end users of infringing products, such as the Ipanema and IpanemaGO, and related products and/or processes, to directly infringe every claim limitation, including without limitation claim 1 of the '926 patent, in violation of 35 U.S.C. § 271(b). Upon information and belief, InfoVista's customers and/or end users have directly infringed and are directly infringing every claim limitation, including without limitation claim 1 of the '926 patent. InfoVista has actual knowledge of the '926 patent at least as of service of this complaint. InfoVista is knowingly inducing its customers and/or end users to directly infringe the '926 patent, with the specific intent to encourage such infringement, and knowing that the induced acts constitute patent infringement. InfoVista's inducement includes, for example, providing technical guides, product data sheets, demos, software and hardware specifications, installation guides, FAQs, on-site or phone installation by InfoVista engineers, tutorials, and network configuration guides that induce its customers and/or end users to directly infringe the '926 patent.

127. InfoVista's acts of infringement have caused damage to PMC in an amount to be proven at trial. Consequently, PMC is entitled to recover damages adequate to compensate it for the infringement complained of herein, but in no event less than a reasonable royalty, together with interest and costs as fixed by the Court.

128. PMC has suffered irreparable injury as a direct and proximate result of

InfoVista's acts of infringement for which there is no adequate remedy at law. Unless InfoVista is enjoined, PMC will continue to suffer such irreparable injury as a direct and proximate result of the conduct of InfoVista.

129. To the extent that facts learned in discovery show that InfoVista's infringement of the '926 patent is or has been willful, PMC reserve the right to request such a finding at the time of trial.

130. Given the facts of this case, PMC is further entitled to enhanced damages of three times the amount found or assessed under 35 U.S.C. § 284.

COUNT VI
INFRINGEMENT OF U.S. PATENT NO. 9,036,499

131. PMC realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

132. PMC is the owner of the entire right, title and interest in and to the '499 patent.

133. PMC is informed and believes, and on that basis alleges, that InfoVista has directly infringed and is currently directly infringing one or more claims (*e.g.*, claim 19) of the '499 patent, in violation of 35 U.S.C. § 271.

134. InfoVista infringes literally and/or under the doctrine of equivalents, by, among other things, making, using, offering for sale, selling, and/or importing within this judicial district and elsewhere in the United States, without license or authority, infringing products, such as the Ipanema and IpanemaGO.

135. InfoVista's acts of making, using, selling, offering to sell, and importing infringing products, such as the Ipanema and IpanemaGO, and related products and/or processes satisfy, literally or under the doctrine of equivalents, every claim limitation, including without limitation claim 19 of the '499 patent.

136. InfoVista's acts of infringement have caused damage to PMC in an amount to be proven at trial. Consequently, PMC is entitled to recover damages adequate to compensate it for the infringement complained of herein, but in no event less than a reasonable royalty, together with interest and costs as fixed by the Court.

137. PMC has suffered irreparable injury as a direct and proximate result of InfoVista's acts of infringement for which there is no adequate remedy at law. Unless InfoVista is enjoined, PMC will continue to suffer such irreparable injury as a direct and proximate result of the conduct of InfoVista.

138. To the extent that facts learned in discovery show that InfoVista's infringement of the '499 patent is or has been willful, PMC reserve the right to request such a finding at the time of trial.

139. Given the facts of this case, PMC is further entitled to enhanced damages of three times the amount found or assessed under 35 U.S.C. § 284.

PRAYER FOR RELIEF

PMC respectfully requests that this Court enter:

- A. A judgment in favor of PMC that InfoVista has infringed the Asserted PMC Patents;
- B. A permanent injunction enjoining InfoVista and its officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in active concert therewith from infringement of the Asserted PMC Patents, or such other equitable relief the Court determines is warranted;
- C. A judgment and order requiring InfoVista to pay PMC its damages, costs, expenses, and prejudgment and post-judgment interest for InfoVista's

infringement of the Asserted PMC Patents as provided under 35 U.S.C. § 284;

- D. That the damages for InfoVista's infringement be increased under 35 U.S.C. § 284 to three times the amount found or assessed;
- E. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to PMC its reasonable attorneys' fees against InfoVista;
- F. A judgment and order requiring InfoVista to provide an accounting and to pay supplemental damages to PMC, including without limitation, pre-judgment and post-judgment interest; and
- G. Any and all other relief to which PMC may be entitled.

DEMAND FOR JURY TRIAL

PMC, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of any issues so triable by right.

Dated: December 30, 2016

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3). Any other counsel of record will be served by electronic mail, facsimile, and/or first class mail on this date.

/s/ Benjamin T. Wang