IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION

REALTIME DATA LLC d/b/a IXO, Plaintiff, v. HEWLETT PACKARD ENTERPRISE CO., HP ENTERPRISE SERVICES, LLC, and SILVER PEAK SYSTEMS, INC., Defendants.	Case No. 6:16-cv-86 JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT AGAINST HEWLETT PACKARD ENTERPRISE CO., HP ENTERPRISE SERVICES, LLC, AND SILVER PEAK SYSTEMS, INC.

This is an action for patent infringement arising under the Patent Laws of the United States of America, 35 U.S.C. § 1 *et seq.* in which Plaintiff Realtime Data LLC d/b/a IXO ("Plaintiff," "Realtime," or "IXO") makes the following allegations against Defendants Hewlett Packard Enterprise Co. ("HPE"), HP Enterprise Services, LLC ("HPES") and Silver Peak Systems, Inc. ("Silver Peak") (collectively, "Defendants"):

PARTIES

1. Realtime is a New York limited liability company. Realtime has places of business at 5851 Legacy Circle, Plano, Texas 75024, 1828 E.S.E. Loop 323, Tyler, Texas 75701, and 116 Croton Lake Road, Katonah, New York, 10536, and is organized under the laws of the State of New York. Realtime has been registered to do business in Texas since May 2011. Since the 1990s, Realtime has researched and developed specific solutions for data compression, including, for example, those that increase the speeds at which data can be stored and accessed. As recognition of its innovations rooted in this technological field, Realtime holds over 45 United States patents and has numerous

pending patent applications. Realtime has licensed patents in this portfolio to many of the world's leading technology companies. The patents-in-suit relate to Realtime's development of advanced systems and methods for fast and efficient data compression using numerous innovative compression techniques based on, for example, particular attributes of the data.

2. On information and belief, Defendant Hewlett Packard Enterprise Co. ("HPE") is a Delaware corporation, with its principal place of business at 3000 Hanover St., Palo Alto, California 94304. On information and belief, HPE has a large services and operations center in Plano, Texas.[1] On information and belief, HPE can be served through its registered agent, CT Corporation System, 1999 Bryan St., Ste. 900, Dallas, TX 75201. On information and belief, HPE, its predecessor entities, and/or their corporate affiliates have cited patents in Realtime's portfolio of compression-related patents during prosecution of their own patents at least seven times.

3. On information and belief, HPES is a Delaware limited liability company having a principal place of business at 5400 Legacy Drive, Plano, Texas 75024. On information and belief, HPES can be served through its registered agent, CT Corporation System, 1999 Bryan St., Ste. 900, Dallas, Texas 75201.

4. On information and belief, Defendant Silver Peak is a Delaware limited liability company, with its principal place of business at 2860 De La Cruz Blvd., Suite 100, Santa Clara, CA 95050. On information and belief, Silver Peak can be served through its registered agent, The Corporation Trust Company, Corporation Trust Center, 1209 Orange St, Wilmington, DE 19801. On information and belief, Silver Peak has cited patents in Realtime's portfolio of compression-related patents during prosecution of its own patents at least 31 times.

5. On information and belief, Defendants HPE/HPES have a business

[1] See, e.g., http://h30631.www3.hpe.com/dallas/services/jobid8866887-data-engineer-jobs (job posting for position in Plano, TX on HPE's website).

alliance with Silver Peak pursuant to which HPE/HPES is an "AllianceONE Partner" of SilverPeak[2] and Silver Peak is an "HP Networking Alliance Partner" of HPE/HPES.[3] Upon information and belief, pursuant to ongoing contractual arrangements between HPE/HPES and Silver Peak establishing this business alliance, SilverPeak promotes the use of HPE/HPES products with SilverPeak's own products. *See, e.g.,* http://www.silver-peak.com/company/tech-partners/hp ("Silver Peak complements HP storage and network solutions by accelerating storage replication and reducing customer WAN infrastructure costs. HP customers can further consolidate their infrastructure and leverage their existing investment in HP infrastructure by deploying Silver Peak virtual WAN appliances on HP Proliant and Integrity servers."); http://www.silver-peak.com/news/press-releases/silver-peak-extends-virtual-wan-optimization-hp-networking-solutions ("Leveraging HP's recently announced virtualization support for the 5400zl and 8200zl switches, Silver Peak integration allows enterprises to easily and cost-effectively deploy WAN optimization in branch offices to ensure fast access to centralized applications, optimized backup of remote data, and the highest quality voice and video services to distributed employees."). As further explained below, products such as Silver Peak's virtual WAN appliances infringe the asserted patents. Accordingly, HPE/HPES and Silver Peak are properly joined in this action pursuant to 35 U.S.C. § 299.

JURISDICTION AND VENUE

6. This action arises under the patent laws of the United States, Title 35 of the United States Code. This Court has original subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has personal jurisdiction over Defendant HPE in this action because HPE has committed acts within the Eastern District of Texas giving rise to this

[2] *See, e.g.,* http://www.silver-peak.com/company/tech-partners/hp

[3] See http://h17007.www1.hpe.com/uk/en/networking/solutions/allianceone/index.aspx#tab=TAB2

action and has established minimum contacts with this forum such that the exercise of jurisdiction over HPE would not offend traditional notions of fair play and substantial justice. HPE, directly and through subsidiaries or intermediaries, has committed and continues to commit acts of infringement in this District by, among other things, offering to sell and selling products and/or services that infringe the asserted patents. HPE is registered to do business in the State of Texas and has appointed CT Corporation System, 1999 Bryan St., Ste. 900, Dallas, TX 75201 as its agent for service of process. In addition, HPE has a large services and operations center in Plano, Texas.

8. This Court has personal jurisdiction over Defendant HPES in this action because HPES has committed acts within the Eastern District of Texas giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over HPES would not offend traditional notions of fair play and substantial justice. HPES, directly and through subsidiaries or intermediaries, has committed and continues to commit acts of infringement in this District by, among other things, offering to sell and selling products and/or services that infringe the asserted patents. HPES has its principal place of business in the State of Texas and has appointed CT Corporation System, 1999 Bryan St., Ste. 900, Dallas, TX 75201 as its agent for service of process. In addition, HPES has a large services and operations center in Plano, Texas.[4]

9. This Court has personal jurisdiction over Defendant Silver Peak in this action because Silver Peak has committed acts within the Eastern District of Texas giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over Silver Peak would not offend traditional notions of fair play and substantial justice. Silver Peak, directly and through subsidiaries or intermediaries, has committed and continues to commit acts of infringement in this District by, among

[4] https://h71044.www7.hp.com/campaigns/2011/events/POD/images/HP_Campus_EXC_Map.pdf

other things, offering to sell and selling products and/or services that infringe the asserted patents. Silver Peak is registered to do business in the State of Texas, and has attended trade shows in Houston, Texas to promote its products and services within Texas. *See, e.g.,* https://www.silver-peak.com/events/tech-summit-houston ("Texas Technology Summit").

10. Venue is proper in this district under 28 U.S.C. §§ 1391(b), 1391(c) and 1400(b). Each of Defendants HPE, HPES and Silver Peak is registered to do business in Texas, and upon information and belief, has transacted business in the Eastern District of Texas and has committed acts of direct and indirect infringement in the Eastern District of Texas. In addition, Defendant HPES has a principal place of business in Texas, Defendant HPE has places of business in Texas, and Defendant Silver Peak attends trade shows in Texas.[5]

COUNT I

INFRINGEMENT OF U.S. PATENT NO. 7,161,506

11. Plaintiff realleges and incorporates by reference paragraphs 1-10 above, as if fully set forth herein.

12. Plaintiff Realtime is the owner by assignment of United States Patent No. 7,161,506 ("the '506 patent") entitled "Systems and methods for data compression such as content dependent data compression." The '506 patent was duly and legally issued by the United States Patent and Trademark Office on January 9, 2007. A true and correct copy of the '506 patent, including its reexamination certificates, is included as Exhibit A.

Silver Peak WAN Optimization Appliances

13. On information and belief, Silver Peak has made, used, offered for sale, sold and/or imported into the United States products that infringe the '506 patent, and

[5] *See, e.g.,* https://www.silver-peak.com/events/tech-summit-houston ("Texas Technology Summit").

continues to do so. By way of illustrative example, these infringing products include, without limitation, Silver Peak compression products and services, such as, *e.g.*, Silver Peak WAN Optimization Appliances, including NX Physical Appliances (including but not limited to the NX-1700, NX-2700, NX-3700, NX-5700, NX-6700, NX-7700, NX-8700, NX-9700, NX-10700, and NX-11700) and VX Virtual Appliances (including but not limited to the VX-500, VX-1000, VX-2000, VX-3000, VX-5000, VX-6000, VX-7000, VX-8000, and VX-9000), and all versions and variations thereof since the issuance of the '506 patent ("Accused Instrumentality").

14. On information and belief, HPE/HPES has made, used, offered for sale, sold and/or imported into the United States products that, in conjunction with Silver Peak VX Virtual Appliance software, which are promoted to be used together with such HPE/HPES products, such as HP Proliant and Integrity servers[6] and HP 5400zl and 8200zl switches[7] ("Accused Instrumentality"), infringe the '506 patent, and continues to do so.

15. On information and belief, Silver Peak and HPE/HPES have directly infringed and continues to infringe the '506 patent, for example, through their own use and testing of the Accused Instrumentality to practice compression methods claimed by Claim 104 of the '506 patent, namely, a computer implemented method for compressing data, comprising: analyzing data within a data block of an input data stream to identify one or more data types of the data block, the input data stream comprising a plurality of disparate data types; performing content dependent data compression with a content dependent data compression encoder if a data type of the data block is identified; and performing data compression with a single data compression encoder, if a data type of the data block is not identified, wherein the analyzing of the data within the data block to

[6] *See, e.g.*, http://www.silver-peak.com/company/tech-partners/hp
[7] http://www.silver-peak.com/news/press-releases/silver-peak-extends-virtual-wan-optimization-hp-networking-solutions

identify one or more data types excludes analyzing based only on a descriptor that is indicative of the data type of the data within the data block. Upon information and belief, HPE/HPES and Silver Peak use the Accused Instrumentality to practice infringing methods for their own internal non-testing business purposes, while testing the Accused Instrumentality, and while providing technical support and repair services for the Accused Instrumentality to SilverPeak's customers and HPE/HPES's customers.

16. The Accused Instrumentality is a computer-implemented method for data compression. This system minimizes the amount of data transmitted over a network and stored on a backup device. The Accused Instrumentality employs several data compression techniques to achieve this goal. *See, e.g.*, https://www.silver-peak.com/sites/default/files/userdocs/network_deployments_r5-2_revk_oct2012.pdf:

Network Memory

All Silver Peak WAN optimization appliances are equipped with Network Memory™ technology. Network Memory is used to inspect all inbound and outbound WAN traffic in real-time, storing a single local instance of data on each appliance.

Before sending information across the WAN, Silver Peak appliances compare real-time traffic streams to patterns stored using Network Memory. If a match exists, a short reference pointer is sent to the remote Silver Peak appliance, instructing it to deliver the traffic pattern from its local instance. Repetitive data is never sent across the WAN.

If content is modified, the Silver Peak appliance detects the change at the byte level and updates the network's "memory". Only the modifications are sent across the WAN. These are combined with original content by Silver Peak appliances at the destination location.

17. The Accused Instrumentality analyzes data within a data block of an input data stream to identify one or more data types of the data block, the input data stream comprising a plurality of disparate data types. *See, e.g.*, https://www.silver-peak.com/sites/default/files/infoctr/silver-peak_wp_lp-level_deduplication.pdf:

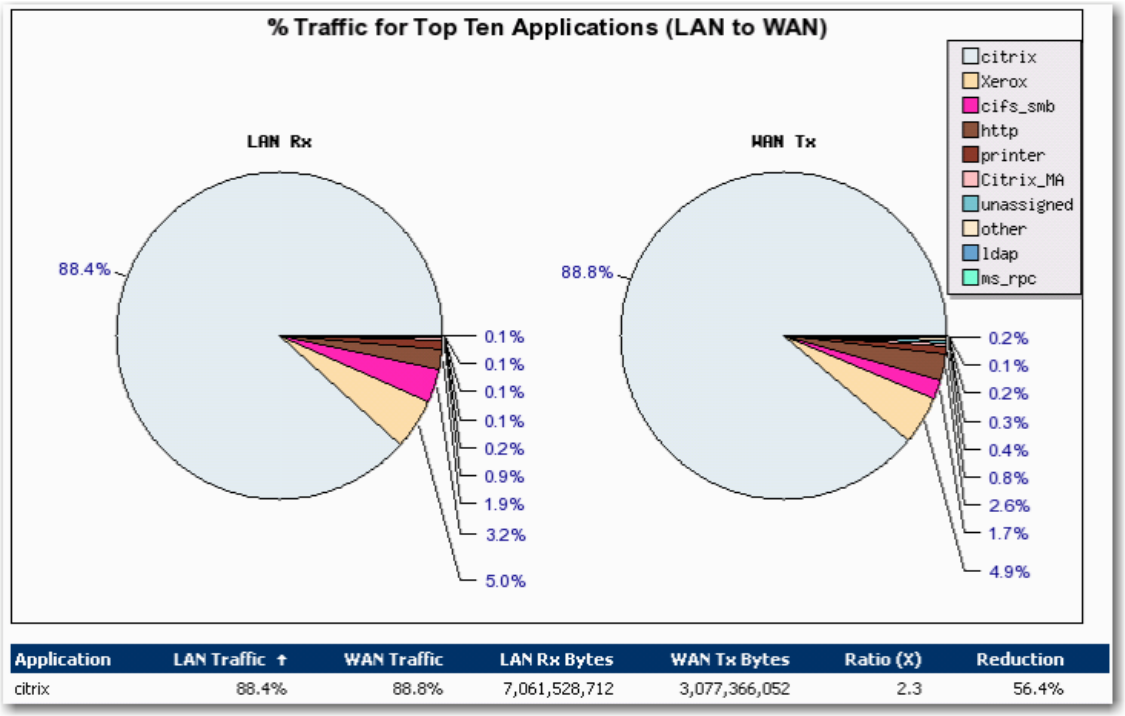


Figure 1: Silver Peak adds very little latency when performing deduplication, enabling data reduction on real-time traffic like Citrix.

Using IP Layer Deduplication to Optimize Real-Time Traffic

The question often arises—can you actually deduplicate real-time traffic? Some applications, like VoIP, contain many packets that are fairly unique in nature, which makes deduplication difficult unless it is voicemail or a recorded message. In these instances, the traffic is best optimized using other WAN optimization techniques, like loss mitigation, QoS, and header compression. Other real-time applications, like Citrix and video streaming, can benefit enormously from WAN deduplication under the right circumstances—that is, when content is repetitive over time. Figure 1 is a screenshot showing 56% data reduction at a global law firm using Citrix ICA presentation server.

Because Silver Peak does not bypass any traffic, a full array of WAN optimization capabilities can be applied to all real-time traffic. In some instances, deduplication will play a major role. In other instances, Forward Error Correction (FEC), Packet Order Correction (POC), Quality of Service (QoS), and other techniques will be the primary drivers for improved application performance. Since it all depends on the type of traffic being sent, enterprises require an IP-based solution to give them the flexibility they need to adapt to different application requirements.

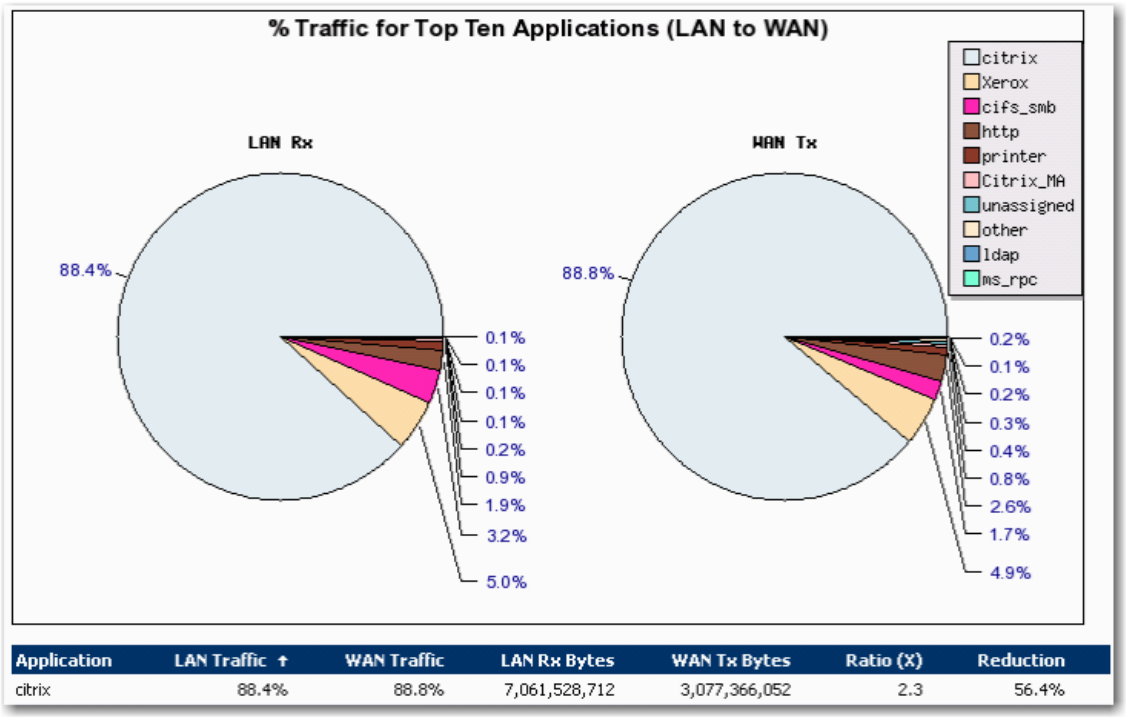
Conclusion

Silver Peak's Network Memory works at Layer 3 of the OSI model, avoiding the scalability and performance issues associated with TCP-based deduplication schemes, as described above. The result is real-time optimization for all IP traffic, including Citrix, video streaming, data replication, and other latency-sensitive applications. By working at the network layer, Silver Peak also avoids TCP flow limitations that can plague some WAN acceleration appliances, while ensuring that a full range of optimization techniques can be applied to everything that goes across the WAN.

By providing an IP-based solution for WAN optimization, Silver Peak delivers the best performance, across the most applications. As a result, enterprises get the best return on their WAN acceleration investment.

18. The Accused Instrumentality performs content dependent data compression with a content dependent data compression encoder if a data type of the data

block is identified. *See, e.g.*, https://www.silver-peak.com/sites/default/files/infoctr/silver-peak_wp_lp-level_deduplication.pdf:



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By providing an IP-based solution for WAN optimization, Silver Peak delivers the best performance, across the most applications. As a result, enterprises get the best return on their WAN acceleration investment.

19. The Accused Instrumentality performs data compression with a single data compression encoder, if a data type of the data block is not identified. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf ("Cross-flow payload and header compression provide additional gains on first-time data transfers and non-repetitive traffic. … After being deduplicated, traffic is compressed to provide additional reduction.").

20. In the Accused Instrumentality analyzing of the data within the data block to identify one or more data types excludes analyzing based only on a descriptor that is indicative of the data type of the data within the data block. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf:

- **Data Reduction:** Each Silver Peak appliance inspects WAN traffic at the byte level and stores copies of content in high-capacity disk drives. Advanced finger-printing techniques recognize repetitive patterns for local delivery. Data Reduction operates at the network layer and supports all IP-based protocols including TCP, UDP and RTP.

https://www.silver-peak.com/sites/default/files/userdocs/network_deployments_r5-2_revk_oct2012.pdf:

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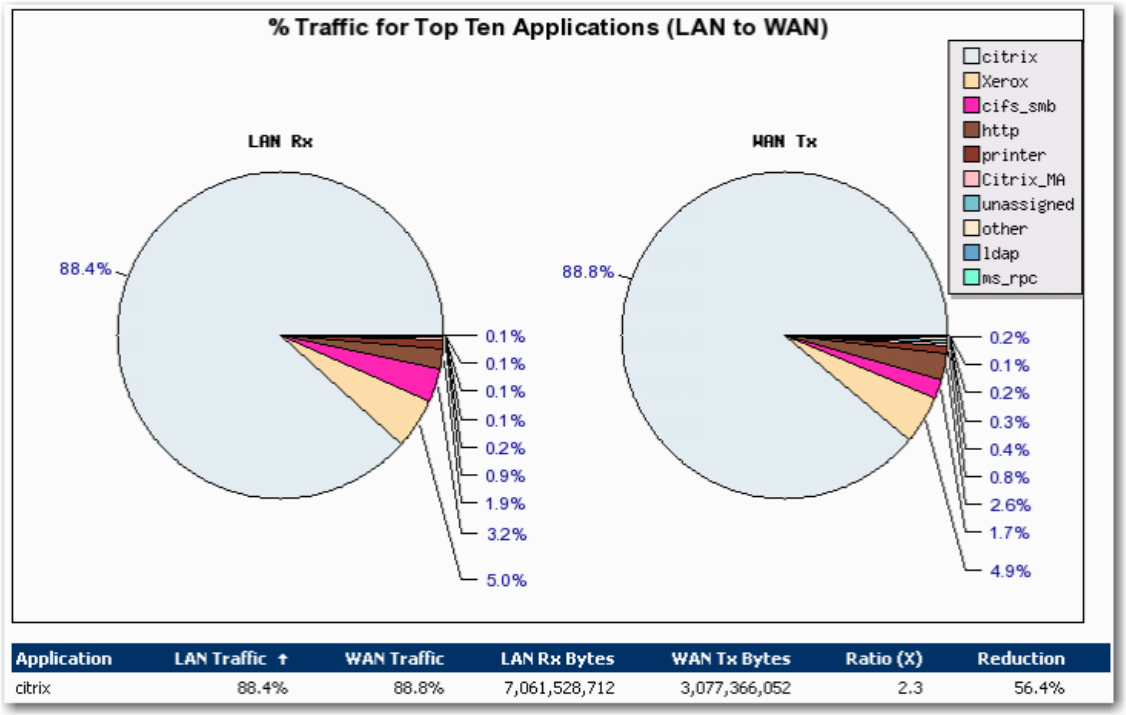
If content is modified, the Silver Peak appliance detects the change at the byte level and updates the network's "memory". Only the modifications are sent across the WAN. These are combined with original content by Silver Peak appliances at the destination location.

https://www.silver-peak.com/sites/default/files/infoctr/silver-peak_wp_lp-

level_deduplication.pdf:



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Because Silver Peak does not bypass any traffic, a full array of WAN optimization capabilities can be applied to all real-time traffic. In some instances, deduplication will play a major role. In other instances, Forward Error Correction (FEC), Packet Order Correction (POC), Quality of Service (QoS), and other techniques will be the primary drivers for improved application performance. Since it all depends on the type of traffic being sent, enterprises require an IP-based solution to give them the flexibility they need to adapt to different application requirements.

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Silver Peak's Network Memory works at Layer 3 of the OSI model, avoiding the scalability and performance issues associated with TCP-based deduplication schemes, as described above. The result is real-time optimization for all IP traffic, including Citrix, video streaming, data replication, and other latency-sensitive applications. By working at the network layer, Silver Peak also avoids TCP flow limitations that can plague some WAN acceleration appliances, while ensuring that a full range of optimization techniques can be applied to everything that goes across the WAN.

By providing an IP-based solution for WAN optimization, Silver Peak delivers the best performance, across the most applications. As a result, enterprises get the best return on their WAN acceleration investment.

21. On information and belief, Silver Peak and HPE/HPES also directly

infringe and continue to infringe other claims of the '506 patent, for similar reasons as explained above with respect to Claim 104 of the '506 patent.

22. On information and belief, all of the Accused Instrumentalities perform the claimed methods in substantially the same way. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf at 1:

> **Leading Performance and Virtualization Flexibility**
>
> Silver Peak WAN optimization software accelerates data movement between data centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world.
>
> Silver Peak software can be deployed as VX virtual appliances, which are virtual machines that run on all major hypervisors. The software can also be deployed as standalone NX hardware appliances. Various virtual and physical models exist for cost effective deployment in any enterprise location, from small branch/remote locations to the largest data centers.
>
> All Silver Peak products support the same functionality.

23. On information and belief, use of the Accused Instrumentality in its ordinary and customary fashion results in infringement of the methods claimed by the '506 patent.

24. On information and belief, HPE/HPES and Silver Peak have had knowledge of the '506 patent since at least the filing of this Complaint or shortly thereafter, and on information and belief, HPE/HPES and Silver Peak knew of the '506 patent and knew of their infringement, including by way of this lawsuit.

25. Upon information and belief, Silver Peak's affirmative acts of making, using, and selling the Accused Instrumentalities, and providing implementation services and technical support to users of the Accused Instrumentalities, have induced and continue to induce users of the Accused Instrumentalities to use them in their normal and customary way to infringe Claim 104 of the '506 patent by practicing a computer

implemented method comprising: receiving a data block in an uncompressed form, said data block being included in a data stream; analyzing data within the data block to determine a type of said data block; and compressing said data block to provide a compressed data block, wherein if one or more encoders are associated to said type, compressing said data block with at least one of said one or more encoders, otherwise compressing said data block with a default data compression encoder, and wherein the analyzing of the data within the data block to identify one or more data types excludes analyzing based only on a descriptor that is indicative of the data type of the data within the data block. For example, Silver Peak instructs users of its WAN Optimization Appliances about the benefits of its deduplication features, "accelerat[ing] data movement between data centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world. … maximiz[ing] available WAN bandwidth, extend[ing] distances, and improve[ing] WAN quality." See http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf. Silver Peak also instructs users that, "Silver Peak VXOA utilizes a feature called Network Memory to provide bandwidth reduction for data sent across the WAN. Network Memory uses disk-based deduplication to eliminate the transfer of duplicate data across the WAN. After being deduplicated, traffic is compressed to provide additional reduction." *See* http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf at 14. For similar reasons, Silver Peak also induces its customers to use the Accused Instrumentalities to infringe other claims of the '506 patent. Silver Peak specifically intended and was aware that these normal and customary activities would infringe the '506 patent. Silver Peak performed the acts that constitute induced infringement, and would induce actual infringement, with the knowledge of the '506 patent and with the knowledge, or willful blindness to the probability, that the induced acts would constitute

infringement. On information and belief, Silver Peak engaged in such inducement to promote the sales of the Accused Instrumentalities. Accordingly, Silver Peak has induced and continues to induce users of the accused products to use the accused products in their ordinary and customary way to infringe the '506 patent, knowing that such use constitutes infringement of the '506 patent.

26. By making, using, offering for sale, selling and/or importing into the United States the Accused Instrumentalities, and touting the benefits of using the Accused Instrumentalities' compression features, HPE/HPES and Silver Peak have injured Realtime and are liable to Realtime for infringement of the '506 patent pursuant to 35 U.S.C. § 271.

27. As a result HPE/HPES's and Silver Peak's infringement of the '506 patent, Plaintiff Realtime is entitled to monetary damages in an amount adequate to compensate for HPE/HPES's and Silver Peak's infringement, but in no event less than a reasonable royalty for the use made of the invention by HPE/HPES and Silver Peak, together with interest and costs as fixed by the Court.

HP StoreOnce

28. On information and belief, HPE and/or HPES have made, used, offered for sale, sold and/or imported into the United States HPE/HPES products that infringe the '506 patent, and continues to do so. By way of illustrative example, these infringing products include, without limitation, HPE/HPES compression products and services, such as, *e.g.*, the HPE StoreOnce System[8] and all versions and variations thereof since the issuance of the '506 patent ("Accused Instrumentality").

29. On information and belief, HPE/HPES has directly infringed and continues to infringe the '506 patent, for example, through its own use and testing of the Accused Instrumentality to practice compression methods claimed by Claim 104 of the

[8] https://www.hpe.com/us/en/storage/storeonce.html

'506 patent, namely, a computer implemented method for compressing data, comprising: analyzing data within a data block of an input data stream to identify one or more data types of the data block, the input data stream comprising a plurality of disparate data types; performing content dependent data compression with a content dependent data compression encoder if a data type of the data block is identified; and performing data compression with a single data compression encoder, if a data type of the data block is not identified, wherein the analyzing of the data within the data block to identify one or more data types excludes analyzing based only on a descriptor that is indicative of the data type of the data within the data block. Upon information and belief, HPE/HPES use the Accused Instrumentality to practice infringing methods for their own internal non-testing business purposes, while testing the Accused Instrumentality, and while providing technical support and repair services for the Accused Instrumentality to HPE/HPES's customers.

30. The Accused Instrumentality is a computer-implemented method for data compression. This system minimizes the amount of data transmitted over a network and stored on a backup device. The Accused Instrumentality employs several data compression techniques to achieve this goal. *See, e.g.*, http://h18000.www1.hp.com/storage/pdfs/4AA3-7775ENW.pdf ("HP StoreOnce B6200 Backup has been designed to reduce the amount of backup data you need to store. Designed for quick and efficient storage, the HP B6200 Backup offers industry-leading performance and breakthrough architecture."

31. The Accused Instrumentality analyzes data within a data block of an input data stream to identify one or more data types of the data block, the input data stream comprising a plurality of disparate data types. *See, e.g.*, http://h18006.www1.hp.com/storage/pdfs/hpstoreonce.pdf at 6 ("1. HP StoreOnce algorithms sample large data sequences (approximately 10 MB) to identify the likelihood of duplicates and rapid routing delivers each sequence to the best node for deduplication.

2. StoreOnce uses a SHA-1 hash algorithm on approximately 4 KB variable-length blocks. By using a subset of key values stored in memory, StoreOnce determines a small number of sequences already stored on disk that are similar to any given input sequence. Then each input sequence is only deduplicated against those few sequences.").

32. The Accused Instrumentality performs content dependent data compression with a content dependent data compression encoder if a data type of the data block is identified. *See, e.g.*, http://h18006.www1.hp.com/storage/pdfs/hpstoreonce.pdf at 6:

HP StoreOnce deduplication software identifies replicate data inline (upon ingest) with its sparse index-based deduplication approach. This method has two phases:

1. HP StoreOnce algorithms sample large data sequences (approximately 10 MB) to identify the likelihood of duplicates and rapid routing delivers each sequence to the best node for deduplication.
2. StoreOnce uses a SHA-1 hash algorithm on approximately 4 KB variable-length blocks. By using a subset of key values stored in memory, StoreOnce determines a small number of sequences already stored on disk that are similar to any given input sequence. Then each input sequence is only deduplicated against those few sequences. This minimizes disk IO and uses less disk and little memory, creating more efficiency and enabling faster ingest and, importantly, restoration of data.

As previously mentioned, deduplication involves replacing duplicate data with pointers to existing (unique) data. If

33. The Accused Instrumentality performs data compression with a single data compression encoder, if a data type of the data block is not identified. *See, e.g.*, https://storagegaga.wordpress.com/2011/09/28/hp-storeonce-further-depth/ ("Further savings are also achieved when the deduped data is compressed with the LZ (Lempel-Ziv) compression method before it is stored into the disks.")

34. In the Accused Instrumentality analyzing of the data within the data block to identify one or more data types excludes analyzing based only on a descriptor that is indicative of the data type of the data within the data block. *See, e.g.*, http://h18006.www1.hp.com/storage/pdfs/hpstoreonce.pdf at 6 ("1. HP StoreOnce algorithms sample large data sequences (approximately 10 MB) to identify the likelihood of duplicates and rapid routing delivers each sequence to the best node for deduplication. 2. StoreOnce uses a SHA-1 hash algorithm on approximately 4 KB variable-length blocks. By using a subset of key values stored in memory, StoreOnce determines a small

number of sequences already stored on disk that are similar to any given input sequence. Then each input sequence is only deduplicated against those few sequences.").

35. On information and belief, HPE/HPES also directly infringe and continue to infringe other claims of the '506 patent, for similar reasons as explained above with respect to Claim 104 of the '506 patent.

36. On information and belief, all of the Accused Instrumentalities perform the claimed methods in substantially the same way. *See, e.g.*, http://h18006.www1.hp.com/storage/definitions.html:

Federated Deduplication
Federated Deduplication provides deployment independence for deduplication. HP is able to provide deployment independence because its research arm, HP Labs, developed a deduplication engine that can be deployed across a storage infrastructure -- from virtual machines to enterprise data centers. The use of a common deduplication engine enables the native communication and movement of data across the various systems without rehydrating the data. This increases the efficiency of the deduplication process and permits data to be moved from location to location over low-bandwidth, affordable links. HP has used Federated Deduplication in its StoreOnce family since 2010. The recently released HP B6200 StoreOnce Backup System brings this approach to large data centers. HP has also moved Federated Deduplication into a software solution – namely its backup application, HP Data Protector. So, HP's vision of using a single, consistent technology throughout the organization for deduplication is rapidly being realized.

37. On information and belief, use of the Accused Instrumentality in its ordinary and customary fashion results in infringement of the methods claimed by the '506 patent.

38. On information and belief, HPE/HPES have had knowledge of the '506 patent since at least the filing of this Complaint or shortly thereafter, and on information and belief, HPE/HPES knew of the '506 patent and knew of their infringement, including by way of this lawsuit.

39. Upon information and belief, HPE/HPES' affirmative acts of making, using, and selling the Accused Instrumentalities, and providing implementation services and technical support to users of the Accused Instrumentalities, have induced and continue to induce users of the Accused Instrumentalities to use them in their normal and customary way to infringe Claim 104 of the '506 patent by practicing a computer

implemented method comprising: receiving a data block in an uncompressed form, said data block being included in a data stream; analyzing data within the data block to determine a type of said data block; and compressing said data block to provide a compressed data block, wherein if one or more encoders are associated to said type, compressing said data block with at least one of said one or more encoders, otherwise compressing said data block with a default data compression encoder, and wherein the analyzing of the data within the data block to identify one or more data types excludes analyzing based only on a descriptor that is indicative of the data type of the data within the data block. For example, HPE/HPES instructs users of StoreOnce about the benefits of its deduplication features, which "minimizes disk IO and uses less disk and little memory, creating more efficiency and enabling faster ingest and, importantly, restoration of data." *See, e.g.*, http://h18006.www1.hp.com/storage/pdfs/hpstoreonce.pdf at 6:

HP StoreOnce deduplication software identifies replicate data inline (upon ingest) with its sparse index-based deduplication approach. This method has two phases:

1. HP StoreOnce algorithms sample large data sequences (approximately 10 MB) to identify the likelihood of duplicates and rapid routing delivers each sequence to the best node for deduplication.
2. StoreOnce uses a SHA-1 hash algorithm on approximately 4 KB variable-length blocks. By using a subset of key values stored in memory, StoreOnce determines a small number of sequences already stored on disk that are similar to any given input sequence. Then each input sequence is only deduplicated against those few sequences. This minimizes disk IO and uses less disk and little memory, creating more efficiency and enabling faster ingest and, importantly, restoration of data.

As previously mentioned, deduplication involves replacing duplicate data with pointers to existing (unique) data. If

HP/HPES also instructs users of StoreOnce that, "Unique (duplicate or unmatched) data chunks are compressed before being stored to disk."[9] For similar reasons, HPE/HPES also induce their customers to use the Accused Instrumentalities to infringe other claims of the '506 patent. HPE/HPES specifically intended and were aware that these normal and customary activities would infringe the '506 patent. HPE/HPES performed the acts that constitute induced infringement, and would induce actual infringement, with the knowledge of the '506 patent and with the knowledge, or willful blindness to the probability, that the induced acts would constitute infringement. On information and

[9] http://h18006.www1.hp.com/storage/pdfs/hpstoreonce.pdf at 7.

belief, HPE/HPES engaged in such inducement to promote the sales of the Accused Instrumentalities. Accordingly, HPE/HPES have induced and continue to induce users of the accused products to use the accused products in their ordinary and customary way to infringe the '506 patent, knowing that such use constitutes infringement of the '506 patent.

40. By making, using, offering for sale, selling and/or importing into the United States the Accused Instrumentalities, and touting the benefits of using the Accused Instrumentalities' compression features, HPE/HPES have injured Realtime and are liable to Realtime for infringement of the '506 patent pursuant to 35 U.S.C. § 271.

41. As a result HPE/HPES's infringement of the '506 patent, Plaintiff Realtime is entitled to monetary damages in an amount adequate to compensate for HPE/HPES's infringement, but in no event less than a reasonable royalty for the use made of the invention by HPE/HPES, together with interest and costs as fixed by the Court.

COUNT II

INFRINGEMENT OF U.S. PATENT NO. 9,054,728

42. Plaintiff Realtime realleges and incorporates by reference paragraphs 1-41 above, as if fully set forth herein.

43. Plaintiff Realtime is the owner by assignment of United States Patent No. 9,054,728 ("the '728 Patent") entitled "Data compression systems and methods." The '728 Patent was duly and legally issued by the United States Patent and Trademark Office on June 9, 2015. A true and correct copy of the '728 Patent is included as Exhibit B.

Silver Peak WAN Optimization Appliances

44. On information and belief, Silver Peak has made, used, offered for sale, sold and/or imported into the United States products that infringe the '728 patent, and continues to do so. By way of illustrative example, these infringing products include,

without limitation, Silver Peak compression products and services, such as, *e.g.*, Silver Peak WAN Optimization Appliances, including NX Physical Appliances (including but not limited to the NX-1700, NX-2700, NX-3700, NX-5700, NX-6700, NX-7700, NX-8700, NX-9700, NX-10700, and NX-11700) and VX Virtual Appliances (including but not limited to the VX-500, VX-1000, VX-2000, VX-3000, VX-5000, VX-6000, VX-7000, VX-8000, and VX-9000), and all versions and variations thereof since the issuance of the '728 patent ("Accused Instrumentality").

45. On information and belief, HPE/HPES has made, used, offered for sale, sold and/or imported into the United States products that, in conjunction with Silver Peak VX Virtual Appliance software, which are promoted to be used together with such HPE/HPES products, such as HP Proliant and Integrity servers[10] and HP 5400zl and 8200zl switches[11] ("Accused Instrumentality"), infringe the '506 patent, and continues to do so.

46. On information and belief, HPE/HPES and Silver Peak have directly infringed and continue to infringe the '728 patent, for example, through their own use and testing of the Accused Instrumentality, which constitute systems for compressing data claimed by Claim 1 of the '728 patent, comprising a processor; one or more content dependent data compression encoders; and a single data compression encoder; wherein the processor is configured: to analyze data within a data block to identify one or more parameters or attributes of the data wherein the analyzing of the data within the data block to identify the one or more parameters or attributes of the data excludes analyzing based solely on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block; to perform content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters

[10] *See, e.g.*, http://www.silver-peak.com/company/tech-partners/hp
[11] http://www.silver-peak.com/news/press-releases/silver-peak-extends-virtual-wan-optimization-hp-networking-solutions

or attributes of the data are identified; and to perform data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified. Upon information and belief, HPE/HPES and Silver Peak use the Accused Instrumentality, an infringing system, for their own internal non-testing business purposes, while testing the Accused Instrumentality, and while providing technical support and repair services for the Accused Instrumentality to HPE/HPES's customers and Silver Peak's customers.

47. The Accused Instrumentality is a system for compressing data, comprising a processor and one or more content dependent data compression encoders. *See, e.g.*, https://www.silver-peak.com/sites/default/files/userdocs/network_deployments_r5-2_revk_oct2012.pdf:

Network Memory

All Silver Peak WAN optimization appliances are equipped with Network Memory™ technology. Network Memory is used to inspect all inbound and outbound WAN traffic in real-time, storing a single local instance of data on each appliance.

Before sending information across the WAN, Silver Peak appliances compare real-time traffic streams to patterns stored using Network Memory. If a match exists, a short reference pointer is sent to the remote Silver Peak appliance, instructing it to deliver the traffic pattern from its local instance. Repetitive data is never sent across the WAN.

If content is modified, the Silver Peak appliance detects the change at the byte level and updates the network's "memory". Only the modifications are sent across the WAN. These are combined with original content by Silver Peak appliances at the destination location.

48. The Accused Instrumentality uses a single data compression encoder. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf ("Cross-flow payload and header compression provide additional gains on first-time data transfers and non-repetitive traffic. … After being deduplicated, traffic is compressed to provide additional reduction.").

49. The Accused Instrumentality analyzes data within a data block to identify one or more parameters or attributes of the data wherein the analyzing of the data within the data block to identify the one or more parameters or attributes of the data excludes

analyzing based solely on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block. *See, e.g.,* http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf at 14 ("Silver Peak VXOA utilizes a feature called Network Memory to provide bandwidth reduction for data sent across the WAN. Network Memory uses disk-based deduplication to eliminate the transfer of duplicate data across the WAN. After being deduplicated, traffic is compressed to provide additional reduction. Network Memory works at the byte level and does not have a block size, fixed or variable. Because Network Memory is free to find redundant data across block and packet boundaries, typical reduction rates are 60-90 percent for replication data.").

50. The Accused Instrumentality performs content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters or attributes of the data are identified. *See, e.g.,* http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf:

- **Data Reduction:** Each Silver Peak appliance inspects WAN traffic at the byte level and stores copies of content in high-capacity disk drives. Advanced finger-printing techniques recognize repetitive patterns for local delivery. Data Reduction operates at the network layer and supports all IP-based protocols including TCP, UDP and RTP.

https://www.silver-peak.com/sites/default/files/userdocs/network_deployments_r5-2_revk_oct2012.pdf:

Network Memory

All Silver Peak WAN optimization appliances are equipped with Network Memory™ technology. Network Memory is used to inspect all inbound and outbound WAN traffic in real-time, storing a single local instance of data on each appliance.

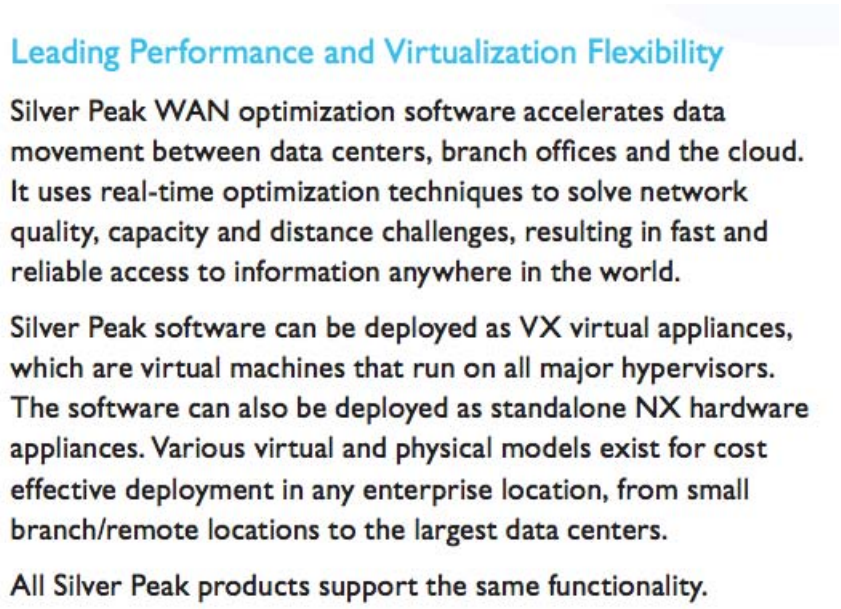
Before sending information across the WAN, Silver Peak appliances compare real-time traffic streams to patterns stored using Network Memory. If a match exists, a short reference pointer is sent to the remote Silver Peak appliance, instructing it to deliver the traffic pattern from its local instance. Repetitive data is never sent across the WAN.

If content is modified, the Silver Peak appliance detects the change at the byte level and updates the network's "memory". Only the modifications are sent across the WAN. These are combined with original content by Silver Peak appliances at the destination location.

51. The Accused Instrumentality performs data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf ("Cross-flow payload and header compression provide additional gains on first-time data transfers and non-repetitive traffic. … After being deduplicated, traffic is compressed to provide additional reduction.").

52. On information and belief, HPE/HPES and Silver Peak also directly infringe and continue to infringe other claims of the '728 patent, for similar reasons as explained above with respect to Claim 1 of the '728 patent.

53. On information and belief, all of the Accused Instrumentalities perform the claimed methods in substantially the same way. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf at 1:



Leading Performance and Virtualization Flexibility

Silver Peak WAN optimization software accelerates data movement between data centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world.

Silver Peak software can be deployed as VX virtual appliances, which are virtual machines that run on all major hypervisors. The software can also be deployed as standalone NX hardware appliances. Various virtual and physical models exist for cost effective deployment in any enterprise location, from small branch/remote locations to the largest data centers.

All Silver Peak products support the same functionality.

54. On information and belief, use of the Accused Instrumentality in its ordinary and customary fashion results in infringement of the systems claimed by the '728 patent.

55. On information and belief, HPE/HPES and Silver Peak have had knowledge of the '728 patent since at least the filing of the original Complaint or shortly thereafter, and on information and belief, HPE/HPES and Silver Peak knew of the '728 patent and knew of their infringement, including by way of this lawsuit.

56. Upon information and belief, Silver Peak's affirmative acts of making, using, and selling the Accused Instrumentalities, and providing implementation services and technical support to users of the Accused Instrumentalities, have induced and continue to induce users of the Accused Instrumentalities to use them in their normal and customary way to infringe the '728 patent by making or using a system for compressing data comprising a processor; one or more content dependent data compression encoders; and a single data compression encoder; wherein the processor is configured: to analyze data within a data block to identify one or more parameters or attributes of the data wherein the analyzing of the data within the data block to identify the one or more parameters or attributes of the data excludes analyzing based solely on a descriptor that is

indicative of the one or more parameters or attributes of the data within the data block; to perform content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters or attributes of the data are identified; and to perform data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified. For example, Silver Peak instructs users of its WAN Optimization Appliances about the benefits of its deduplication features, "accelerat[ing] data movement between data centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world. … maximiz[ing] available WAN bandwidth, extend[ing] distances, and improve[ing] WAN quality." See http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf.

Silver Peak also instructs users that, "Silver Peak VXOA utilizes a feature called Network Memory to provide bandwidth reduction for data sent across the WAN. Network Memory uses disk-based deduplication to eliminate the transfer of duplicate data across the WAN. After being deduplicated, traffic is compressed to provide additional reduction." *See* http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf at 14. For similar reasons, Silver Peak also induces its customers to use the Accused Instrumentalities to infringe other claims of the '728 patent. Silver Peak specifically intended and was aware that these normal and customary activities would infringe the '728 patent. Silver Peak performed the acts that constitute induced infringement, and would induce actual infringement, with the knowledge of the '728 patent and with the knowledge, or willful blindness to the probability, that the induced acts would constitute infringement. On information and belief, Silver Peak engaged in such inducement to promote the sales of the Accused Instrumentalities. Accordingly, Silver Peak has induced and continues to induce users of the accused products to use the accused

products in their ordinary and customary way to infringe the '728 patent, knowing that such use constitutes infringement of the '728 patent.

57. By making, using, offering for sale, selling and/or importing into the United States the Accused Instrumentalities, and touting the benefits of using the Accused Instrumentalities' compression features, HPE/HPES and Silver Peak have injured Realtime and are liable to Realtime for infringement of the '728 patent pursuant to 35 U.S.C. § 271.

58. As a result HPE/HPES's and Silver Peak's infringement of the '728 patent, Plaintiff Realtime is entitled to monetary damages in an amount adequate to compensate for HPE/HPES's and Silver Peak's infringement, but in no event less than a reasonable royalty for the use made of the invention by HPE/HPES and Silver Peak, together with interest and costs as fixed by the Court.

HP StoreOnce

59. On information and belief, HPE and/or HPES have made, used, offered for sale, sold and/or imported into the United States HPE/HPES products that infringe the '728 patent, and continues to do so. By way of illustrative example, these infringing products include, without limitation, HPE/HPES compression products and services, such as, *e.g.*, the HPE StoreOnce System[12] and all versions and variations thereof since the issuance of the '728 patent ("Accused Instrumentality").

60. On information and belief, HPE/HPES have directly infringed and continues to infringe the '728 patent, for example, through their own use and testing of the Accused Instrumentality, which constitute systems for compressing data claimed by Claim 1 of the '728 patent, comprising a processor; one or more content dependent data compression encoders; and a single data compression encoder; wherein the processor is configured: to analyze data within a data block to identify one or more parameters or

[12] https://www.hpe.com/us/en/storage/storeonce.html

attributes of the data wherein the analyzing of the data within the data block to identify the one or more parameters or attributes of the data excludes analyzing based solely on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block; to perform content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters or attributes of the data are identified; and to perform data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified. Upon information and belief, HPE/HPES use the Accused Instrumentality, an infringing system, for their own internal non-testing business purposes, while testing the Accused Instrumentality, and while providing technical support and repair services for the Accused Instrumentality to HPE/HPES's customers.

61. The Accused Instrumentality is a system for compressing data, comprising a processor and one or more content dependent data compression encoders. *See, e.g.*, http://h18006.www1.hp.com/storage/pdfs/hpstoreonce.pdf at 6:

HP StoreOnce deduplication software simplifies the deployment of deduplication technology across IT infrastructure. Not licensed as standalone software, it is a portable engine that can be easily embedded in multiple infrastructure components, eliminating the complexity seen in earlier-generation deduplication. HP StoreOnce uses patented innovation and features designed by HP Labs to maximize backup and recovery performance while minimizing management and hardware overhead.

HP StoreOnce deduplication software identifies replicate data inline (upon ingest) with its sparse index-based deduplication approach. This method has two phases:

1. HP StoreOnce algorithms sample large data sequences (approximately 10 MB) to identify the likelihood of duplicates and rapid routing delivers each sequence to the best node for deduplication.
2. StoreOnce uses a SHA-1 hash algorithm on approximately 4 KB variable-length blocks. By using a subset of key values stored in memory, StoreOnce determines a small number of sequences already stored on disk that are similar to any given input sequence. Then each input sequence is only deduplicated against those few sequences. This minimizes disk IO and uses less disk and little memory, creating more efficiency and enabling faster ingest and, importantly, restoration of data.

As previously mentioned, deduplication involves replacing duplicate data with pointers to existing (unique) data. If

62. The Accused Instrumentality uses a single data compression encoder. *See, e.g.*, https://storagegaga.wordpress.com/2011/09/28/hp-storeonce-further-depth/ ("Further savings are also achieved when the deduped data is compressed with the LZ (Lempel-Ziv) compression method before it is stored into the disks.")

63. The Accused Instrumentality analyzes data within a data block to identify

one or more parameters or attributes of the data wherein the analyzing of the data within the data block to identify the one or more parameters or attributes of the data excludes analyzing based solely on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block. *See, e.g.*, http://h18006.www1.hp.com/storage/pdfs/hpstoreonce.pdf at 6:

HP StoreOnce deduplication software identifies replicate data inline (upon ingest) with its sparse index-based deduplication approach. This method has two phases:

1. HP StoreOnce algorithms sample large data sequences (approximately 10 MB) to identify the likelihood of duplicates and rapid routing delivers each sequence to the best node for deduplication.
2. StoreOnce uses a SHA-1 hash algorithm on approximately 4 KB variable-length blocks. By using a subset of key values stored in memory, StoreOnce determines a small number of sequences already stored on disk that are similar to any given input sequence. Then each input sequence is only deduplicated against those few sequences. This minimizes disk IO and uses less disk and little memory, creating more efficiency and enabling faster ingest and, importantly, restoration of data.

As previously mentioned, deduplication involves replacing duplicate data with pointers to existing (unique) data. If

64. The Accused Instrumentality performs content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters or attributes of the data are identified. *See, e.g.*, http://h18006.www1.hp.com/storage/pdfs/hpstoreonce.pdf at 6:

HP StoreOnce deduplication software identifies replicate data inline (upon ingest) with its sparse index-based deduplication approach. This method has two phases:

1. HP StoreOnce algorithms sample large data sequences (approximately 10 MB) to identify the likelihood of duplicates and rapid routing delivers each sequence to the best node for deduplication.
2. StoreOnce uses a SHA-1 hash algorithm on approximately 4 KB variable-length blocks. By using a subset of key values stored in memory, StoreOnce determines a small number of sequences already stored on disk that are similar to any given input sequence. Then each input sequence is only deduplicated against those few sequences. This minimizes disk IO and uses less disk and little memory, creating more efficiency and enabling faster ingest and, importantly, restoration of data.

As previously mentioned, deduplication involves replacing duplicate data with pointers to existing (unique) data. If

65. The Accused Instrumentality performs data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified. *See, e.g.*, https://storagegaga.wordpress.com/2011/09/28/hp-storeonce-further-depth/ ("Further savings are also achieved when the deduped data is compressed with the LZ (Lempel-Ziv) compression method before it is stored into the disks.").

66. On information and belief, HPE/HPES also directly infringe and continue to infringe other claims of the '728 patent, for similar reasons as explained above with

respect to Claim 1 of the '728 patent.

67. On information and belief, all of the Accused Instrumentalities perform the claimed methods in substantially the same way. *See, e.g.*, http://h18006.www1.hp.com/storage/definitions.html:

Federated Deduplication
Federated Deduplication provides deployment independence for deduplication. HP is able to provide deployment independence because its research arm, HP Labs, developed a deduplication engine that can be deployed across a storage infrastructure -- from virtual machines to enterprise data centers. The use of a common deduplication engine enables the native communication and movement of data across the various systems without rehydrating the data. This increases the efficiency of the deduplication process and permits data to be moved from location to location over low-bandwidth, affordable links. HP has used Federated Deduplication in its StoreOnce family since 2010. The recently released HP B6200 StoreOnce Backup System brings this approach to large data centers. HP has also moved Federated Deduplication into a software solution – namely its backup application, HP Data Protector. So, HP's vision of using a single, consistent technology throughout the organization for deduplication is rapidly being realized.

68. On information and belief, use of the Accused Instrumentality in its ordinary and customary fashion results in infringement of the systems claimed by the '728 patent.

69. On information and belief, HPE/HPES have had knowledge of the '728 patent since at least the filing of the original Complaint or shortly thereafter, and on information and belief, HPE/HPES knew of the '728 patent and knew of their infringement, including by way of this lawsuit.

70. Upon information and belief, HPE/HPES's affirmative acts of making, using, and selling the Accused Instrumentalities, and providing implementation services and technical support to users of the Accused Instrumentalities, have induced and continue to induce users of the Accused Instrumentalities to use them in their normal and customary way to infringe the '728 patent by making or using a system for compressing data comprising a processor; one or more content dependent data compression encoders; and a single data compression encoder; wherein the processor is configured: to analyze data within a data block to identify one or more parameters or attributes of the data wherein the analyzing of the data within the data block to identify the one or more

parameters or attributes of the data excludes analyzing based solely on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block; to perform content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters or attributes of the data are identified; and to perform data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified. For example, HPE/HPES instructs users of StoreOnce about the benefits of its deduplication features, which "minimizes disk IO and uses less disk and little memory, creating more efficiency and enabling faster ingest and, importantly, restoration of data." *See, e.g.*, http://h18006.www1.hp.com/storage/pdfs/hpstoreonce.pdf at 6:

HP StoreOnce deduplication software identifies replicate data inline (upon ingest) with its sparse index-based deduplication approach. This method has two phases:

1. HP StoreOnce algorithms sample large data sequences (approximately 10 MB) to identify the likelihood of duplicates and rapid routing delivers each sequence to the best node for deduplication.
2. StoreOnce uses a SHA-1 hash algorithm on approximately 4 KB variable-length blocks. By using a subset of key values stored in memory, StoreOnce determines a small number of sequences already stored on disk that are similar to any given input sequence. Then each input sequence is only deduplicated against those few sequences. This minimizes disk IO and uses less disk and little memory, creating more efficiency and enabling faster ingest and, importantly, restoration of data.

As previously mentioned, deduplication involves replacing duplicate data with pointers to existing (unique) data. If

HPE/HPES also instructs StoreOnce users that, "Unique (duplicate or unmatched) data chunks are compressed before being stored to disk."[13] For similar reasons, HPE/HPES also induce their customers to use the Accused Instrumentalities to infringe other claims of the '728 patent. HPE/HPES specifically intended and were aware that these normal and customary activities would infringe the '728 patent. HPE/HPES performed the acts that constitute induced infringement, and would induce actual infringement, with the knowledge of the '728 patent and with the knowledge, or willful blindness to the probability, that the induced acts would constitute infringement. On information and belief, HPE/HPES engaged in such inducement to promote the sales of the Accused Instrumentalities. Accordingly, HPE/HPES have induced and continue to induce users of

[13] http://h18006.www1.hp.com/storage/pdfs/hpstoreonce.pdf at 7.

the accused products to use the accused products in their ordinary and customary way to infringe the '728 patent, knowing that such use constitutes infringement of the '728 patent.

71. By making, using, offering for sale, selling and/or importing into the United States the Accused Instrumentalities, and touting the benefits of using the Accused Instrumentalities' compression features, HPE/HPES have injured Realtime and are liable to Realtime for infringement of the '728 patent pursuant to 35 U.S.C. § 271.

72. As a result HPE/HPES's infringement of the '728 patent, Plaintiff Realtime is entitled to monetary damages in an amount adequate to compensate for HPE/HPES's infringement, but in no event less than a reasonable royalty for the use made of the invention by HPE/HPES, together with interest and costs as fixed by the Court.

COUNT III

INFRINGEMENT OF U.S. PATENT NO. 8,643,513

73. Plaintiff realleges and incorporates by reference paragraphs 1-72 above, as if fully set forth herein.

74. Plaintiff Realtime is the owner by assignment of United States Patent No. 8,643,513 ("the '513 patent") entitled "Data compression systems and methods." The '513 patent was duly and legally issued by the United States Patent and Trademark Office on February 4, 2014. A true and correct copy of the '513 patent is included as Exhibit C.

Silver Peak WAN Optimization Appliances

75. On information and belief, Silver Peak has made, used, offered for sale, sold and/or imported into the United States products that infringe the '506 patent, and continues to do so. By way of illustrative example, these infringing products include, without limitation, Silver Peak compression products and services, such as, *e.g.*, Silver Peak WAN Optimization Appliances, including NX Physical Appliances (including but not limited to the NX-1700, NX-2700, NX-3700, NX-5700, NX-6700, NX-7700, NX-

8700, NX-9700, NX-10700, and NX-11700) and VX Virtual Appliances (including but not limited to the VX-500, VX-1000, VX-2000, VX-3000, VX-5000, VX-6000, VX-7000, VX-8000, and VX-9000), and all versions and variations thereof since the issuance of the '506 patent ("Accused Instrumentality").

76. On information and belief, Silver Peak has directly infringed and continues to infringe the '513 patent, for example, through its own use and testing of the Accused Instrumentality to practice compression methods claimed by Claim 1 of the '513 patent, namely, a method of compressing a plurality of data blocks, comprising: analyzing the plurality of data blocks to recognize when an appropriate content independent compression algorithm is to be applied to the plurality of data blocks; applying the appropriate content independent data compression algorithm to a portion of the plurality of data blocks to provide a compressed data portion; analyzing a data block from another portion of the plurality of data blocks for recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm to apply to the data block; and applying the appropriate content dependent data compression algorithm to the data block to provide a compressed data block when the characteristic, attribute, or parameter is identified, wherein the analyzing the plurality of data blocks to recognize when the appropriate content independent compression algorithm is to be applied excludes analyzing based only on a descriptor indicative of the any characteristic, attribute, or parameter, and wherein the analyzing the data block to recognize the any characteristic, attribute, or parameter excludes analyzing based only on the descriptor. Upon information and belief, Silver Peak uses the Accused Instrumentality to practice infringing methods for its own internal non-testing business purposes, while testing the Accused Instrumentality, and while providing technical support and repair services for the Accused Instrumentality to Silver Peak's customers.

77. The Accused Instrumentality compresses a plurality of data blocks, analyzing them to recognize when an appropriate content independent compression

algorithm is to be applied to the plurality of data blocks, and then applying the appropriate content independent data compression algorithm to a portion of the plurality of data blocks to provide a compressed data portion. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf ("Cross-flow payload and header compression provide additional gains on first-time data transfers and non-repetitive traffic. … After being deduplicated, traffic is compressed to provide additional reduction.").

78. The Accused Instrumentality analyzes a data block from another portion of the plurality of data blocks for recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm to apply to the data block; and then applies the appropriate content dependent data compression algorithm to the data block to provide a compressed data block when the characteristic, attribute, or parameter is identified, wherein the analyzing the plurality of data blocks to recognize when the appropriate content independent compression algorithm is to be applied excludes analyzing based only on a descriptor indicative of the any characteristic, attribute, or parameter, and wherein the analyzing the data block to recognize the any characteristic, attribute, or parameter excludes analyzing based only on the descriptor. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf:

- **Data Reduction:** Each Silver Peak appliance inspects WAN traffic at the byte level and stores copies of content in high-capacity disk drives. Advanced finger-printing techniques recognize repetitive patterns for local delivery. Data Reduction operates at the network layer and supports all IP-based protocols including TCP, UDP and RTP.

https://www.silver-peak.com/sites/default/files/userdocs/network_deployments_r5-2_revk_oct2012.pdf:

Network Memory

All Silver Peak WAN optimization appliances are equipped with Network Memory™ technology. Network Memory is used to inspect all inbound and outbound WAN traffic in real-time, storing a single local instance of data on each appliance.

Before sending information across the WAN, Silver Peak appliances compare real-time traffic streams to patterns stored using Network Memory. If a match exists, a short reference pointer is sent to the remote Silver Peak appliance, instructing it to deliver the traffic pattern from its local instance. Repetitive data is never sent across the WAN.

If content is modified, the Silver Peak appliance detects the change at the byte level and updates the network's "memory". Only the modifications are sent across the WAN. These are combined with original content by Silver Peak appliances at the destination location.

79. On information and belief, Silver Peak also directly infringes and continue to infringe other claims of the '513 patent, for similar reasons as explained above with respect to Claim 1 of the '513 patent.

80. On information and belief, all of the Accused Instrumentalities perform the claimed methods in substantially the same way. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf at 1:

Leading Performance and Virtualization Flexibility

Silver Peak WAN optimization software accelerates data movement between data centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world.

Silver Peak software can be deployed as VX virtual appliances, which are virtual machines that run on all major hypervisors. The software can also be deployed as standalone NX hardware appliances. Various virtual and physical models exist for cost effective deployment in any enterprise location, from small branch/remote locations to the largest data centers.

All Silver Peak products support the same functionality.

81. On information and belief, use of the Accused Instrumentality in its ordinary and customary fashion results in infringement of the methods claimed by the '513 patent.

82. On information and belief, Silver Peak has had knowledge of the '513

patent since at least the filing of the original Complaint or shortly thereafter, and on information and belief, Silver Peak knew of the '513 patent and knew of its infringement, including by way of this lawsuit.

83. Upon information and belief, Silver Peak's affirmative acts of making, using, and selling the Accused Instrumentalities, and providing implementation services and technical support to users of the Accused Instrumentalities, have induced and continue to induce users of the Accused Instrumentalities to use them in their normal and customary way to infringe Claim 1 of the '513 patent by practicing a method of compressing a plurality of data blocks, comprising: analyzing the plurality of data blocks to recognize when an appropriate content independent compression algorithm is to be applied to the plurality of data blocks; applying the appropriate content independent data compression algorithm to a portion of the plurality of data blocks to provide a compressed data portion; analyzing a data block from another portion of the plurality of data blocks for recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm to apply to the data block; and applying the appropriate content dependent data compression algorithm to the data block to provide a compressed data block when the characteristic, attribute, or parameter is identified, wherein the analyzing the plurality of data blocks to recognize when the appropriate content independent compression algorithm is to be applied excludes analyzing based only on a descriptor indicative of the any characteristic, attribute, or parameter, and wherein the analyzing the data block to recognize the any characteristic, attribute, or parameter excludes analyzing based only on the descriptor. For example, Silver Peak instructs users of its WAN Optimization Appliances about the benefits of its deduplication features, "accelerat[ing] data movement between data centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world. … maximiz[ing] available WAN bandwidth, extend[ing]

distances, and improve[ing] WAN quality." See http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf. Silver Peak also instructs users that, "Silver Peak VXOA utilizes a feature called Network Memory to provide bandwidth reduction for data sent across the WAN. Network Memory uses disk-based deduplication to eliminate the transfer of duplicate data across the WAN. After being deduplicated, traffic is compressed to provide additional reduction." *See* http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf at 14. For similar reasons, Silver Peak also induces its customers to use the Accused Instrumentalities to infringe other claims of the '513 patent. Silver Peak specifically intended and was aware that these normal and customary activities would infringe the '513 patent. Silver Peak performed the acts that constitute induced infringement, and would induce actual infringement, with the knowledge of the '513 patent and with the knowledge, or willful blindness to the probability, that the induced acts would constitute infringement. On information and belief, Silver Peak engaged in such inducement to promote the sales of the Accused Instrumentalities. Accordingly, Silver Peak has induced and continue to induce users of the Accused Instrumentalities to use the Accused Instrumentalities in their ordinary and customary way to infringe the '513 patent, knowing that such use constitutes infringement of the '513 patent.

84. By making, using, offering for sale, selling and/or importing into the United States the Accused Instrumentalities, and touting the benefits of using the Accused Instrumentalities' compression features, Silver Peak has injured Realtime and is liable to Realtime for infringement of the '513 patent pursuant to 35 U.S.C. § 271.

85. As a result Silver Peak's infringement of the '513 patent, Plaintiff Realtime is entitled to monetary damages in an amount adequate to compensate for Silver Peak's infringement, but in no event less than a reasonable royalty for the use made of the invention by Silver Peak, together with interest and costs as fixed by the Court.

COUNT IV

INFRINGEMENT OF U.S. PATENT NO. 9,116,908

86. Plaintiff Realtime realleges and incorporates by reference paragraphs 1-84 above, as if fully set forth herein.

87. Plaintiff Realtime is the owner by assignment of United States Patent No. 9,116,908 ("the '908 Patent") entitled "System and methods for accelerated data storage and retrieval." The '908 Patent was duly and legally issued by the United States Patent and Trademark Office on August 25, 2015. A true and correct copy of the '908 Patent is included as Exhibit D.

Silver Peak WAN Optimization Appliances

88. On information and belief, Silver Peak has made, used, offered for sale, sold and/or imported into the United States products that infringe the '506 patent, and continues to do so. By way of illustrative example, these infringing products include, without limitation, Silver Peak compression products and services, such as, *e.g.*, Silver Peak WAN Optimization Appliances, including NX Physical Appliances (including but not limited to the NX-1700, NX-2700, NX-3700, NX-5700, NX-6700, NX-7700, NX-8700, NX-9700, NX-10700, and NX-11700) and VX Virtual Appliances (including but not limited to the VX-500, VX-1000, VX-2000, VX-3000, VX-5000, VX-6000, VX-7000, VX-8000, and VX-9000), and all versions and variations thereof since the issuance of the '506 patent ("Accused Instrumentality").

89. On information and belief, Silver Peak has directly infringed and continues to infringe the '908 patent, for example, through its own use and testing of the Accused Instrumentality, which constitutes a system comprising: a memory device; and a data accelerator configured to compress: (i) a first data block with a first compression technique to provide a first compressed data block; and (ii) a second data block with a second compression technique, different from the first compression technique, to provide a second compressed data block; wherein the compressed first and second data blocks are

stored on the memory device, and the compression and storage occurs faster than the first and second data blocks are able to be stored on the memory device in uncompressed form. Upon information and belief, Silver Peak uses the Accused Instrumentality, an infringing system, for its own internal non-testing business purposes, while testing the Accused Instrumentality, and while providing technical support and repair services for the Accused Instrumentality to Silver Peak's customers.

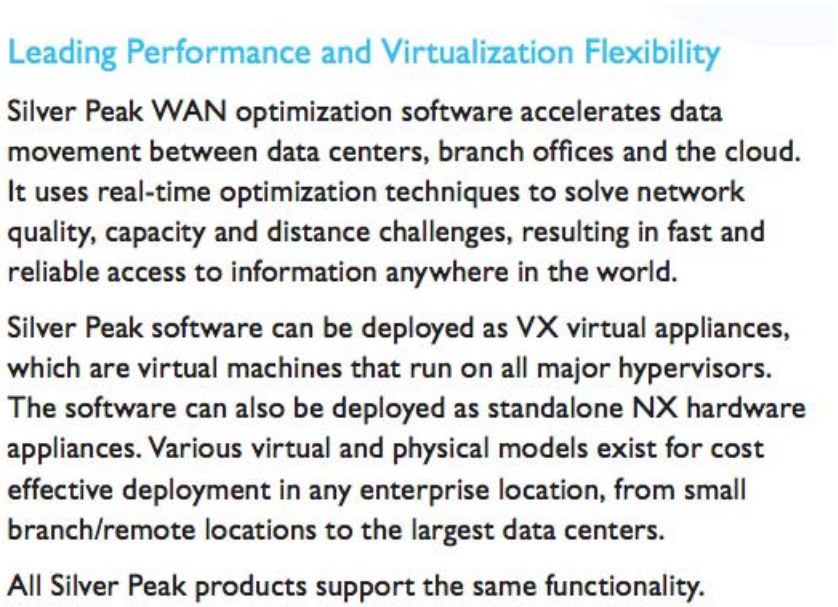
90. The Accused Instrumentality evidently includes a memory device and a data accelerator configured to compress: (i) a first data block with a first compression technique to provide a first compressed data block; and (ii) a second data block with a second compression technique, different from the first compression technique, to provide a second compressed data block. *See, e.g.,* http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf ("Network Memory inspects all traffic that is sent between clients and servers, storing information as a local instance in Silver Peak appliances. Repetitive information is delivered locally rather than sent across the WAN, improving application performance and WAN utilization. Cross-flow payload and header compression provide additional gains on first-time data transfers and non-repetitive traffic.").

91. The Accused Instrumentality stores the compressed first and second data blocks on the memory device, and the compression and storage occurs faster than the first and second data blocks are able to be stored on the memory device in uncompressed form. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf ("Silver Peak WAN optimization software accelerates data movement between data centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world.").

92. On information and belief, Silver Peak also directly infringes and continues to infringe other claims of the '908 patent, for similar reasons as explained

above with respect to Claim 1 of the '908 patent.

93. On information and belief, all of the Accused Instrumentalities perform the claimed methods in substantially the same way. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf at 1:



Leading Performance and Virtualization Flexibility

Silver Peak WAN optimization software accelerates data movement between data centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world.

Silver Peak software can be deployed as VX virtual appliances, which are virtual machines that run on all major hypervisors. The software can also be deployed as standalone NX hardware appliances. Various virtual and physical models exist for cost effective deployment in any enterprise location, from small branch/remote locations to the largest data centers.

All Silver Peak products support the same functionality.

94. On information and belief, use of the Accused Instrumentality in its ordinary and customary fashion results in infringement of the systems claimed by the '908 patent.

95. On information and belief, Silver Peak has had knowledge of the '908 patent since at least the filing of this Complaint or shortly thereafter, and on information and belief, Silver Peak knew of the '908 patent and knew of its infringement, including by way of this lawsuit.

96. Upon information and belief, Silver Peak's affirmative acts of making, using, and selling the Accused Instrumentalities, and providing implementation services and technical support to users of the Accused Instrumentalities, have induced and continue to induce users of the Accused Instrumentalities to use them in their normal and customary way to infringe Claim 1 of the '908 patent by making or using a system comprising: a memory device; and a data accelerator configured to compress: (i) a first

data block with a first compression technique to provide a first compressed data block; and (ii) a second data block with a second compression technique, different from the first compression technique, to provide a second compressed data block; wherein the compressed first and second data blocks are stored on the memory device, and the compression and storage occurs faster than the first and second data blocks are able to be stored on the memory device in uncompressed form. For example, Silver Peak explains that its Network Memory feature deduplicates data for the purposes of reducing WAN utilization and also compresses non-duplicate data to provide additional gains. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf ("Network Memory inspects all traffic that is sent between clients and servers, storing information as a local instance in Silver Peak appliances. Repetitive information is delivered locally rather than sent across the WAN, improving application performance and WAN utilization. Cross-flow payload and header compression provide additional gains on first-time data transfers and non-repetitive traffic."). Silver Peak also explains that this accelerates data movement across the WAN. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf ("Silver Peak WAN optimization software accelerates data movement between data centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world."). For similar reasons, Silver Link also induces its customers to use the Accused Instrumentalities to infringe other claims of the '908 patent. Silver Peak specifically intended and was aware that these normal and customary activities would infringe the '908 patent. Silver Peak performed the acts that constitute induced infringement, and would induce actual infringement, with the knowledge of the '908 patent and with the knowledge, or willful blindness to the probability, that the induced acts would constitute infringement. On information and belief, Silver Peak

engaged in such inducement to promote the sales of the Accused Instrumentalities. Accordingly, Silver Peak has induced and continues to induce users of the accused products to use the accused products in their ordinary and customary way to infringe the '908 patent, knowing that such use constitutes infringement of the '908 patent.

97. By making, using, offering for sale, selling and/or importing into the United States the Accused Instrumentalities, and touting the benefits of using the Accused Instrumentalities' compression features, Silver Peak has injured Realtime and is liable to Realtime for infringement of the '908 patent pursuant to 35 U.S.C. § 271.

98. As a result of Silver Peak's infringement of the '908 patent, Plaintiff Realtime is entitled to monetary damages in an amount adequate to compensate for Silver Peak's infringement, but in no event less than a reasonable royalty for the use made of the invention by Silver Peak, together with interest and costs as fixed by the Court.

COUNT V

INFRINGEMENT OF U.S. PATENT NO. 7,415,530

99. Plaintiff realleges and incorporates by reference paragraphs 1-74 above, as if fully set forth herein.

100. Plaintiff Realtime is the owner by assignment of United States Patent No. 7,415,530 ("the '530 patent") entitled "System and methods for accelerated data storage and retrieval." The '530 patent was duly and legally issued by the United States Patent and Trademark Office on August 19, 2008. A true and correct copy of the '530 patent is included as Exhibit E.

Silver Peak WAN Optimization Appliances

101. On information and belief, Silver Peak has made, used, offered for sale, sold and/or imported into the United States products that infringe the '530 patent, and continues to do so. By way of illustrative example, these infringing products include, without limitation, Silver Peak compression products and services, such as, *e.g.*, Silver

Peak WAN Optimization Appliances, including NX Physical Appliances (including but not limited to the NX-1700, NX-2700, NX-3700, NX-5700, NX-6700, NX-7700, NX-8700, NX-9700, NX-10700, and NX-11700) and VX Virtual Appliances (including but not limited to the VX-500, VX-1000, VX-2000, VX-3000, VX-5000, VX-6000, VX-7000, VX-8000, and VX-9000), and all versions and variations thereof since the issuance of the '530 patent ("Accused Instrumentality").

102. On information and belief, Silver Peak has directly infringed and continues to infringe the '530 patent, for example, through its own use and testing of the Accused Instrumentality, which constitutes a system comprising: a memory device; and a data accelerator, wherein said data accelerator is coupled to said memory device, a data stream is received by said data accelerator in received form, said data stream includes a first data block and a second data block, said data stream is compressed by said data accelerator to provide a compressed data stream by compressing said first data block with a first compression technique and said second data block with a second compression technique, said first and second compression techniques are different, said compressed data stream is stored on said memory device, said compression and storage occurs faster than said data stream is able to be stored on said memory device in said received form, a first data descriptor is stored on said memory device indicative of said first compression technique, and said first descriptor is utilized to decompress the portion of said compressed data stream associated with said first data block. Upon information and belief, Silver Peak uses the Accused Instrumentality, an infringing system, for its own internal non-testing business purposes, while testing the Accused Instrumentality, and while providing technical support and repair services for the Accused Instrumentality to Silver Peak's customers.

103. The Accused Instrumentality evidently includes the memory device and includes the data accelerator, wherein said data accelerator is coupled to said memory device. *See, e.g.,* http://www.silver-peak.com/sites/default/files/infoctr/silver-

peak_ds_vx-virtual-wan-optimization.pdf ("Silver Peak WAN optimization software accelerates data movement between data centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world.").

104. The Accused Instrumentality receives an incoming stream of data. *See, e.g.*, https://www.silver-peak.com/sites/default/files/userdocs/network_deployments_r5-2_revk_oct2012.pdf:

Network Memory

All Silver Peak WAN optimization appliances are equipped with Network Memory™ technology. Network Memory is used to inspect all inbound and outbound WAN traffic in real-time, storing a single local instance of data on each appliance.

Before sending information across the WAN, Silver Peak appliances compare real-time traffic streams to patterns stored using Network Memory. If a match exists, a short reference pointer is sent to the remote Silver Peak appliance, instructing it to deliver the traffic pattern from its local instance. Repetitive data is never sent across the WAN.

If content is modified, the Silver Peak appliance detects the change at the byte level and updates the network's "memory". Only the modifications are sent across the WAN. These are combined with original content by Silver Peak appliances at the destination location.

105. The Accused Instrumentality's received data stream will evidently consist of more than one data block.

106. The Accused Instrumentality compresses said data stream to provide a compressed data stream by compressing said first data block with a first compression technique and said second data block with a second compression technique. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf ("Network Memory inspects all traffic that is sent between clients and servers, storing information as a local instance in Silver Peak appliances. Repetitive information is delivered locally rather than sent across the WAN, improving application performance and WAN utilization. Cross-flow payload and header compression provide additional gains on first-time data transfers and non-repetitive traffic.").

107. The first (deduplication) and second (compression) compression

techniques used by the Accused Instrumentality described above are necessarily different.

108. After compression, said compressed data stream is stored on said memory device. *See, e.g.,* http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf ("Data Reduction: Each Silver Peak appliance inspects WAN traffic at the byte level and stores copies of content in high-capacity disk drives. Advanced finger-printing techniques recognize repetitive patterns for local delivery. Data Reduction operates at the network layer and supports all IP-based protocols including TCP, UDP and RTP."); http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf ("Network Memory inspects all traffic that is sent between clients and servers, storing information as a local instance in Silver Peak appliances. Repetitive information is delivered locally rather than sent across the WAN, improving application performance and WAN utilization. Cross-flow payload and header compression provide additional gains on first-time data transfers and non-repetitive traffic.").

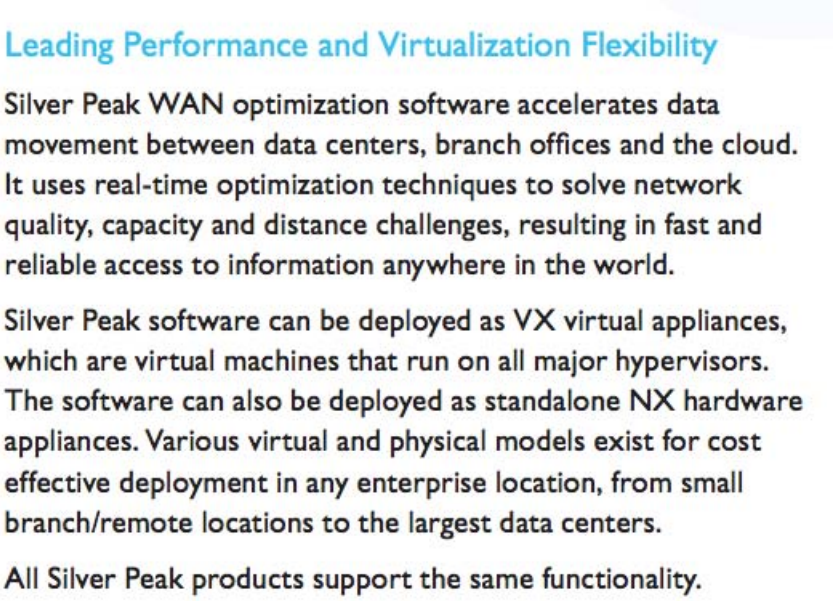
109. Said compression and storage occurs faster than said data stream is able to be stored on said memory device in said received form. *See, e.g.,* http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf ("Silver Peak WAN optimization software accelerates data movement between data centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world.").

110. The Accused Instrumentality would evidently store a first data descriptor on said memory device indicative of said first compression technique, and utilize said first descriptor to decompress the portion of said compressed data stream associated with said first data block. *See, e.g.,* http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf ("Data Reduction: Each Silver Peak appliance inspects WAN traffic at the byte level and

stores copies of content in high-capacity disk drives. Advanced finger-printing techniques recognize repetitive patterns for local delivery. Data Reduction operates at the network layer and supports all IP-based protocols including TCP, UDP and RTP.").

111. On information and belief, Silver Peak also directly infringes and continues to infringe other claims of the '530 patent, for similar reasons as explained above with respect to Claim 1 of the '530 patent.

112. On information and belief, all of the Accused Instrumentalities constitute the claimed systems in substantially the same way. *See, e.g.*, http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf at 1:



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Silver Peak software can be deployed as VX virtual appliances, which are virtual machines that run on all major hypervisors. The software can also be deployed as standalone NX hardware appliances. Various virtual and physical models exist for cost effective deployment in any enterprise location, from small branch/remote locations to the largest data centers.

All Silver Peak products support the same functionality.

113. On information and belief, use of the Accused Instrumentality in its ordinary and customary fashion results in infringement of the methods claimed by the '530 patent.

114. On information and belief, Silver Peak has had knowledge of the '530 patent since at least the filing of this Complaint or shortly thereafter, and on information and belief, Silver Peak knew of the '530 patent and knew of its infringement, including by way of this lawsuit.

115. Upon information and belief, Silver Peak's affirmative acts of making,

using, and selling the Accused Instrumentalities, and providing implementation services and technical support to users of the Accused Instrumentalities, have induced and continue to induce users of the Accused Instrumentalities to use them in their normal and customary way to infringe Claim 1 of the '530 patent by making or using a system comprising: a memory device; and a data accelerator, wherein said data accelerator is coupled to said memory device, a data stream is received by said data accelerator in received form, said data stream includes a first data block and a second data block, said data stream is compressed by said data accelerator to provide a compressed data stream by compressing said first data block with a first compression technique and said second data block with a second compression technique, said first and second compression techniques are different, said compressed data stream is stored on said memory device, said compression and storage occurs faster than said data stream is able to be stored on said memory device in said received form, a first data descriptor is stored on said memory device indicative of said first compression technique, and said first descriptor is utilized to decompress the portion of said compressed data stream associated with said first data block. For example, Silver Peak explains that its Network Memory feature deduplicates data for the purposes of reducing WAN utilization and also compresses non-duplicate data to provide additional gains. *See, e.g.,* http://www.silver-peak.com/sites/default/files/infoctr/eql_silver_peak_technical_report.pdf ("Network Memory inspects all traffic that is sent between clients and servers, storing information as a local instance in Silver Peak appliances. Repetitive information is delivered locally rather than sent across the WAN, improving application performance and WAN utilization. Cross-flow payload and header compression provide additional gains on first-time data transfers and non-repetitive traffic."). Silver Peak also explains that this accelerates data movement across the WAN. *See, e.g.,* http://www.silver-peak.com/sites/default/files/infoctr/silver-peak_ds_vx-virtual-wan-optimization.pdf ("Silver Peak WAN optimization software accelerates data movement between data

centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world.”). For similar reasons, Silver Link also induces its customers to use the Accused Instrumentalities to infringe other claims of the ‘530 patent. Silver Peak specifically intended and was aware that these normal and customary activities would infringe the ‘530 patent. Silver Peak performed the acts that constitute induced infringement, and would induce actual infringement, with the knowledge of the ‘530 patent and with the knowledge, or willful blindness to the probability, that the induced acts would constitute infringement. On information and belief, Silver Peak engaged in such inducement to promote the sales of the Accused Instrumentalities. Accordingly, Silver Peak has induced and continues to induce users of the accused products to use the accused products in their ordinary and customary way to infringe the ‘530 patent, knowing that such use constitutes infringement of the ‘530 patent.

116. By making, using, offering for sale, selling and/or importing into the United States the Accused Instrumentalities, and touting the benefits of using the Accused Instrumentalities’ compression features, Silver Peak has injured Realtime and is liable to Realtime for infringement of the ‘530 patent pursuant to 35 U.S.C. § 271.

117. As a result of Silver Peak’s infringement of the ‘530 patent, Plaintiff Realtime is entitled to monetary damages in an amount adequate to compensate for Silver Peak’s infringement, but in no event less than a reasonable royalty for the use made of the invention by Silver Peak, together with interest and costs as fixed by the Court.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Realtime respectfully requests that this Court enter:

a. A judgment in favor of Plaintiff that HPE, HPES, and Silver Peak have infringed, either literally and/or under the doctrine of equivalents, the ‘506 patent and the ‘728 patent; and that Silver Peak has infringed, either

literally and/or under the doctrine of equivalents, the '513 patent, the '908 patent, and the '530 patent;

b. A judgment and order requiring HPE, HPES, and Silver Peak to pay Plaintiff its damages, costs, expenses, and prejudgment and post-judgment interest for their infringement of the '506 patent and the '728 patent as provided under 35 U.S.C. § 284; and a judgment and order requiring Silver Peak to pay Plaintiff its damages, costs, expenses, and prejudgment and post-judgment interest for its infringement of the '513 patent, the '908 patent, and the '530 patent;

c. A judgment and order requiring HPE, HPES, and Silver Peak to provide an accounting and to pay supplemental damages to Realtime, including without limitation, prejudgment and post-judgment interest;

d. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Plaintiff its reasonable attorneys' fees against HPE, HPES, and Silver Peak; and

e. Any and all other relief as the Court may deem appropriate and just under the circumstances.

DEMAND FOR JURY TRIAL

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

Dated: February 26, 2016

Respectfully submitted,

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