UNITED STATES DISTRICT COURT
DISTRICT OF DELAWARE

REALTIME DATA LLC d/b/a IXO, Plaintiff, v. ARYAKA NETWORKS, INC., Defendant.	C.A. No. 1:18-CV-2062-CFC **JURY TRIAL DEMANDED**

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT AGAINST ARYAKA, 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 Defendant Aryaka Networks, Inc. ("Aryaka" or "Defendant"):

PARTIES

1. Realtime is a limited liability company organized under the laws of the State of New York. Realtime's principal place of business is at 66 Palmer Avenue, Suite 27, Bronxville, NY 10708. 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 40 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, Aryaka is a Delaware corporation with its principal place of business at 1800 Gateway Drive, Suite #200, San Mateo, California 94404. Aryaka can be served through its registered agent, National Registered Agents, Inc, 160 Greentree Dr. Suite 101., Dover, Delaware 19904.

JURISDICTION AND VENUE

3. 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).

4. This Court has personal jurisdiction over Defendant Aryaka in this action because Aryaka is incorporated in Delaware and has committed acts within the District of Delaware giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over Aryaka would not offend traditional notions of fair play and substantial justice. Aryaka, 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.

5. Venue is proper in this district under 28 U.S.C. § 1400(b). Upon information and belief, Aryaka is incorporated in Delaware, has transacted business in the District of Delaware, and has committed acts of direct and indirect infringement in the District of Delaware.

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

6. Plaintiff realleges and incorporates by reference the foregoing paragraphs, as if fully set forth herein.

7. 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 A. Realtime asserts infringement by Aryaka of only Claim 25 of the '728 Patent, a method claim.

8. On information and belief, Aryaka has offered for sale, sold and/or imported into the United States Aryaka products and services that infringe Claim 25 of the '728 patent only, and continues to do so. By way of illustrative example, these infringing products and services include, without limitation, Aryaka's products and services, *e.g.*, Smart CDN, SmartCONNECT, and the system hardware on which they operate, and all versions and variations thereof since the issuance of Claim 25 of the '728 Patent ("Accused Instrumentalities").

9. On information and belief, Aryaka has directly infringed and continues to infringe claim 25 of the '728 Patent, for example, by making, selling, offering for sale, and/or importing the Accused Instrumentalities, and through its own internal use and testing of the Accused Instrumentalities, which perform the computer implemented method for compressing data claimed by Claim 25 of the '728 Patent, comprising: analyzing, using a processor, data within a data block to identify one or more parameters or attributes of the data within the data block; determining, using the processor, whether to output the data block in a received form or in a compressed form; and outputting, using the processor, the data block in the received form or the compressed form based on the determination, wherein the outputting the data block in the compressed form comprises determining whether to compress the data block with content dependent data compression based on the

one or more parameters or attributes of the data within the data block or to compress the data block with a single data compression encoder; and 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 only on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block. Upon information and belief, Aryaka uses the Accused Instrumentalities, which perform the infringing method, for its own internal non-testing business purposes, while testing the Accused Instrumentalities, and while providing technical support and repair services for the Accused Instrumentalities to Aryaka's customers.

10. Aryaka also indirectly infringes the '728 Patent by manufacturing, using, selling, offering for sale, and/or importing the accused products, with knowledge that the accused products were and are especially manufactured and/or especially adapted for use in infringing the '728 Patent and are not a staple article or commodity of commerce suitable for substantial non-infringing use. On information and belief, the Accused Instrumentality is designed to function with compatible hardware to perform the computer implemented method for compressing data claimed by Claim 25 of the '728 Patent, comprising: analyzing, using a processor, data within a data block to identify one or more parameters or attributes of the data within the data block; determining, using the processor, whether to output the data block in a received form or in a compressed form; and outputting, using the processor, the data block in the received form or the compressed form based on the determination, wherein the outputting the data block in the compressed form comprises determining whether to compress the data block with content dependent data compression based on the one or more parameters or attributes of the data within the data block or to

compress the data block with a single data compression encoder; and 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 only on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block. Because the Accused Instrumentality is designed to perform the claimed method for compressing data, the Accused Instrumentality has no substantial non-infringing uses, and any other uses would be unusual, far-fetched, illusory, impractical, occasional, aberrant, or experimental. Aryaka's manufacture, use, sale, offering for sale, and/or importation of the Accused Instrumentality constitutes contributory infringement of the '728 Patent.

11. On information and belief, Aryaka has had knowledge of the '728 Patent since at least the filing of the original Complaint in this action, or shortly thereafter, and on information and belief, Aryaka knew of the '728 Patent and knew of its infringement, including by way of this lawsuit.

12. Aryaka's affirmative acts of making, using, selling, offering for sale, and/or importing the Accused Instrumentalities have induced and continue to induce users of the Accused Instrumentalities to use the Accused Instrumentalities in their normal and customary way on compatible systems to infringe Claim 25 of the '728 Patent, knowing that when the Accused Instrumentalities are used in their ordinary and customary manner with such compatible systems, such systems perform a computer implemented method for compressing data comprising: analyzing, using a processor, data within a data block to identify one or more parameters or attributes of the data within the data block; determining, using the processor, whether to output the data block in a received form or in a compressed form; and outputting, using the processor, the data block in the received form or the

compressed form based on the determination, wherein the outputting the data block in the compressed form comprises determining whether to compress the data block with content dependent data compression based on the one or more parameters or attributes of the data within the data block or to compress the data block with a single data compression encoder; and 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 only on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block. For example, Aryaka explains to customers the benefits of using the Accused Instrumentalities, such as by touting their performance advantages: "Aryaka's proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." https://www.aryaka.com/services/sd-wan-as-a-service/. Aryaka specifically intended and was aware that the normal and customary use of the Accused Instrumentalities on compatible systems would infringe Claim 25 of the '728 Patent. Aryaka 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, Aryaka engaged in such inducement to promote the sales of the Accused Instrumentalities, *e.g.,* through Aryaka's user manuals, product support, marketing materials, and training materials to actively induce the users of the accused products to infringe the '728 Patent. Accordingly, Aryaka has induced and continues to induce end users of the accused products to use the accused products in their ordinary and customary way with compatible systems to make and/or use systems infringing Claim 25 of the '728 Patent, knowing that

such use of the Accused Instrumentalities with compatible systems will result in infringement of Claim 25 of the '728 Patent.

13. The Accused Instrumentalities perform a computer implemented method for compressing data. For example, the Accused Instrumentalities disclose that Aryaka's "proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." See e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As such, the Accused Instrumentalities perform deduplication, which "eliminates the transmission of redundant data sent more than once over the network." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf.

14. The Accused Instrumentalities perform a computer implemented method for compressing data comprising analyzing, using a processor, data within a data block to identify one or more parameters or attributes of the data within the data block, for example, whether the data is duplicative of data previously transmitted and/or stored. For example, the Accused Instrumentalities are deployed on Aryaka's private network and deliver cloud-based software defined WAN. As such, evidently the Accused Instrumentalities include a processor. See, e.g., https://www.aryaka.com/collaterals/managed-cloud-sdwan-smartconnect-regional-aag/. For example, the Accused Instrumentalities disclose that Aryaka's "proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." See e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As such, the Accused Instrumentalities perform deduplication, which "eliminates the transmission of redundant data sent more than once over the network." See, e.g.,

https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf

15. The Accused Instrumentalities perform a computer implemented method for compressing data comprising analyzing, using a processor, data within a data block to identify one or more parameters or attributes of the data within the data block, for example, whether the data is duplicative of data previously transmitted and/or stored. For example, the Accused Instrumentalities are deployed on Aryaka's private network and deliver cloud-based software defined WAN. As such, evidently the Accused Instrumentalities include a processor. See, e.g., https://www.aryaka.com/collaterals/managed-cloud-sdwan-smartconnect-regional-aag/. For example, the Accused Instrumentalities disclose that Aryaka's "proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." See e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As such, the Accused Instrumentalities perform deduplication, which "eliminates the transmission of redundant data sent more than once over the network." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf

16. The Accused Instrumentalities perform a computer implemented method for compressing data comprising determining, using the processor, whether to output the data block in a received form or in a compressed form. For example, the Accused Instrumentalities disclose that Aryaka's "proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." See e.g., https://www.aryaka.com/services/sd-

wan-as-a-service/. As such, the Accused Instrumentalities perform deduplication, which "eliminates the transmission of redundant data sent more than once over the network." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf. For example, if deduplication is not applied to a block to be compressed, the Accused Instrumentalities "[R]educes the amount of data transferred across links using Gzip algorithms contained in Aryaka's proprietary software platform for higher throughput and faster application performance." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf. Realtime is informed and believes that if the block is not outputted as a compressed block after the used of deduplication or Gzip, the block is outputted in received form.

17. The Accused Instrumentalities perform a method of compressing data comprising outputting, using the processor, the data block in the received form or the compressed form based on the determination, wherein the outputting the data block in the compressed form comprises determining whether to compress the data block with content dependent data compression based on the one or more parameters or attributes of the data within the data block or to compress the data block with a single data compression encoder. For example, the Accused Instrumentalities disclose that Aryaka's "proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." See e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As such, the Accused Instrumentalities perform deduplication, which is content dependent data compression and which "eliminates the transmission of redundant data sent more than once over the network." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-

optimization-as-a-service-aag.pdf. For example, if deduplication is not applied to a block to be compressed, the Accused Instrumentalities "[R]educes the amount of data transferred across links using Gzip algorithms contained in Aryaka's proprietary software platform for higher throughput and faster application performance." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf. The Gzip algorithm is an example of a single data compression encoder.

18. The Accused Instrumentalities perform a computer implemented method for compressing 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 only on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block. For example, the Accused Instrumentalities analyze data within a data block to identify whether the data is duplicative of data previously transmitted and/or stored, where the analysis does not rely only on the descriptor. For example, the Accused Instrumentalities disclose that Aryaka's "proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." See e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As such, the Accused Instrumentalities perform deduplication, which "eliminates the transmission of redundant data sent more than once over the network." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf.

19. 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, Aryaka has injured Realtime and is liable to Realtime for infringement of the '728 Patent pursuant to 35 U.S.C. § 271.

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

COUNT II
INFRINGEMENT OF U.S. PATENT NO. 9,667,751

21. Plaintiff realleges and incorporates by reference the foregoing paragraphs, as if fully set forth herein.

22. Plaintiff Realtime is the owner by assignment of United States Patent No. 9,667,751 ("the '751 Patent") entitled "Data feed acceleration." The '751 Patent was duly and legally issued by the United States Patent and Trademark Office on May 30, 2017. A true and correct copy of the '751 Patent is included as Exhibit B.

23. On information and belief, Aryaka has offered for sale, sold and/or imported into the United States Aryaka products and services that infringe the '751 patent, and continues to do so. By way of illustrative example, these infringing products and services include, without limitation, Aryaka's products and services, *e.g.*, Smart CDN, SmartCONNECT, and the system hardware on which they operate, and all versions and variations thereof since the issuance of the '751 Patent ("Accused Instrumentalities").

24. On information and belief, Aryaka has directly infringed and continues to infringe the '751 Patent, for example, through its own use and testing of the Accused Instrumentalities, which in the ordinary course of their operation form a system for compressing data claimed by Claim 25 of the '751 Patent, including: a data server

implemented on one or more processors and one or more memory systems; the data server configured to analyze content of a data block to identify a parameter, attribute, or value of the data block that excludes analysis based solely on reading a descriptor; the data server configured to select an encoder associated with the identified parameter, attribute, or value; the data server configured to compress data in the data block with the selected encoder to produce a compressed data block, wherein the compression utilizes a state machine; and the data server configured to store the compressed data block; wherein the time of the compressing the data block and the storing the compressed data block is less than the time of storing the data block in uncompressed form. Upon information and belief, Aryaka uses the Accused Instrumentalities, which are infringing systems, for its own internal non-testing business purposes, while testing the Accused Instrumentalities, and while providing technical support and repair services for the Accused Instrumentalities to Aryaka's customers.

25. On information and belief, Aryaka has had knowledge of the '751 Patent since at least the filing of the original Complaint in this action, or shortly thereafter, and on information and belief, Aryaka knew of the '751 Patent and knew of its infringement, including by way of this lawsuit.

26. Upon information and belief, Aryaka'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 25 of the '751 Patent by making or using a data server implemented on one or more processors and one or more memory systems; the data server configured to

analyze content of a data block to identify a parameter, attribute, or value of the data block that excludes analysis based solely on reading a descriptor; the data server configured to select an encoder associated with the identified parameter, attribute, or value; the data server configured to compress data in the data block with the selected encoder to produce a compressed data block, wherein the compression utilizes a state machine; and the data server configured to store the compressed data block; wherein the time of the compressing the data block and the storing the compressed data block is less than the time of storing the data block in uncompressed form. For example, Aryaka explains to customers the benefits of using the Accused Instrumentalities, such as by touting their efficiency: "Aryaka's proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." https://www.aryaka.com/services/sd-wan-as-a-service/. For similar reasons, Aryaka also induces its customers to use the Accused Instrumentalities to infringe other claims of the '751 Patent. Aryaka specifically intended and was aware that these normal and customary activities would infringe the '751 Patent. Aryaka performed the acts that constitute induced infringement, and would induce actual infringement, with the knowledge of the '751 Patent and with the knowledge, or willful blindness to the probability, that the induced acts would constitute infringement. On information and belief, Aryaka engaged in such inducement to promote the sales of the Accused Instrumentalities. Accordingly, Aryaka 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 '751 Patent, knowing that such use constitutes infringement of the '751 Patent.

27. Aryaka also indirectly infringes the ’751 Patent by manufacturing, using, selling, offering for sale, and/or importing the accused products, with knowledge that the accused products were and are especially manufactured and/or especially adapted for use in infringing the ’751 Patent and are not a staple article or commodity of commerce suitable for substantial non-infringing use. On information and belief, the Accused Instrumentality is designed to function as a data server implemented on one or more processors and one or more memory systems; the data server configured to analyze content of a data block to identify a parameter, attribute, or value of the data block that excludes analysis based solely on reading a descriptor; the data server configured to select an encoder associated with the identified parameter, attribute, or value; the data server configured to compress data in the data block with the selected encoder to produce a compressed data block, wherein the compression utilizes a state machine; and the data server configured to store the compressed data block; wherein the time of the compressing the data block and the storing the compressed data block is less than the time of storing the data block in uncompressed form. Because the Accused Instrumentality is designed to operate as the claimed system for compressing, the Accused Instrumentality has no substantial non-infringing uses, and any other uses would be unusual, far-fetched, illusory, impractical, occasional, aberrant, or experimental. Aryaka’s manufacture, use, sale, offering for sale, and/or importation of the Accused Instrumentality constitutes contributory infringement of the ’751 Patent.

28. The Accused Instrumentalities include a system for compressing data. For example, the Accused Instrumentalities provide “proprietary compression and data deduplication technologies.” See, e.g., https://www.aryaka.com/services/sd-wan-as-a-service

29. The Accused Instrumentalities include a data server implemented on one or more processors and one or more memory systems. For example, the Accused Instrumentalities include servers that deploy Aryaka's private network and deliver cloud-based software defined WAN. See, e.g., https://www.aryaka.com/collaterals/managed-cloud-sdwan-smartconnect-regional-aag/. As such, evidently the Accused Instrumentalities include one or more processors. As another example, the Accused Instrumentalities also disclose that "data deduplication input/output handled using encrypted history stores on pools of Solid State Drives (SSDs). See e.g., https://www.telecomnews.co.il/image/users/228328/ftp/my_files/General%20Files/Aryaka-The-New-WAN-Simplified-WP.pdf?id=20244142. As another example, the Accused Instrumentalities include "large in-memory cache and SSD storage." See, e.g., http://info.aryaka.com/rs/477-WNL-836/images/smartcdn-web-app-acceleration-solution-brief.pdf.

30. The Accused Instrumentalities include a data server configured to analyze content of a data block to identify a parameter, attribute, or value of the data block that excludes analysis based solely on reading a descriptor. For example, the Accused Instrumentalities disclose that Aryaka's "proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." See e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As such, the Accused Instrumentalities perform deduplication, which "eliminates the transmission of redundant data sent more than once over the network." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf.

31. The Accused Instrumentalities include a data server configured to select an encoder associated with the identified parameter, attribute, or value. For example, the Accused Instrumentalities disclose that Aryaka's "proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." See e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As such, the Accused Instrumentalities perform deduplication, which "eliminates the transmission of redundant data sent more than once over the network." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf.

32. The Accused Instrumentalities include a data server configured to compress data in the data block with the selected encoder to produce a compressed data block, wherein the compression utilizes a state machine. For example, the Accused Instrumentalities disclose that Aryaka's "proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." See e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As such, the Accused Instrumentalities perform deduplication, which "eliminates the transmission of redundant data sent more than once over the network." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf. Moreover, the Accused Instrumentalities support "byte-level data deduplication algorithm, termed Advanced Redundancy Removal (ARR™)," which uses "a history buffer to reduce bandwidth consumed when the same data transmitted more than once." See e.g., WAN Optimization as-a-Service. The New WAN, Simplified: Optimization for On-premise and Cloud Applications.

33. The Accused Instrumentalities include a data server configured to store the compressed data block. For example, the Accused Instrumentalities have storage devices, such as SSDs, that are managed by controllers. In particular, the Accused Instrumentalities include "large in-memory cache and SSD storage." See, e.g., https://info.aryaka.com/rs/477-WNL-836/images/web-app-acceleration-at-glance.pdf. As another example, the Accused Instrumentality stores compressed data in-memory cache or in SSD storage (e.g., "uses a history buffer to reduce bandwidth consumed when the same data transmitted more than once." See e.g., WAN Optimization as-a-Service. The New WAN, Simplified: Optimization for On-premise and Cloud Applications). On information and belief, all of the Accused Instrumentalities include a data server configured to store the compressed data block in substantially the same way.

34. The time of the compressing the data block and the storing the compressed data block in the Accused Instrumentalities is less than the time of storing the data block in uncompressed form. Due to the data reduction and acceleration features of the specific compression algorithms used, the time of the compressing the data block and the storing the compressed data block is less than the time of storing the data block in uncompressed form. For example, the Accused Instrumentality performs compression and data deduplication that "result in higher throughput over the WAN, ultimately leading to faster application performance." See, e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As another example, the Accused Instrumentality discloses that "together with compression and data deduplication algorithms dramatically enhance FTP performance." See, e.g., WAN Optimization as-a-Service. The New WAN, Simplified: Optimization for On-premise and Cloud Applications. As another example, the Accused Instrumentality

provides "[U]p to 40X faster performance" by leveraging "TCP optimization, compression, deduplication…" See, e.g., https://www.aryaka.com/accelerate-office-365-performance-40x-aryaka/.

35. On information and belief, Aryaka also infringes, directly and through induced infringement, and continues to infringe other claims of the '751 Patent.

36. On information and belief, use of the Accused Instrumentalities in their ordinary and customary fashion results in infringement of the methods claimed by the '751 Patent.

37. 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, Aryaka has injured Realtime and is liable to Realtime for infringement of the '751 Patent pursuant to 35 U.S.C. § 271.

38. As a result of Aryaka's infringement of the '751 Patent, Plaintiff Realtime is entitled to monetary damages in an amount adequate to compensate for Aryaka's infringement, but in no event less than a reasonable royalty for the use made of the invention by Aryaka, together with interest and costs as fixed by the Court.

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

39. Plaintiff realleges and incorporates by reference the foregoing paragraphs, as if fully set forth herein.

40. 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 C.

41. On information and belief, Aryaka has made, used, offered for sale, sold and/or imported into the United States Aryaka products that infringe the '530 Patent, and continues to do so. By way of illustrative example, these infringing products include, without limitation, Aryaka's products and services, e.g., Smart CDN, SmartCONNECT, and all versions and variations thereof since the issuance of the '530 patent ("Accused Instrumentality").

42. On information and belief, Aryaka 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, Aryaka 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 Aryaka's customers.

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

44. Upon information and belief, Aryaka'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.

45. For example, Aryaka explains to customers the benefits of using the

Accused Instrumentality: "Aryaka's proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." https://www.aryaka.com/services/sd-wan-as-a-service/.

46. Aryaka also induces its customers to use the Accused Instrumentalities to infringe other claims of the '530 Patent. Aryaka specifically intended and was aware that these normal and customary activities would infringe the '530 Patent. Aryaka 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, Aryaka engaged in such inducement to promote the use of the Accused Instrumentalities. Accordingly, Aryaka 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.

47. Aryaka also indirectly infringes the '530 Patent by manufacturing, using, selling, offering for sale, and/or importing the accused products, with knowledge that the accused products were and are especially manufactured and/or especially adapted for use in infringing the '530 Patent and are not a staple article or commodity of commerce suitable for substantial non-infringing use. On information and belief, the Accused Instrumentality is designed to function with compatible hardware to create 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. Because the Accused Instrumentality is designed to operate as the claimed system for compressing, the Accused Instrumentality has no substantial non-infringing uses, and any other uses would be unusual, far-fetched, illusory, impractical, occasional, aberrant, or experimental. Aryaka's manufacture, use, sale, offering for sale, and/or importation of the Accused Instrumentality constitutes contributory infringement of the '530 Patent.

48. The Accused Instrumentality includes the memory device and includes the data accelerator, wherein said data accelerator is coupled to said memory device. For example, the Accused Instrumentality includes "large in-memory cache and SSD storage." See, e.g., http://info.aryaka.com/rs/477-WNL-836/images/smartcdn-web-app-acceleration-solution-brief.pdf. As another example, the Accused Instrumentality stores compressed data in-memory cache or in SSD storage (e.g., "uses a history buffer to reduce bandwidth consumed when the same data transmitted more than once." See, e.g., WAN Optimization as-a-Service. The New WAN, Simplified: Optimization for On-premise and Cloud Applications). Moreover, the Accused Instrumentalities combines data compression (Gzip algorithm) with its "unique data deduplication technology - Advanced Redundancy

Removal™ (ARR™) - that improves throughput, to dramatically reduce the overall traffic over WAN links." See, e.g., http://info.aryaka.com/rs/477-WNL-836/images/wan-optimization-as-a-service-solution-brief.pdf.

49. The Accused Instrumentality receives an incoming stream of data. For example, Aryaka "supports all encrypted and non-encrypted traffic, independent of application-specific data formatting." See, e.g., https://www.aryaka.com/press/aryaka-awarded-two-patents/. As another example, the Accused Instrumentality state that Aryaka's "solution uses its unique data deduplication technology - Advanced Redundancy Removal™ (ARR™) - that improves throughput, to dramatically reduce the overall traffic over WAN links." See e.g., http://info.aryaka.com/rs/477-WNL-836/images/wan-optimization-as-a-service-solution-brief.pdf. Moreover, the Accused Instrumentality disclose "ARR operates on byte-level streams." http://info.aryaka.com/rs/477-WNL-836/images/wan-optimization-as-a-service-solution-brief.pdf.

50. The Accused Instrumentalities receive data stream comprise more than one data block. For example, the Accused Instrumentality supports "byte-level" deduplication technology. See, e.g., https://www.aryaka.com/press/aryaka-awarded-two-patents/. The Accused Instrumentalities use "byte level" deduplication in their WAN Optimization software stack and are capable of deduplicating "data anywhere in the IP packet." https://www.aryaka.com/blog/how-aryaka-optimizes-wan-traffic-with-fewer-application-acceleration-proxies/

51. 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. For example,

the Accused Instrumentalities disclose that Aryaka's "proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." See e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As such, the Accused Instrumentalities perform deduplication, which "eliminates the transmission of redundant data sent more than once over the network." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf. Moreover, the Accused Instrumentalities "[R]educes the amount of data transferred across links using Gzip algorithms contained in Aryaka's proprietary software platform for higher throughput and faster application performance." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf

52. The first and second compression techniques used by the Accused Instrumentality described above are different. For example, the Accused Instrumentality performs deduplication, which "eliminates the transmission of redundant data sent more than once over the network." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf. As another example, the Accused Instrumentality "uses a history buffer to reduce bandwidth consumed when the same data transmitted more than once." See e.g., WAN Optimization as-a-Service. The New WAN, Simplified: Optimization for On-premise and Cloud Applications. Moreover, the Accused Instrumentalities "[R]educes the amount of data transferred across links using Gzip algorithms contained in Aryaka's proprietary software platform for higher throughput and faster application performance." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf.

53. After compression, said compressed data stream is stored on said memory device. For example, the Accused Instrumentalities include "large in-memory cache and SSD storage." See, e.g., https://info.aryaka.com/rs/477-WNL-836/images/web-app-acceleration-at-glance.pdf. As such, the Accused Instrumentalities store compressed data in-memory cache or in SSD storage (e.g., "uses a history buffer to reduce bandwidth consumed when the same data transmitted more than once." See, e.g., WAN Optimization as-a-Service. The New WAN, Simplified: Optimization for On-premise and Cloud Applications).

54. Said compression and storage occurs faster than said data stream is able to be stored on said memory device in said received form. Due to the data reduction and acceleration features of the specific compression algorithms used, the time of the compressing the data block and the storing the compressed data block is less than the time of storing the data block in uncompressed form. For example, the Accused Instrumentality performs compression and data deduplication that "result in higher throughput over the WAN, ultimately leading to faster application performance." See, e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As another example, the Accused Instrumentality discloses that "together with compression and data deduplication algorithms dramatically enhance FTP performance." See e.g., WAN Optimization as-a-Service. The New WAN, Simplified: Optimization for On-premise and Cloud Applications. As another example, the Accused Instrumentality provides "[U]p to 40X faster performance" by leveraging "TCP optimization, compression, deduplication…" See, e.g., https://www.aryaka.com/accelerate-office-365-performance-40x-aryaka/.

55. The Accused Instrumentality stores a first data descriptor on said memory device indicative of said first compression technique. For example, the Accused Instrumentality store data descriptor in a history buffer. ("Aryaka's Advanced Redundancy Removal™ (ARR™) uses a history buffer to reduce bandwidth consumed when the same data transmitted more than once." See e.g., WAN Optimization as-a-Service. The New WAN, Simplified: Optimization for On-premise and Cloud Applications).

56. On information and belief, Aryaka also infringes, directly and through induced infringement and contributory infringement, and continues to infringe other claims of the '530 Patent.

57. 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.

58. 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, Aryaka has injured Realtime and is liable to Realtime for infringement of the '530 Patent pursuant to 35 U.S.C. § 271.

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

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

60. Plaintiff Realtime realleges and incorporates by reference the foregoing paragraphs, as if fully set forth herein.

61. 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, and Claims 1, 2, 4-6, 9, 11, 21, 22, 24, and 25 of the '908 Patent confirmed as patentable in a Final Written Decision of the Patent Trial and Appeal Board on October 31, 2017. A true and correct copy of the '908 Patent is included as Exhibit D.

62. On information and belief, Aryaka has offered for sale, sold and/or imported into the United States Aryaka products and services that infringe the '908 Patent, and continues to do so. By way of illustrative example, these infringing products and services include, without limitation, Aryaka's products and services, *e.g.*, Smart CDN, SmartCONNECT, and the system hardware on which they operate, and all versions and variations thereof since the issuance of the '908 Patent (the "Accused Instrumentality").

63. On information and belief, Aryaka 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, Aryaka 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 Aryaka's customers.

64. 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.

65. On information and belief, Aryaka has had knowledge of the '908 Patent since at least the filing of this First Amended Complaint or shortly thereafter, and on information and belief, Aryaka knew of the '908 Patent and knew of its infringement, including by way of this lawsuit.

66. Upon information and belief, Aryaka'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, Aryaka explains to customers the benefits of using the Accused Instrumentalities, such as by touting their performance advantages: "Aryaka's

proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." https://www.aryaka.com/services/sd-wan-as-a-service/. For similar reasons, Aryaka also induces its customers to use the Accused Instrumentalities to infringe other claims of the '908 Patent. Aryaka specifically intended and was aware that these normal and customary activities would infringe the '908 Patent. Aryaka 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, Aryaka engaged in such inducement to promote the sales of the Accused Instrumentalities. Accordingly, Aryaka 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.

67. Aryaka also indirectly infringes the '908 Patent by manufacturing, using, selling, offering for sale, and/or importing the accused products, with knowledge that the accused products were and are especially manufactured and/or especially adapted for use in infringing the '908 Patent and are not a staple article or commodity of commerce suitable for substantial non-infringing use. On information and belief, the Accused Instrumentality is designed to function as 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. Because the Accused Instrumentality is designed to operate as the claimed system for compressing, the Accused Instrumentality has no substantial non-infringing uses, and any other uses would be unusual, far-fetched, illusory, impractical, occasional, aberrant, or experimental. Aryaka's manufacture, use, sale, offering for sale, and/or importation of the Accused Instrumentality constitutes contributory infringement of the '908 Patent.

68. The Accused Instrumentality includes a memory device and a data accelerator configured to compress: (i) a first data block with a first compression technique (e.g., deduplication) to provide a first compressed data block; and (ii) a second data block with a second compression technique (e.g., another compression), different from the first compression technique, to provide a second compressed data block. For example, the Accused Instrumentalities also use one or more memory devices, including, e.g., solid state drives (SSDs). "large in-memory cache and SSD storage." See, e.g., http://info.aryaka.com/rs/477-WNL-836/images/smartcdn-web-app-acceleration-solution-brief.pdf. For example, the Accused Instrumentalities disclose that Aryaka's "proprietary compression and data deduplication technologies reduce bandwidth consumed when transmitting data between locations, by eliminating redundancy within data flows." See e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As such, the Accused Instrumentalities perform deduplication, which "eliminates the transmission of redundant data sent more than once over the network." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf. Moreover, the Accused Instrumentalities "[R]educes the amount of data transferred across links using Gzip

algorithms contained in Aryaka's proprietary software platform for higher throughput and faster application performance." See, e.g., https://info.aryaka.com/rs/477-wnl-836/images/smartconnect-wan-optimization-as-a-service-aag.pdf.

69. The Accused Instrumentality stores the compressed first and second data blocks on the memory device. For example, the Accused Instrumentalities include "large in-memory cache and SSD storage." See, e.g., https://info.aryaka.com/rs/477-WNL-836/images/web-app-acceleration-at-glance.pdf. As such, the Accused Instrumentalities store compressed data in-memory cache or in SSD storage (e.g., "uses a history buffer to reduce bandwidth consumed when the same data transmitted more than once." See, e.g., WAN Optimization as-a-Service. The New WAN, Simplified: Optimization for On-premise and Cloud Applications). 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. Due to the data reduction and acceleration features of the specific compression algorithms used, the time of the compressing the data block and the storing the compressed data block is less than the time of storing the data block in uncompressed form. For example, the Accused Instrumentality performs compression and data deduplication that "result in higher throughput over the WAN, ultimately leading to faster application performance." See, e.g., https://www.aryaka.com/services/sd-wan-as-a-service/. As another example, the Accused Instrumentality discloses that "together with compression and data deduplication algorithms dramatically enhance FTP performance." See e.g., WAN Optimization as-a-Service. The New WAN, Simplified: Optimization for On-premise and Cloud Applications. As another example, the Accused Instrumentality provides "[U]p to 40X

faster performance" by leveraging "TCP optimization, compression, deduplication…" See, e.g., https://www.aryaka.com/accelerate-office-365-performance-40x-aryaka/.

70. On information and belief, Aryaka also infringes, directly and through induced infringement, and continues to infringe other claims of the '908 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, Aryaka has injured Realtime and is liable to Realtime for infringement of the '908 Patent pursuant to 35 U.S.C. § 271.

72. As a result of Aryaka's infringement of the '908 Patent, Plaintiff Realtime is entitled to monetary damages in an amount adequate to compensate for Aryaka's infringement, but in no event less than a reasonable royalty for the use made of the invention by Aryaka, 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 Aryaka has infringed, either literally and/or under the doctrine of equivalents, Claim 25 of the '728 Patent, the '751 Patent, the '530 Patent, and the '908 Patent;

b. A permanent injunction prohibiting Aryaka from further acts of infringement of Claim 25 of the '728 Patent, the '751 Patent, the '530 Patent, and the '908 Patent;

c. A judgment and order requiring Aryaka to pay Plaintiff its damages, costs, expenses, and prejudgment and post-judgment interest for its infringement of Claim 25 of the '728 Patent, the '751 Patent, the '530 Patent, and the '908 Patent; and

d. A judgment and order requiring Aryaka to provide an accounting and to pay supplemental damages to Realtime, including without limitation, prejudgment and post-judgment interest;

e. 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 Defendants; and

f. 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: April 22, 2019

BAYARD, P.A.

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