EXHIBIT A

UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF CALIFORNIA

OAKLAND DIVISION

EMBLAZE LTD.,

Plaintiff,

v.

APPLE INC., a California Corporation,

Defendant.

CASE NO. 4:11-CV-01079 SBA

EXHIBIT A TO JOINT CLAIM CONSTRUCTION AND PREHEARING STATEMENT

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Identification of Claim Terms and Phrases That Require Construction by the Court for U.S. Patent No. 6,389,473

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
#1	real-time broadcasting [Claims 1, 25]	a broadcast data stream that is received at one or more clients without substantial delay after the broadcast **Intrinsic evidence**: '473 patent (Exhibit B) "In network broadcasting, data are transmitted over a network in real time from a single transmitting computer to a plurality of clients simultaneously. The network may be a LAN, a WAN, an intranet or a public network such as the Internet." (col. 1:16-18.) "The transmitting computer uploads the sequence of slices to the server substantially in real time, preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP), as is known in the art. The clients download the data stream from the server, preferably using an Internet protocol, as well, most preferably the Hypertext Transfer Protocol (HTTP), or alternatively, using other protocols, such as UDP or RTP, which are similarly known in the art. The clients use the slice indices of the frames to maintain proper synchronization of the playback.	communicating a data stream that is received at one or more clients simultaneously with minimal delay **Intrinsic Evidence:** '473 patent (Exhibit B) "it will be appreciated that the principles of the present invention may similarly be applied in other areas of real-time multimedia data streaming, such as video teleconferencing." (Ex. B, 13:46-49.) "In the case of a multimedia stream, client 30 reconstructs and outputs the multimedia data for the appreciation of a user. Time stamps in the data stream are used to synchronize the data, so that the multimedia sequence is played back just as it was input at computer 34, preferably with only a minimal necessary transmission and decoding delay." (Ex. B, 10:48-54.) "When one of computers 30 connects to server 36 and begins to download the data stream, it first reads the index file in order to identify at what point in stream 40 to begin and to start receiving

[1] Disputed Terms **underlined** where only portion being construed.

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		The division of the data stream into slices and the inclusion of the slice indices in the data stream to be used by the clients in maintaining synchronization allows the broadcast to go on substantially in real time without the use of special-purpose hardware." (2:7-21.) "In some preferred embodiments of the present invention, the transmitting computer and the clients monitor the uploading and downloading of data to and from the server, respectively, in order to determine the amount of time required to convey each slice and to verify that the slices are conveyed at a sufficient rate. When the data stream comprises multimedia data, the data rate should be generally equal to or faster than the rate at which the data are generated at the transmitting computer." (2:51-59.) "The sequence is preferably generated and compressed in real time, and could comprise, for example, an interview program or an entertainment or sports event, although a prerecorded sequence may similarly be broadcast in this manner." (6:57-60.) "Clients 30 connect to server 36 and receive the multimedia sequence, substantially in real time. Clients 30 preferably download the sequence using the Hypertext Transfer Protocol (HTTP),	the data stream substantially in real time, preferably with only a minimal lag, as it is transmitted from computer 34." (Ex. B, 8:1-7.) "In network broadcasting, data are transmitted over a network in real time from a single transmitting computer to a plurality of clients simultaneously." (Ex. B, 1:16-18.) "Encoder 24 and server 26 typically comprise high-cost, dedicated computer systems, such as a Sun Station (produced by Sun Microsystems) or a Windows NT server, running suitable RealSystem 5.0 software (produced by RealNetworks Inc., Seattle, Wash.). These dedicated systems are required in order to ensure that the data stream is distributed and received by clients 30 in real time. Similarly, host 22 must typically be connected directly to encoder 24 by a high-speed data link or LAN, and not via the Internet or other narrowband network. Therefore, real-time broadcasting is normally possible only for hosts having a suitable, dedicated encoder and broadcast server and cannot be offered by Internet service providers (ISPs) to their general clientele. " (Ex. B, 1:34-47.) "Clients 30 connect to server 36 and receive the multimedia sequence, substantially in real time." (Ex. B, 7:4-5.)

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		although other Internet protocols may also be used, such as UDP or RTP, as noted hereinabove with reference to uploading by computer 34. Since FTP and HTTP are supported by substantially all network servers, server 36 need not include any special-purpose broadcasting hardware or software, as noted above. Similarly, because HTTP is supported by substantially all modern Web browsers, clients 30 will typically need only add a Java applet or plug-in to their existing Web browsers, as described further hereinbelow, in order to receive and play back the broadcast." (7:4-17.) "Preferably, each file also includes one or more time stamps, indicating a real time at which the data in the file were recorded or an elapsed time relative to the beginning of stream 40. The files are uploaded to server 36, such that while any given slice (other than first slice 42) is being created, one or more preceding slices are in the process of being uploaded." (7:28-34.) "When one of computers 30 connects to server 36 and begins to download the data stream, it first reads the index file in order to identify at what point in stream 40 to begin and to start receiving the data stream substantially in real time, preferably with only a minimal lag, as it is transmitted from computer 34." (8:1-7.)	**Intrinsic Evidence:** Priority Appl. (Exhibit F) "In preferred embodiments of the present invention, a transmitting computer generates a data stream and broadcasts the data stream via a network server to a plurality of clients. The data stream is divided into a sequence of files, each file corresponding to a segment or slice of the data, preferably a time slice, wherein the data are preferably compressed. Each file is preferably assigned a respective slice index. The transmitting computer uploads the sequence of files to the server substantially in real time, preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP), as is known in the art. The clients download the data stream from the server, preferably using an Internet protocol, as well, most preferably the Hypertext Transfer Protocol (HTTP), which is similarly known in the art. The clients use the slice indices of the frames to maintain proper synchronization of the playback. The division of the data stream into slices and the inclusion of the slice indices in the data stream to be used by the clients in maintaining synchronization allows the broadcast to go on substantially in real time without the use of special-purpose hardware." (Ex. F, pp. 3-4.)

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		"Further preferably, the client compares the times stamped in the data stream to a local real-time clock and, if it determines that there is a significant lag in the time codes relative to the real-time clock, opens additional links with server 36 in order to increase the overall data rate." (10:59-63.) "These compression standards are advantageous in that common personal computers can perform such compression in real time, in parallel with the other operations illustrated in FIG. 5." (11:33-36; see #6 for FIG. 5.)	

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		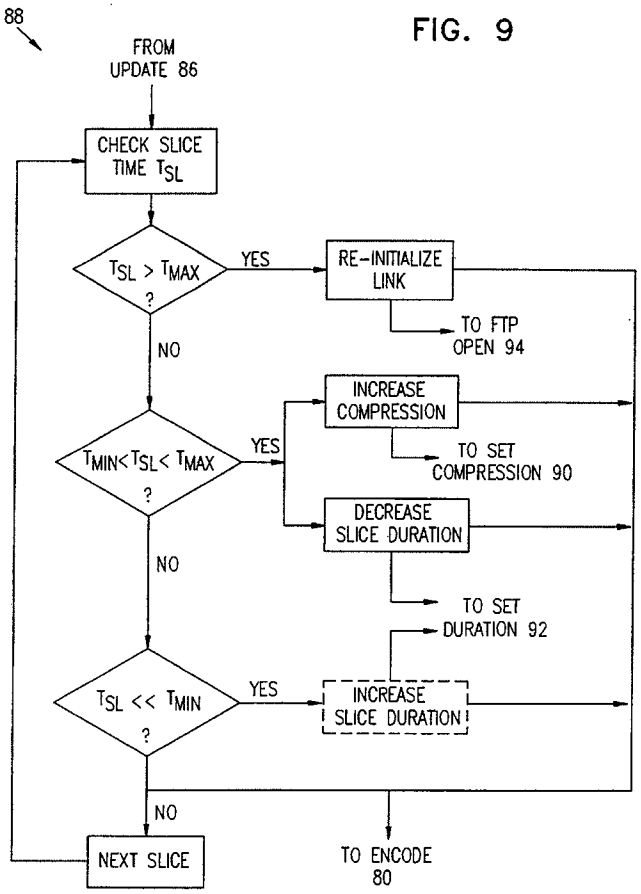 "FIG. 9 is a flow chart that schematically illustrates details of check link step 88 in the method of FIG. 5, in accordance with a preferred	

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		embodiment of the present invention. As noted above, for each file 42, 44, 46, etc., computer 34 measures a slice transmission time T_{SL}, corresponding to the time required to transmit the entire file to server 36. If T_{SL} is greater than a maximum permissible time T_{MAX}, it is then determined that the link over which the file was transmitted is not functioning adequately. In this case, a command is sent to open a new FTP link at step 94, as described above. T_{MAX} is preferably set to be a predetermined multiple of T_{SL}, depending on the length of possible transmission delay that can be tolerated. Typically, T_{MAX} is set to an initial value of about 20 sec, although when the slice durations are changed (at step 92), T_{MAX} is preferably adjusted accordingly. For optimal, reliable functioning of the upload process from computer 34 to server 36, T_{SL} should desirably be close to or less than a predetermined minimum time T_{MIN}. Typically, T_{MIN} is set to be approximately equal to the slice duration T_1, T_2, etc., i.e., about 5 sec initially. If the measured value of T_{SL} is greater than T_{MIN}, although still less than T_{MAX}, then it will generally be desirable to either increase the compression ratio, at step 90, or decrease the slice duration, at step 92, or both. The reasons and methods for changing the compression ratio and slice duration were described hereinabove with reference to FIG. 7. Preferably, computer 34 calculates	

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		optimal values of the compression ratio and slice duration, depending inter alia on the relative values of T_{SL}, and T_{MIN}." (12:59 – 13:20; see #5 for FIG. 7.) "Furthermore, it will be appreciated that the principles of the present invention may similarly be applied in other areas of real-time multimedia data streaming, such as video teleconferencing." (13:46-49.) Claims 1 and 25. **Extrinsic evidence**: Exhibit D: Microsoft Computer Dictionary, Fifth Ed. 2002, p. 73 (definition of "broadcast"); p. 441 (definition of "real-time")	
#2	*Emblaze's proposed Term #2:* providing at the transmitting computer a data stream having a given data rate [Claim 1] *Apple's proposed*	Emblaze believes that this claim element should be considered in its entirety since that is how it appears in the claim. Emblaze's proposed construction of Emblaze's proposed Term #2 is as follows: providing from the transmitting computer a data stream having an assigned data rate, where a data rate is an amount of data per unit of time **Intrinsic evidence:** '473 patent (Exhibit B)	Apple believes that Term #2, identified by both parties as one of the significant terms in this case, should be construed in two parts: (i) the providing part, namely: "providing at the transmitting computer a data stream [Claim 1]" [Apple's proposed Term #2]; and (ii) the "data rate" part, namely: "a data stream having **a given data rate** [Claims 1, 25]" [Apple's proposed Term #3]

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	Term #2: providing at the transmitting computer a data stream [Claim 1]	"In some preferred embodiments of the present invention, the data stream comprises multimedia data captured or generated by the transmitting computer. The term "multimedia" as used in the context of the present patent application and in the claims refers to images or sound or to data representative of images or of sound or a combination thereof. Multimedia image data may include still images, video, graphics, animation or any combination thereof, including text displayed in conjunction therewith. It will be appreciated, however, that the principles of the present invention may similarly be applied to streaming of other data types. Preferably, the transmitting computer compresses the frames in the data stream, most preferably using methods of image and audio compression such as those described in U.S. patent application Ser. No. 08/919,027, which is assigned to the assignee of the present patent application and incorporated herein by reference. Alternatively, any suitable methods of compression known in the art may be used. The compressed data are conveyed to the server and thence to the clients, which decompress the data. In some preferred embodiments of the present invention, the transmitting computer and the clients monitor the uploading and downloading of data to and from the server, respectively, in order	since the "data rate" of the input stream is referred to in numerous other disputed Terms, specifically Terms #8, #9 and #12 hereinbelow, and many asserted claims (see claims 8, 9, 25, and 26). Apple submits this distinction is critical to ensure the clarity and consistency of other construed Terms and asserted claims, which refer back to and rely upon the antecedent "data rate" limitation and thereby recite a critical feature of the claimed alleged invention. Therefore, Apple's proposed construction for the Term "providing at the transmitting computer a data stream" [Apple's proposed Term #2] is: inputting a data stream to the transmitting computer from a source of broadcast data The "data rate" portion of the Term is set forth below as Term #3. **Intrinsic Evidence:** '473 patent (Exhibit B) "Computer 34 preferably receives audiovisual input from input devices 22, although data inputs of other types may be generated at or by computer 34 using any suitable means known in the art." (Ex. B, 6:32-35.)

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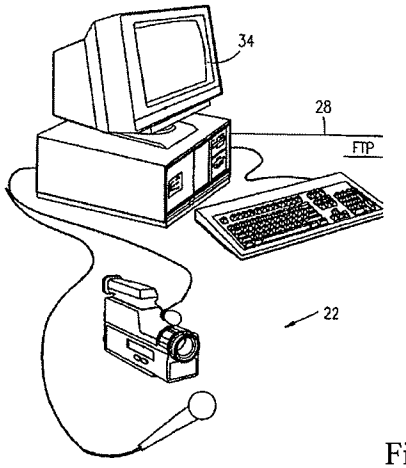
		to determine the amount of time required to convey each slice and to verify that the slices are conveyed at a sufficient rate. When the data stream comprises multimedia data, the data rate should be generally equal to or faster than the rate at which the data are generated at the transmitting computer." (2:29-59.) "In other preferred embodiments, the slices are provided by the server at multiple resolution or quality levels. Each such level has a different degree of data compression, and thus corresponds to a different data bandwidth requirement. The client or the server monitors the data transfer rate of a data link opened therebetween and selects the level that is appropriate to the link bandwidth. If the monitored data transfer rate changes during transmission, the quality level is preferably reselected accordingly. Preferably, the transmitting computer monitors the bandwidth of the data stream that it is uploading to the server, and compares the data stream bandwidth to a known or estimated bandwidth of the link or links between the transmitting computer and the server. The transmitting computer preferably compresses the data stream at a compression ratio that is adjusted so as to match the data stream bandwidth to the available link bandwidth, using methods described, for example, in the above-mentioned	 Fig. 2 "To begin the broadcast, computer 34 connects to server 36, optionally opening the plurality of links shown in FIG. 4. Broadcast data are then input to the computer, for example, from input devices 22, or from a video, audio or animation sequence stored on disk or tape." (Ex. B, 9:62-66.) "FIG. 1 is a schematic illustration showing a real-time broadcasting system 20, as is known in the art. One or more input devices 22 (for example, a video camera and/or microphone) are used to generate a multimedia data stream representing an entertainment or informational program to be transmitted to a plurality of clients 30 via a network 28." (Ex. B, 1:23-28.)

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		U.S. patent application Ser. No. 08/919,027." (3:5-23.) "Preferably, uploading the sequence includes comparing the upload rate to the data rate and adjusting the upload rate responsive to the comparison. Further preferably, encoding the stream includes compressing data in the stream at a desired compression ratio, and adjusting the upload rate includes changing the compression ratio. Alternatively or additionally, adjusting the upload rate includes adjusting the size of one or more of the slices." (3:43-50.) "Computer 34 preferably receives audiovisual input from input devices 22, although data inputs of other types may be generated at or by computer 34 using any suitable means known in the art." (6:32-35.) "Preferably, the data in the sequence are compressed, although compression is not essential to implementation of the present invention. The sequence is preferably generated and compressed in real time, and could comprise, for example, an interview program or an entertainment or sports event, although a prerecorded sequence may similarly be broadcast in this manner. Computer 34 is preferably equipped with suitable software for preparing and compressing the multimedia	"In some preferred embodiments of the present invention, the data stream comprises multimedia data captured or generated by the transmitting computer." (Ex. B, 2:29-31.) "The sequence is preferably generated and compressed in real time, and could comprise, for example, an interview program or an entertainment or sports event, although a prerecorded sequence may similarly be broadcast in this manner." (Ex. B, 6:57-60.) "The computer should be equipped with a Sound Blaster sound card, with a microphone connected to the line-in input jack thereon." (Ex. B, 14:11-13.) "Computer 34 monitors the time codes as file 40 is transmitted, and clients 30 similarly monitor the time codes as the file is received, in order to ensure that the transmission or reception is "keeping up" with the input of the data to the computer. In the event that a lag is detected, steps are taken to increase the data transmission or reception rate, as described further hereinbelow." (Ex. B, 7:36-42.) "Assuming that computer 34 communicates over network 28 through a 28.8 Kbaud modem and maintains a typical FTP upload rate of 2

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		sequence. For example, for audio data, the computer may typically run GSM 6.10 standard audio compression software, operating at a sample rate of 8 kHz, with 16 bits/sample." (6:54-65.) "Computer 34 monitors the time codes as file 40 is transmitted, and clients 30 similarly monitor the time codes as the file is received, in order to ensure that the transmission or reception is "keeping up" with the input of the data to the computer. In the event that a lag is detected, steps are taken to increase the data transmission or reception rate, as described further hereinbelow. For example, as shown in FIG. 3A, time intervals T_1, T_2, T_3, etc., are not all equal, but rather are adjusted by computer 34 in response to the transmission rate. Alternatively or additionally, the compression level of the data is varied, as is likewise described below, so as to adjust the data streaming rate to the available bandwidth over one or more channels between computer 34 and server 36, and/or between server 36 and client 30." (7:35-48; see #4 for FIG. 3A.) "Preferably, computer 34 monitors the rate of data being transmitted over each of links 60, 62, 64, etc., and allocates files 42, 44, 46, 48, etc., according to the data rates. The sizes of the files may be varied by adjusting slice durations T_1, T_2,	Kbytes/sec (allowing for moderate Internet bottlenecks), data stream 40 will be uploaded to server 36 over link 60 (FIG. 4) substantially at the rate that the audio data are input to computer 34." (Ex. B, 11:59-64.) *See also* Claim 25. **Intrinsic Evidence:** Priority Appl. (Exhibit F) '473 patent at col. 3, ll. 5-13 (i.e., "In other preferred embodiments, the slices are provided by the server at multiple resolution or quality levels. Each such level has a different degree of data compression, and thus corresponds to a different data bandwidth requirement. The client or the server monitors the data transfer rate of a data link opened therebetween and selects the level that is appropriate to the link bandwidth. If the monitored data transfer rate changes during transmission, the quality level is preferably reselected accordingly") is not present in the Priority Application. (*See* Ex. F, p. 5.) '473 patent at col. 7, ll. 44-48 (i.e., "Alternatively or additionally, the compression level of the data is varied, as is likewise described below, so as to adjust the data streaming rate to the available bandwidth over one or more channels between computer 34 and server 36, and/or between server

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		T_3, etc., and a relatively greater volume of data may be transmitted through links exhibiting relatively greater data rates. The bandwidth open for transmission between computer 34 and server 36 is effectively roughly equal to a sum of the bandwidths of the plurality of open links. The number of links that are actually opened between computer 34 and server 36 may be less than or greater than the five links shown in the example of FIG. 4, depending on the available data rates of the open links, compared with the rate of data in stream 40. Preferably at least two links are opened, so that preparation and transmission of files 42, 44, 46, 48, etc., may be toggled back and forth between the links. A similar technique is preferably employed by clients 30." (9:31-47.) "Periodically, client 30 makes an assessment of the rate of data transfer over the link from the server and, if necessary, changes the quality level accordingly. For example, if the rate is low, such that time stamps 59 indicate that the slices need to be played as fast as or faster than they are being received, the client will preferably select a lower quality level if one is available. On the other hand, if the rate is substantially higher than what is needed to receive the successive slices on time, the client may select a higher quality level to take advantage of the available bandwidth. Preferably, upper and lower data rate thresholds, or	36 and client 30.") is not present in the Priority Application. (*See* Ex. F, p. 14.) '473 patent at col. 11, ll. 9-22 (i.e., "Periodically, client 30 makes an assessment of the rate of data transfer over the link from the server and, if necessary, changes the quality level accordingly. For example, if the rate is low, such that time stamps 59 indicate that the slices need to be played as fast as or faster than they are being received, the client will preferably select a lower quality level if one is available. On the other hand, if the rate is substantially higher than what is needed to receive the successive slices on time, the client may select a higher quality level to take advantage of the available bandwidth. Preferably, upper and lower data rate thresholds, or watermarks, are set dynamically in response to the data rate and are used in determining when a new quality level should be selected.") is not present in the Priority Application. (*See* Ex. F, p. 19.)

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		watermarks, are set dynamically in response to the data rate and are used in determining when a new quality level should be selected." (11:9-22.) Claims 1, 3-8, 15, 18-20, 25, 26, 30 and 33-35. **Extrinsic evidence:** Exhibit D: Microsoft Computer Dictionary, Fifth Ed. 2002, p. 144 (definition of "data rate"); p. 499 (definition of "stream" and "streaming"); Exhibit E: Webster's Third New International Dictionary 1993 (definition of "given")	
#3	a data stream having **a given data rate** [Claims 1, 25] the data rate of the stream [Claim 1] the data rate [Claims 1, 8, 25, 26]	See #2 above.	the speed, as measured in bits per second, at which the data stream is input to the transmitting computer **Intrinsic Evidence:** '473 patent (Exhibit B) "Computer 34 preferably receives audiovisual input from input devices 22, although data inputs of other types may be generated at or by computer 34 using any suitable means known in the art." (Ex. B, 6:32-35.)

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			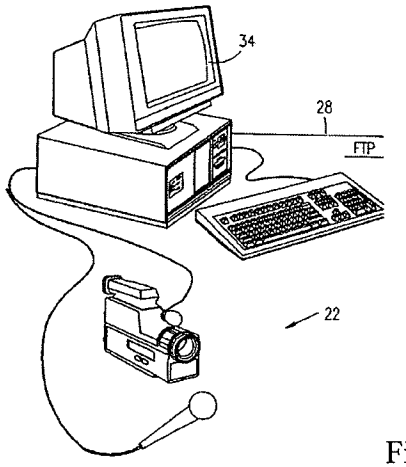 Fig. 2 "To begin the broadcast, computer 34 connects to server 36, optionally opening the plurality of links shown in FIG. 4. Broadcast data are then input to the computer, for example, from input devices 22, or from a video, audio or animation sequence stored on disk or tape." (Ex. B, 9:62-66.) "FIG. 1 is a schematic illustration showing a real-time broadcasting system 20, as is known in the art. One or more input devices 22 (for example, a video camera and/or microphone) are used to generate a multimedia data stream representing an entertainment or informational program to be transmitted to a plurality of clients 30 via a network 28." (Ex. B, 1:23-28.)

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			"In some preferred embodiments of the present invention, the data stream comprises multimedia data captured or generated by the transmitting computer." (Ex. B, 2:29-31.) "The sequence is preferably generated and compressed in real time, and could comprise, for example, an interview program or an entertainment or sports event, although a prerecorded sequence may similarly be broadcast in this manner." (Ex. B, 6:57-60.) "The computer should be equipped with a Sound Blaster sound card, with a microphone connected to the line-in input jack thereon." (Ex. B, 14:11-13.) "Computer 34 monitors the time codes as file 40 is transmitted, and clients 30 similarly monitor the time codes as the file is received, in order to ensure that the transmission or reception is "keeping up" with the input of the data to the computer. In the event that a lag is detected, steps are taken to increase the data transmission or reception rate, as described further hereinbelow." (Ex. B, 7:36-42.) "Assuming that computer 34 communicates over network 28 through a 28.8 Kbaud modem and maintains a typical FTP upload rate of 2

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			Kbytes/sec (allowing for moderate Internet bottlenecks), data stream 40 will be uploaded to server 36 over link 60 (FIG. 4) substantially at the rate that the audio data are input to computer 34." (Ex. B, 11:59-64.) **Intrinsic Evidence:** Priority Appl. (Exhibit F) '473 patent at col. 3, ll. 5-13 (i.e., "In other preferred embodiments, the slices are provided by the server at multiple resolution or quality levels. Each such level has a different degree of data compression, and thus corresponds to a different data bandwidth requirement. The client or the server monitors the data transfer rate of a data link opened therebetween and selects the level that is appropriate to the link bandwidth. If the monitored data transfer rate changes during transmission, the quality level is preferably reselected accordingly") is not present in the Priority Application. (*See* Ex. F, p. 5.) '473 patent at col. 7, ll. 44-48 (i.e., "Alternatively or additionally, the compression level of the data is varied, as is likewise described below, so as to adjust the data streaming rate to the available bandwidth over one or more channels between computer 34 and server 36, and/or between server 36 and client 30.") is not present in the Priority Application. (*See* Ex. F, p. 14.)

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			'473 patent at col. 11, ll. 9-22 (i.e., "Periodically, client 30 makes an assessment of the rate of data transfer over the link from the server and, if necessary, changes the quality level accordingly. For example, if the rate is low, such that time stamps 59 indicate that the slices need to be played as fast as or faster than they are being received, the client will preferably select a lower quality level if one is available. On the other hand, if the rate is substantially higher than what is needed to receive the successive slices on time, the client may select a higher quality level to take advantage of the available bandwidth. Preferably, upper and lower data rate thresholds, or watermarks, are set dynamically in response to the data rate and are used in determining when a new quality level should be selected.") is not present in the Priority Application. (*See* Ex. F, p. 19.)
#4	slice [Claims 1, 11, 23, 25, 37]	a segment of the data stream **Intrinsic evidence:** '473 patent (Exhibit B) "In preferred embodiments of the present invention, a transmitting computer generates a data stream and broadcasts the data stream via a network server to a plurality of clients. The data stream is divided into a sequence of segments or slices of the data, preferably time slices, wherein	a discrete segment of the data stream that results from the data stream being divided **Intrinsic Evidence:** '473 patent (Exhibit B) "In preferred embodiments of the present invention, a transmitting computer generates a data stream and broadcasts the data stream via a network server to a plurality of clients. The data stream is divided into a sequence of segments or

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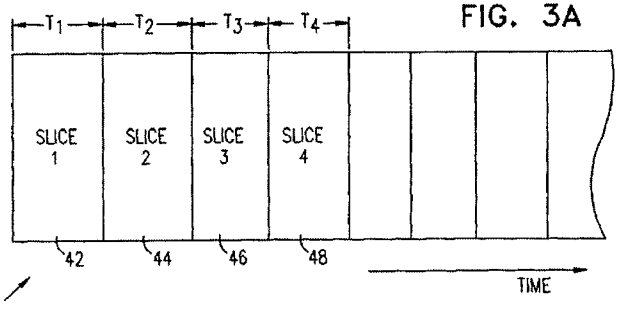
		the data are preferably compressed. Each slice is preferably assigned a respective slice index. The transmitting computer uploads the sequence of slices to the server substantially in real time, preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP), as is known in the art. The clients download the data stream from the server, preferably using an Internet protocol, as well, most preferably the Hypertext Transfer Protocol (HTTP), or alternatively, using other protocols, such as UDP or RTP, which are similarly known in the art. The clients use the slice indices of the frames to maintain proper synchronization of the playback. The division of the data stream into slices and the inclusion of the slice indices in the data stream to be used by the clients in maintaining synchronization allows the broadcast to go on substantially in real time without the use of special-purpose hardware. Preferably, each segment or slice is contained in a separate, respective file. Alternatively, the segments or slices may all be contained in a single indexed file, which is streamed to the client in a series of packets, each covering a range of one or more indices. HTTP version 1.1 supports this sort of file streaming. Other protocols may also be used for this purpose." (2:1-28.) "In other preferred embodiments, the slices are	slices of the data, preferably time slices, wherein the data are preferably compressed." (Ex. B, 2:1-6.) "FIG. 3A is a block diagram that schematically illustrates the structure of a stream of broadcast data 40 produced by computer 34, typically corresponding to a multimedia data sequence, in accordance with a preferred embodiment of the present invention. Data stream 40 comprises a series of data slices 42, 44, 46, 48, etc. Each slice contains a segment of video and/or audio data, corresponding to a respective, successive time interval labeled T_1, T_2, T_3, etc." (Ex. B, 7:18-25.) FIG. 3A  "Computer 34 stores each slice as a corresponding file, having a running slice index 1, 2, 3 . . . N. Preferably, each file also includes one or more time stamps, indicating a real time at which the

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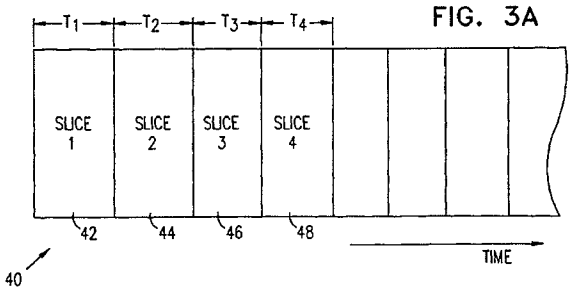
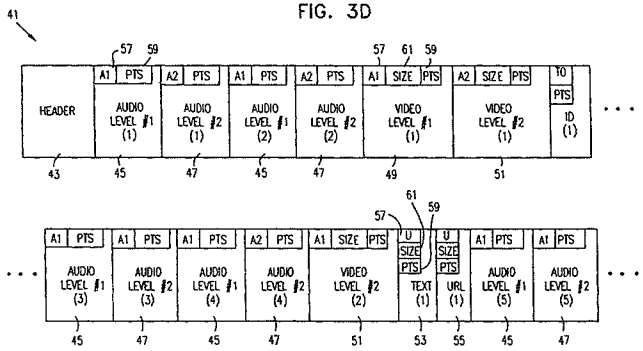
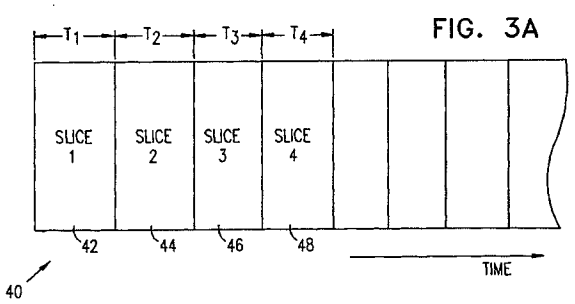
		provided by the server at multiple resolution or quality levels. Each such level has a different degree of data compression, and thus corresponds to a different data bandwidth requirement." (3:5-8.)  FIG. 3A "FIG. 3A is a block diagram that schematically illustrates the structure of a stream of broadcast data 40 produced by computer 34, typically corresponding to a multimedia data sequence, in accordance with a preferred embodiment of the present invention. Data stream 40 comprises a series of data slices 42, 44, 46, 48, etc. Each slice contains a segment of video and/or audio data, corresponding to a respective, successive time interval labeled T_1, T_2, T_3, etc. The data are preferably compressed, as described further hereinbelow. Computer 34 stores each slice as a	data in the file were recorded or an elapsed time relative to the beginning of stream 40. The files are uploaded to server 36, such that while any given slice (other than first slice 42) is being created, one or more preceding slices are in the process of being uploaded." (Ex. B, 7:28-35.) "For example, to transfer compressed audio data at 2 Kbytes/sec, file 42 may be assigned a file size of 10 Kbytes, with T_1=5 sec." (Ex. B, 11:56-59.) "It will be understood in this case that the slices of the data stream corresponding to files 42, 44, 46, etc., will not necessarily be time slices as described hereinabove, but may rather have an appropriate, preferably variable, data size associated therewith." (Ex. B, 13:42-46.) **Intrinsic Evidence:** Priority Appl. (Exhibit F) "In preferred embodiments of the present invention, a transmitting computer generates a data stream and broadcasts the data stream via a network server to a plurality of clients. The data stream is divided into a sequence of files, each file corresponding to a segment or slice of the data, preferably a time slice, wherein the data are preferably compressed. Each file is preferably assigned a respective slice index. The transmitting computer uploads the sequence of files to the

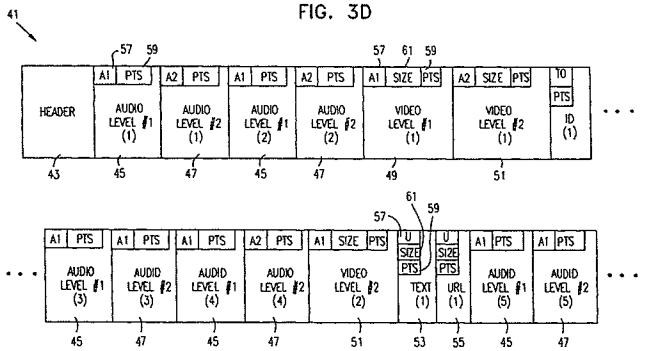
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		corresponding file, having a running slice index 1, 2, 3 . . . N. Preferably, each file also includes one or more time stamps, indicating a real time at which the data in the file were recorded or an elapsed time relative to the beginning of stream 40. The files are uploaded to server 36, such that while any given slice (other than first slice 42) is being created, one or more preceding slices are in the process of being uploaded." (7:18-34.) FIG. 3D  "FIG. 3D is a block diagram that schematically illustrates a file format of a multi-level data stream 41, in accordance with another preferred embodiment of the present invention. The data stream is divided into audio slices 45, 47 and video slices 49, 51, and may also include other data formats, such as a text slice 53 and/or a URL slice 55. Each slice is preferably identified by a level identifier 57, a presentation time stamp	server substantially in real time, preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP), as is known in the art. The clients download the data stream from the server, preferably using an Internet protocol, as well, most preferably the Hypertext Transfer Protocol (HTTP), which is similarly known in the art. The clients use the slice indices of the frames to maintain proper synchronization of the playback. The division of the data stream into slices and the inclusion of the slice indices in the data stream to be used by the clients in maintaining synchronization allows the broadcast to go on substantially in real time without the use of special-purpose hardware." (Ex. F, pp. 3-4.) '473 patent at col. 2, ll. 22-28 (i.e., "Preferably, each segment or slice is contained in a separate, respective file. Alternatively, the segments or slices may all be contained in a single indexed file, which is streamed to the client in a series of packets, each covering a range of one or more indices. HTTP version 1.1 supports this sort of file streaming. Other protocols may also be used for this purpose.") is not present in the Priority Application. (*See* Ex. F, p. 4.) '473 patent at col. 3, ll. 5-8 (i.e., "In other preferred embodiments, the slices are provided by the server at multiple resolution or quality levels.

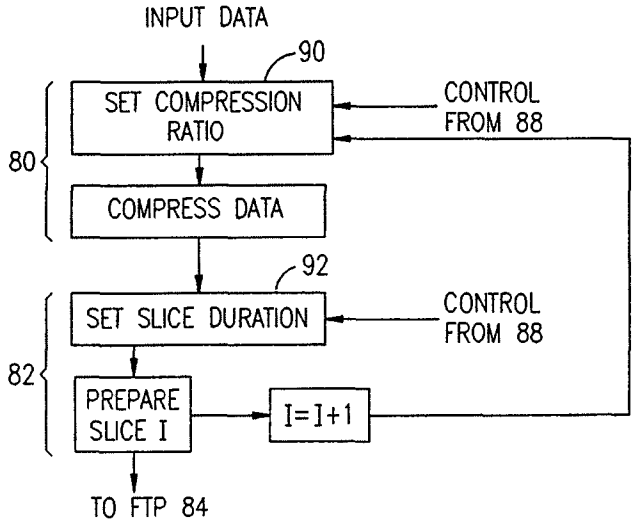
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		(PTS) index 59 and, as appropriate, a size identifier 61. The function of these identifiers and indices is described further hereinbelow. A header 43 includes data such as the title, author, copyright and formats of the data in the stream; the duration of the multimedia sequence represented by the stream; and a description of the available stream levels and associated data sizes. Each time slice in stream 41 includes multimedia data at multiple quality levels. There are two such levels in the example shown in FIG. 3D, identified as level #1 and level #2, but a larger number of levels may also be used. Typically, the audio and video data in level #1, contained in slices 45 and 49, are more highly compressed relative to the data in slices 47 and 51 of level #2. In consequence, the level #1 slices have smaller data volume than the level #2 slices and can therefore be transmitted over a lower-bandwidth data link, while maintaining the required slice timing indicated by time stamps 59. The lower data-rate transmission generally comes at the expense of inferior sound and/or image quality. Size identifier 61 describes the size of those slices in stream 41 that have a fixed size associated therewith, wherein typically the size (or the corresponding resolution) of the level #1 video slices is smaller than that of the level #2 slices." (8:42 – 9:5.)	Each such level has a different degree of data compression, and thus corresponds to a different data bandwidth requirement.") is not present in the Priority Application. (*See* Ex. F, p. 5.) '473 patent at col. 8, ll. 42-55 (i.e., "FIG. 3D is a block diagram that schematically illustrates a file format of a multi-level data stream 41, in accordance with another preferred embodiment of the present invention. The data stream is divided into audio slices 45, 47 and video slices 49, 51, and may also include other data formats, such as a text slice 53 and/or a URL slice 55. Each slice is preferably identified by a level identifier 57, a presentation time stamp (PTS) index 59 and, as appropriate, a size identifier 61. The function of these identifiers and indices is described further hereinbelow. A header 43 includes data such as the title, author, copyright and formats of the data in the stream; the duration of the multimedia sequence represented by the stream; and a description of the available stream levels and associated data sizes.") is not present in the Priority Application. (*See* Ex. F, p. 16.) '473 patent at col. 8, l. 56 to col. 9, l. 5 (i.e., "Each time slice in stream 41 includes multimedia data at multiple quality levels. There are two such levels in the example shown in FIG. 3D, identified as level #1 and level #2, but a larger

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		"It will be understood in this case that the slices of the data stream corresponding to files 42, 44, 46, etc., will not necessarily be time slices as described hereinabove, but may rather have an appropriate, preferably variable, data size associated therewith." (13:41-45.) Claims 1, 11, 17, 23, 25, 32, 37 and 40.	number of levels may also be used. Typically, the audio and video data in level #1, contained in slices 45 and 49, are more highly compressed relative to the data in slices 47 and 51 of level #2. In consequence, the level #1 slices have smaller data volume than the level #2 slices and can therefore be transmitted over a lower-bandwidth data link, while maintaining the required slice timing indicated by time stamps 59. The lower data-rate transmission generally comes at the expense of inferior sound and/or image quality. Size identifier 61 describes the size of those slices in stream 41 that have a fixed size associated therewith, wherein typically the size (or the corresponding resolution) of the level #1 video slices is smaller than that of the level #2 slices.") is not present in the Priority Application. (*See* Ex. F, p. 16.) '473 patent, Fig. 3D is not present in the Priority Application. (*See* Ex. F, p. 10.)
#5	each slice having a predetermined data size associated therewith [Claims 1, 25]	each slice having an assigned data size which may be an assigned time duration **Intrinsic evidence:** '473 patent (Exhibit B) "The data stream is divided into a sequence of segments or slices of the data, preferably time slices, wherein the data are preferably	each slice has an amount of data, measured in bits, that is assigned in advance of the stream being divided **Intrinsic Evidence:** '473 patent (Exhibit B) "For example, to transfer compressed audio data at 2 Kbytes/sec, file 42 may be assigned a file size

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		compressed." (2:4-6.) "In still another preferred embodiment, encoding the slices includes encoding slices at a plurality of different quality levels, such that the files corresponding to a given one of the slices have a different, respective data size for each of the quality levels." (4:39-43.) "In a preferred embodiment, the slices are encoded at a plurality of different quality levels, such that the files corresponding to a given one of the slices have a different, respective data size for each of the quality levels." (5:15-18.) "Further preferably, the data stream includes multimedia data, and the predetermined data size of each of the slices corresponds to a time duration of the slice." (5:33-35.)  FIG. 3A	of 10 Kbytes, with T_1=5 sec." (Ex. B, 11:56-59.) "It will be understood in this case that the slices of the data stream corresponding to files 42, 44, 46, etc., will not necessarily be time slices as described hereinabove, but may rather have an appropriate, preferably variable, data size associated therewith." (Ex. B, 13:42-46.) **Intrinsic Evidence:** Priority Appl. (Exhibit F) "In preferred embodiments of the present invention, a transmitting computer generates a data stream and broadcasts the data stream via a network server to a plurality of clients. The data stream is divided into a sequence of files, each file corresponding to a segment or slice of the data, preferably a time slice, wherein the data are preferably compressed. Each file is preferably assigned a respective slice index. The transmitting computer uploads the sequence of files to the server substantially in real time, preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP), as is known in the art. The clients download the data stream from the server, preferably using an Internet protocol, as well, most preferably the Hypertext Transfer Protocol (HTTP), which is similarly known in the art. The clients use the slice indices of the frames to maintain proper synchronization of the

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		"Clients 30 connect to server 36 and receive the multimedia sequence, substantially in real time. Clients 30 preferably download the sequence using the Hypertext Transfer Protocol (HTTP), although other Internet protocols may also be used, such as UDP or RTP, as noted hereinabove with reference to uploading by computer 34. Since FTP and HTTP are supported by substantially all network servers, server 36 need not include any special-purpose broadcasting hardware or software, as noted above. Similarly, because HTTP is supported by substantially all modern Web browsers, clients 30 will typically need only add a Java applet or plug-in to their existing Web browsers, as described further hereinbelow, in order to receive and play back the broadcast. FIG. 3A is a block diagram that schematically illustrates the structure of a stream of broadcast data 40 produced by computer 34, typically corresponding to a multimedia data sequence, in accordance with a preferred embodiment of the present invention. Data stream 40 comprises a series of data slices 42, 44, 46, 48, etc. Each slice contains a segment of video and/or audio data, corresponding to a respective, successive time interval labeled T_1, T_2, T_3, etc." (7:4-25.)	playback. The division of the data stream into slices and the inclusion of the slice indices in the data stream to be used by the clients in maintaining synchronization allows the broadcast to go on substantially in real time without the use of special-purpose hardware." (Ex. F, pp. 3-4.) '473 patent at col. 4, ll. 39-47 (i.e., "In still another preferred embodiment, encoding the slices includes encoding slices at a plurality of different quality levels, such that the files corresponding to a given one of the slices have a different, respective data size for each of the quality levels. Preferably, downloading the sequence includes determining a data bandwidth of the network between the server and the client computer and selecting one of the quality levels responsive to the determined bandwidth.") is not present in the Priority Application. (*See* Ex. F, p. 8.) '473 patent at col. 5, ll. 15-18 (i.e., "In a preferred embodiment, the slices are encoded at a plurality of different quality levels, such that the files corresponding to a given one of the slices have a different, respective data size for each of the quality levels.") is not present in the Priority Application. (*See* Ex. F, p. 9.) '473 patent at col. 8, l. 56 to col. 9, l. 5 (i.e.,

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		FIG. 3D  "Each time slice in stream 41 includes multimedia data at multiple quality levels. There are two such levels in the example shown in FIG. 3D, identified as level #1 and level #2, but a larger number of levels may also be used. Typically, the audio and video data in level #1, contained in slices 45 and 49, are more highly compressed relative to the data in slices 47 and 51 of level #2. In consequence, the level #1 slices have smaller data volume than the level #2 slices and can therefore be transmitted over a lower-bandwidth data link, while maintaining the required slice timing indicated by time stamps 59. The lower data-rate transmission generally comes at the expense of inferior sound and/or image quality. Size identifier 61 describes the size of those slices in stream 41 that have a fixed size associated therewith, wherein typically the size (or the corresponding resolution) of the level #1 video	"Each time slice in stream 41 includes multimedia data at multiple quality levels. There are two such levels in the example shown in FIG. 3D, identified as level #1 and level #2, but a larger number of levels may also be used. Typically, the audio and video data in level #1, contained in slices 45 and 49, are more highly compressed relative to the data in slices 47 and 51 of level #2. In consequence, the level #1 slices have smaller data volume than the level #2 slices and can therefore be transmitted over a lower-bandwidth data link, while maintaining the required slice timing indicated by time stamps 59. The lower data-rate transmission generally comes at the expense of inferior sound and/or image quality. Size identifier 61 describes the size of those slices in stream 41 that have a fixed size associated therewith, wherein typically the size (or the corresponding resolution) of the level #1 video slices is smaller than that of the level #2 slices.") is not present in the Priority Application. (*See* Ex. F, p. 16.) '473 patent, Fig. 3D is not present in the Priority Application. (*See* Ex. F, p. 10.)

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		slices is smaller than that of the level #2 slices." (8:56 – 9:5.) "The sizes of the files may be varied by adjusting slice durations T_1, T_2, T_3, etc." (9:33-35.)  **FIG. 7** "Similarly, at a set duration step 92, slice durations T_1, T_2, T_3, etc., are optionally adjusted responsive to the link bandwidths. Initially, duration T_1 of slice 1 for file 42 is set to a default value, typically between 1 and 5 sec. For example, to transfer compressed audio data at 2 Kbytes/sec, file 42 may be assigned a file size of	

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		10 Kbytes, with T_1 =5 sec. Assuming that computer 34 communicates over network 28 through a 28.8 Kbaud modem and maintains a typical FTP upload rate of 2 Kbytes/sec (allowing for moderate Internet bottlenecks), data stream 40 will be uploaded to server 36 over link 60 (FIG. 4) substantially at the rate that the audio data are input to computer 34. Frequently, however, this will not be the case, and the FTP upload rate over link 60 will fluctuate and may be slower than 2 Kbyte/sec. At step 88 (FIG. 5), the time required to upload file 42 is measured and compared to T_1, at the same time as file 44 (slice 2) is being encoded and prepared. Responsive to this measurement of upload time, the duration of subsequent slices, for example, times T and T_4 for files 46 and 48, respectively, is adjusted. Thus, as illustrated in FIG. 3A, T_3 and T_4 are less than T_1 and T_2." (11:53 – 12:17; see #6 for FIG. 5.) "It will be understood in this case that the slices of the data stream corresponding to files 42, 44, 46, etc., will not necessarily be time slices as described hereinabove, but may rather have an appropriate, preferably variable, data size associated therewith." (13:41-45.) Claims 1, 11, 23, 25, 37 and 40.	

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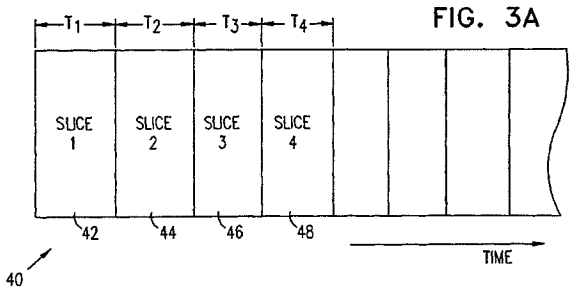
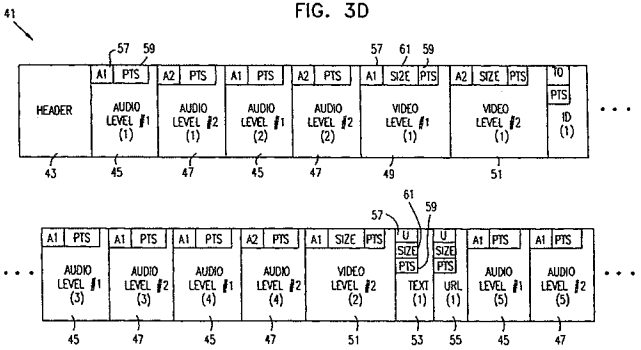
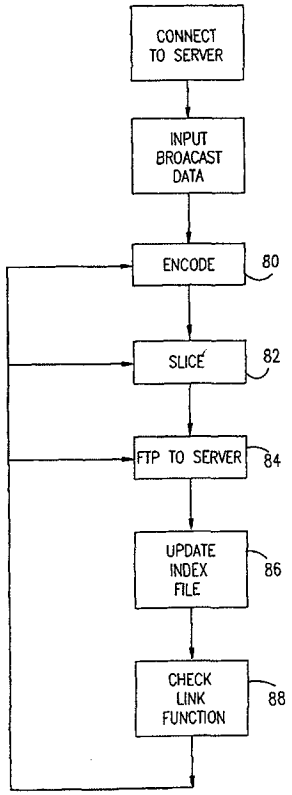
#6	encoding the slices in a corresponding sequence of files [Claim 1] encodes the slices in a corresponding sequence of files [Claim 25]	forming each slice as a file, wherein a file includes data from a corresponding slice and a file descriptor, and wherein the sequence of files corresponds to the sequence of slices **Intrinsic evidence:** '473 patent (Exhibit B) "In preferred embodiments of the present invention, a transmitting computer generates a data stream and broadcasts the data stream via a network server to a plurality of clients. The data stream is divided into a sequence of segments or slices of the data, preferably time slices, wherein the data are preferably compressed. Each slice is preferably assigned a respective slice index. The transmitting computer uploads the sequence of slices to the server substantially in real time, preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP), as is known in the art. The clients download the data stream from the server, preferably using an Internet protocol, as well, most preferably the Hypertext Transfer Protocol (HTTP), or alternatively, using other protocols, such as UDP or RTP, which are similarly known in the art. The clients use the slice indices of the frames to maintain proper synchronization of the playback. The division of the data stream into slices and the inclusion of the slice indices in the data stream to be used by the clients in maintaining	This term is invalid for failing to satisfy the written description and enablement requirements of 35 U.S.C. § 112 ¶ 1 because the specification does not demonstrate how to encode individual "slices" that have already been divided from the data stream provided to the transmitting computer. The specification and Figures only disclose encoding the data stream *before* any slicing occurs. This term is also invalid under 35 U.S.C. § 112 ¶ 2 for failing to claim what the applicant regarded as his invention. Claims 1 and 25 contradict the specification by requiring the encoding step to be performed only after the data stream has been divided into slices. Not only does the specification characterize the encoding and slicing steps as "interdependent" with encoding clearly taking place before slicing, but all corresponding flow charts unequivocally require the encoding step to be performed on the incoming data stream prior to any slice preparation. Should the Court disagree, however, this term must be limited with the following construction: compressing each slice and saving each compressed slice as a file after the dividing step **Intrinsic Evidence:** '473 patent (Exhibit B) "In a preferred embodiment, the slices are

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		synchronization allows the broadcast to go on substantially in real time without the use of special-purpose hardware. Preferably, each segment or slice is contained in a separate, respective file. Alternatively, the segments or slices may all be contained in a single indexed file, which is streamed to the client in a series of packets, each covering a range of one or more indices. HTTP version 1.1 supports this sort of file streaming. Other protocols may also be used for this purpose." (2:1-28.) "After preparing the multimedia sequence, computer 34 uploads the sequence over network 28, preferably using the Internet File Transfer Protocol (FTP). Alternatively, other Internet protocols may be used, such as the TCP/IP, UDP or RT(x) protocols, which are known in the art. Preferably, the data in the sequence are compressed, although compression is not essential to implementation of the present invention. The sequence is preferably generated and compressed in real time, and could comprise, for example, an interview program or an entertainment or sports event, although a prerecorded sequence may similarly be broadcast in this manner. Computer 34 is preferably equipped with suitable software for preparing and compressing the multimedia sequence. For example, for audio data, the computer may typically run GSM 6.10 standard	encoded at a plurality of different quality levels, such that the files corresponding to a given one of the slices have a different, respective data size for each of the quality levels." (Ex. B, 5:15-18.) "In still another preferred embodiment, encoding the slices includes encoding slices at a plurality of different quality levels, such that the files corresponding to a given one of the slices have a different, respective data size for each of the quality levels." (Ex. B, 4:39-44.) "The sequence is preferably generated and compressed in real time, and could comprise, for example, an interview program or an entertainment or sports event, although a prerecorded sequence may similarly be broadcast in this manner. Computer 34 is preferably equipped with suitable software for preparing and compressing the multimedia sequence. For example, for audio data, the computer may typically run GSM 6.10 standard audio compression software, operating at a sample rate of 8 kHz, with 16 bits/sample." (Ex. B, 6:57-65.) "Because of bandwidth limitations of the network, the data stream from host 22 must first be compressed by a real-time encoder 24 …." (Ex. B, 1:29-31.)

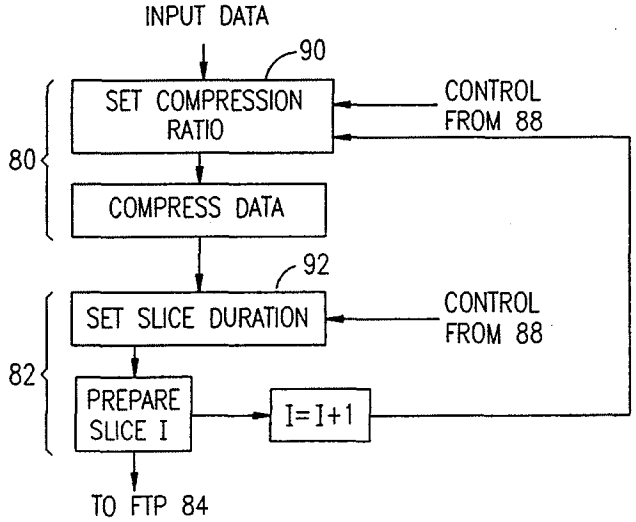
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		audio compression software, operating at a sample rate of 8 kHz, with 16 bits/sample. Some useful techniques for preparing, compressing and transmitting multimedia sequences are described in U.S. Pat. No. 5,841,432 and in the above-mentioned U.S. patent application Ser. No. 08/919,027, both of which are incorporated herein by reference." (6:50 - 7:3.)  FIG. 3A "FIG. 3A is a block diagram that schematically illustrates the structure of a stream of broadcast data 40 produced by computer 34, typically corresponding to a multimedia data sequence, in accordance with a preferred embodiment of the present invention. Data stream 40 comprises a series of data slices 42, 44, 46, 48, etc. Each slice contains a segment of video and/or audio data, corresponding to a respective, successive time interval labeled T_1, T_2, T_3, etc. The data are preferably compressed, as described further	"Computer 34 stores each slice as a corresponding file, having a running slice index 1, 2, 3 … N." (Ex. B, 7:27-28.) "Responsive to a user input, client 30 selects an appropriate starting slice and begins to download and decode (decompress) files 42, 44, 46, etc. In the case of a multimedia stream, client 30 reconstructs and outputs the multimedia data for the appreciation of the user." (Ex. B, 10:45-50.) *See also* Claim 16. **Intrinsic Evidence:** Priority Appl. (Exhibit F) "In preferred embodiments of the present invention, a transmitting computer generates a data stream and broadcasts the data stream via a network server to a plurality of clients. The data stream is divided into a sequence of files, each file corresponding to a segment or slice of the data, preferably a time slice, wherein the data are preferably compressed. Each file is preferably assigned a respective slice index. The transmitting computer uploads the sequence of files to the server substantially in real time, preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP), as is known in the art. The clients download the data stream from the server, preferably using an Internet protocol, as

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		hereinbelow. Computer 34 stores each slice as a corresponding file, having a running slice index 1, 2, 3 . . . N. Preferably, each file also includes one or more time stamps, indicating a real time at which the data in the file were recorded or an elapsed time relative to the beginning of stream 40. The files are uploaded to server 36, such that while any given slice (other than first slice 42) is being created, one or more preceding slices are in the process of being uploaded." (7:18-34.) "Preferably, ID 52 holds the file name of the new file, wherein the name typically comprises a string followed by the index of the file." (7:66 - 8:1.) FIG. 3D  "FIG. 3D is a block diagram that schematically illustrates a file format of a multi-level data stream 41, in accordance with another preferred embodiment of the present invention. The data	well, most preferably the Hypertext Transfer Protocol (HTTP), which is similarly known in the art. The clients use the slice indices of the frames to maintain proper synchronization of the playback. The division of the data stream into slices and the inclusion of the slice indices in the data stream to be used by the clients in maintaining synchronization allows the broadcast to go on substantially in real time without the use of special-purpose hardware." (Ex. F, pp. 3-4.) '473 patent at col. 2, ll. 22-28 (i.e., "Preferably, each segment or slice is contained in a separate, respective file. Alternatively, the segments or slices may all be contained in a single indexed file, which is streamed to the client in a series of packets, each covering a range of one or more indices. HTTP version 1.1 supports this sort of file streaming. Other protocols may also be used for this purpose.") is not present in the Priority Application. (*See* Ex. F, p. 4.) '473 patent at col. 8, ll. 42-55 (i.e., "FIG. 3D is a block diagram that schematically illustrates a file format of a multi-level data stream 41, in accordance with another preferred embodiment of the present invention. The data stream is divided into audio slices 45, 47 and video slices 49, 51, and may also include other data formats, such as a text slice 53 and/or a URL slice 55. Each slice is

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		stream is divided into audio slices 45, 47 and video slices 49, 51, and may also include other data formats, such as a text slice 53 and/or a URL slice 55. Each slice is preferably identified by a level identifier 57, a presentation time stamp (PTS) index 59 and, as appropriate, a size identifier 61. The function of these identifiers and indices is described further hereinbelow. A header 43 includes data such as the title, author, copyright and formats of the data in the stream; the duration of the multimedia sequence represented by the stream; and a description of the available stream levels and associated data sizes." (8:42-55.)	preferably identified by a level identifier 57, a presentation time stamp (PTS) index 59 and, as appropriate, a size identifier 61. The function of these identifiers and indices is described further hereinbelow. A header 43 includes data such as the title, author, copyright and formats of the data in the stream; the duration of the multimedia sequence represented by the stream; and a description of the available stream levels and associated data sizes.") is not present in the Priority Application. (*See* Ex. F, p. 16.) '473 patent, Fig. 3D is not present in the Priority Application. (*See* Ex. F, p. 10.)

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		 **FIG. 5** "FIG. 5 is a flow chart that schematically shows an overview of operations of computer 34 in preparing and transmitting data stream 40 over network 28, in accordance with a preferred embodiment of the present invention. Details of	

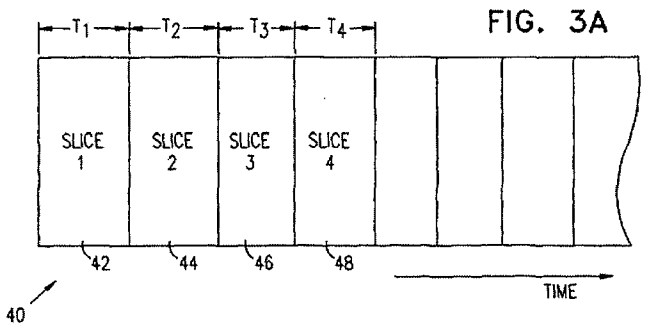
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		some of the steps in the operation are shown in FIGS. 7-9 and described further with reference thereto. Exemplary programs for carrying out the functions illustrated in FIG. 5 are incorporated herein in a software appendix, which is described further hereinbelow. To begin the broadcast, computer 34 connects to server 36, optionally opening the plurality of links shown in FIG. 4. Broadcast data are then input to the computer, for example, from input devices 22, or from a video, audio or animation sequence stored on disk or tape. The data are compressed at step 80, and are then "sliced" at step 82 into files 42, 44, 46, 48, etc., as shown in FIG. 3A. Computer 34 conveys file 40 to server 36 over links 60, 62, 64, 66 and 68, as described above, preferably using FTP, at step 84. Each time a new file is uploaded to the server, index file 50 (FIG. 3B) is updated, at step 86." (9:53 – 10:5.)	

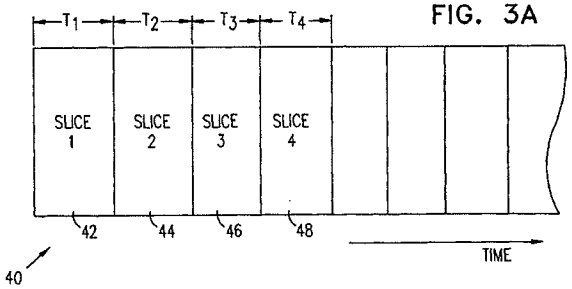
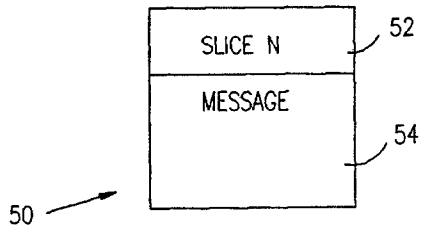
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		 **FIG. 7** "FIG. 7 is a flow chart that schematically illustrates details of encoding step 80 and slicing step 82 in the method of FIG. 5, in accordance with a preferred embodiment of the present invention. In encoding data stream 40, computer 34 preferably compresses the data using any suitable compression method known in the art. For example, if data stream 40 comprises audio data, GSM 6.10 standard encoding may be used, as is known in the art, to compress the data by about 10:1. Alternatively or additionally, for video data, H.263 standard compression, similarly known in the art, may be used. These compression	

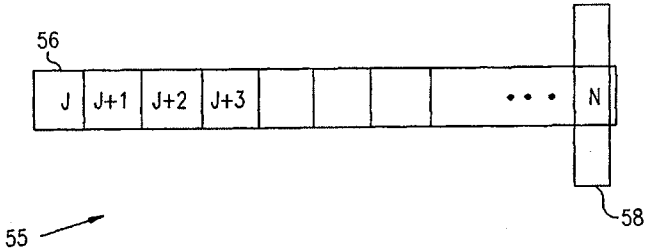
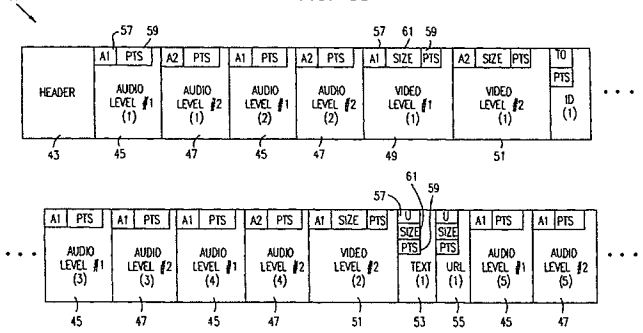
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		standards are advantageous in that common personal computers can perform such compression in real time, in parallel with the other operations illustrated in FIG. 5. Other compression methods known in the art, such as MPEG data compression, may similarly be used, as long as computer 34 is sufficiently powerful. Computer 34 determines a compression ratio by which to compress the data, based on the collective bandwidth of its open links with server 36. Preferably, computer 34 receives an indication of the bandwidths of the links, determined at step 88 in FIG. 5, and adjusts the compression ratio accordingly, at a set compression step 90. For example, the compression ratio may be adjusted by changing compression coefficients (e.g., MPEG coefficients) so as to match the data stream bandwidth to the available link bandwidth. Methods of adaptively varying the compression ratio of a multimedia data stream that can be used for this purpose are described, for example, in the above-mentioned U.S. patent application Ser. No. 08/919,027. Similarly, at a set duration step 92, slice durations T_1, T_2, T_3, etc., are optionally adjusted responsive to the link bandwidths. Initially, duration T_1 of slice 1 for file 42 is set to a default value, typically between 1 and 5 sec. For example, to transfer compressed audio data at 2 Kbytes/sec, file 42 may be assigned a file size of	

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		10 Kbytes, with T_1 =5 sec. Assuming that computer 34 communicates over network 28 through a 28.8 Kbaud modem and maintains a typical FTP upload rate of 2 Kbytes/sec (allowing for moderate Internet bottlenecks), data stream 40 will be uploaded to server 36 over link 60 (FIG. 4) substantially at the rate that the audio data are input to computer 34. Frequently, however, this will not be the case, and the FTP upload rate over link 60 will fluctuate and may be slower than 2 Kbyte/sec. At step 88 (FIG. 5), the time required to upload file 42 is measured and compared to T_1, at the same time as file 44 (slice 2) is being encoded and prepared. Responsive to this measurement of upload time, the duration of subsequent slices, for example, times T_3 and T_4 for files 46 and 48, respectively, is adjusted. Thus, as illustrated in FIG. 3A, T_3 and T_4 are less than T_1 and T_2. The shorter files 46, 48, etc., that result from the change in slice duration are more likely to reach server 36 in the proper sequence, without being held up by extended bottlenecks. Furthermore, when the slice durations are shorter, the effect of "drop-out" of a slice due to failure of the corresponding link is less marked. On the other hand, if it is determined that the upload time for file 42 (or a subsequent file) is substantially shorter than duration T_1, the duration of subsequent files may be extended, and/or the	

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		compression ratio may be decreased, so as to take better advantage of the available bandwidth." (11:23-12:17.) Claims 1, 3, 5, 6, 8-11, 16, 18, 25, 33, 38 and 40. **Extrinsic evidence**: Exhibit D: Microsoft Computer Dictionary, Fifth Ed. 2002, p. 211 (definition of "file"); p. 192 (definition of "encode"), (definition of "encoder")	
#7	sequence of files, each file having a respective index [Claims 1, 25]	a sequence of files, wherein each file has an indicator that distinguishes the file from other files **Intrinsic evidence:** '473 patent (Exhibit B) "In preferred embodiments of the present invention, a transmitting computer generates a data stream and broadcasts the data stream via a network server to a plurality of clients. The data stream is divided into a sequence of segments or slices of the data, preferably time slices, wherein the data are preferably compressed. Each slice is preferably assigned a respective slice index. The transmitting computer uploads the sequence of slices to the server substantially in real time, preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP), as is known in the art. The clients download the data	a sequence of files, wherein each file contains an alphanumeric indicator stored therein that represents a respective slice's location in the sequence **Intrinsic Evidence:** '473 patent (Exhibit B) "FIG. 3A is a block diagram that schematically illustrates the structure of a stream of broadcast data 40 produced by computer 34, typically corresponding to a multimedia data sequence, in accordance with a preferred embodiment of the present invention. Data stream 40 comprises a series of data slices 42, 44, 46, 48, etc. Each slice contains a segment of video and/or audio data, corresponding to a respective, successive time interval labeled T_1, T_2, T_3, etc. The data are preferably compressed, as described further hereinbelow. Computer 34 stores each slice as a

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		stream from the server, preferably using an Internet protocol, as well, most preferably the Hypertext Transfer Protocol (HTTP), or alternatively, using other protocols, such as UDP or RTP, which are similarly known in the art. The clients use the slice indices of the frames to maintain proper synchronization of the playback. The division of the data stream into slices and the inclusion of the slice indices in the data stream to be used by the clients in maintaining synchronization allows the broadcast to go on substantially in real time without the use of special-purpose hardware. Preferably, each segment or slice is contained in a separate, respective file. Alternatively, the segments or slices may all be contained in a single indexed file, which is streamed to the client in a series of packets, each covering a range of one or more indices. HTTP version 1.1 supports this sort of file streaming. Other protocols may also be used for this purpose." (2:1-28.)	corresponding file, having a running slice index 1, 2, 3 . . . N." (Ex. B, 7:18-28.)  FIG. 3A **Intrinsic Evidence:** Priority Appl. (Exhibit F) "In preferred embodiments of the present invention, a transmitting computer generates a data stream and broadcasts the data stream via a network server to a plurality of clients. The data stream is divided into a sequence of files, each file corresponding to a segment or slice of the data, preferably a time slice, wherein the data are preferably compressed. Each file is preferably assigned a respective slice index. The transmitting computer uploads the sequence of files to the server substantially in real time, preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP), as is known in the art. The clients download the data stream from the

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		 FIG. 3A  FIG. 3B	server, preferably using an Internet protocol, as well, most preferably the Hypertext Transfer Protocol (HTTP), which is similarly known in the art. The clients use the slice indices of the frames to maintain proper synchronization of the playback. The division of the data stream into slices and the inclusion of the slice indices in the data stream to be used by the clients in maintaining synchronization allows the broadcast to go on substantially in real time without the use of special-purpose hardware." (Ex. F, pp. 3-4.) '473 patent at col. 2, ll. 22-28 (i.e., "Preferably, each segment or slice is contained in a separate, respective file. Alternatively, the segments or slices may all be contained in a single indexed file, which is streamed to the client in a series of packets, each covering a range of one or more indices. HTTP version 1.1 supports this sort of file streaming. Other protocols may also be used for this purpose.") is not present in the Priority Application. (*See* Ex. F, p. 4.) '473 patent, Fig. 3D is not present in the Priority Application. (*See* Ex. F, p. 10.) '473 patent at col. 7, ll. 44-48 (i.e., "Alternatively or additionally, the compression level of the data is varied, as is likewise described below, so as to adjust the data streaming rate to the available

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		FIG. 3C  FIG. 3D  "FIG. 3A is a block diagram that schematically illustrates the structure of a stream of broadcast data 40 produced by computer 34, typically corresponding to a multimedia data sequence, in accordance with a preferred embodiment of the present invention. Data stream 40 comprises a series of data slices 42, 44, 46, 48, etc. Each slice contains a segment of video and/or audio data,	bandwidth over one or more channels between computer 34 and server 36, and/or between server 36 and client 30.") is not present in the Priority Application. (*See* Ex. F, p. 14.) '473 patent at col. 8, ll. 9-11 (i.e., "Further alternatively, stream 40 may be multicast to clients 30, as is known in the art, typically without the use of an index file.") is not present in the Priority Application. (*See* Ex. F, p. 15.) '473 patent at col. 8, ll. 42-55 (i.e., "FIG. 3D is a block diagram that schematically illustrates a file format of a multi-level data stream 41, in accordance with another preferred embodiment of the present invention. The data stream is divided into audio slices 45, 47 and video slices 49, 51, and may also include other data formats, such as a text slice 53 and/or a URL slice 55. Each slice is preferably identified by a level identifier 57, a presentation time stamp (PTS) index 59 and, as appropriate, a size identifier 61. The function of these identifiers and indices is described further hereinbelow. A header 43 includes data such as the title, author, copyright and formats of the data in the stream; the duration of the multimedia sequence represented by the stream; and a description of the available stream levels and associated data sizes.") is not present in the Priority Application. (*See* Ex. F, p. 16.)

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		corresponding to a respective, successive time interval labeled T_1, T_2, T_3, etc. The data are preferably compressed, as described further hereinbelow. Computer 34 stores each slice as a corresponding file, having a running slice index 1, 2, 3 . . . N. Preferably, each file also includes one or more time stamps, indicating a real time at which the data in the file were recorded or an elapsed time relative to the beginning of stream 40. The files are uploaded to server 36, such that while any given slice (other than first slice 42) is being created, one or more preceding slices are in the process of being uploaded. Computer 34 monitors the time codes as file 40 is transmitted, and clients 30 similarly monitor the time codes as the file is received, in order to ensure that the transmission or reception is "keeping up" with the input of the data to the computer. In the event that a lag is detected, steps are taken to increase the data transmission or reception rate, as described further hereinbelow. For example, as shown in FIG. 3A, time intervals T_1, T_2, T_3, etc., are not all equal, but rather are adjusted by computer 34 in response to the transmission rate. Alternatively or additionally, the compression level of the data is varied, as is likewise described below, so as to adjust the data streaming rate to the available bandwidth over one or more channels between computer 34 and server 36, and/or between server 36 and client 30.	'473 patent at col. 8, l. 56 to col. 9, l. 5 (i.e., "Each time slice in stream 41 includes multimedia data at multiple quality levels. There are two such levels in the example shown in FIG. 3D, identified as level #1 and level #2, but a larger number of levels may also be used. Typically, the audio and video data in level #1, contained in slices 45 and 49, are more highly compressed relative to the data in slices 47 and 51 of level #2. In consequence, the level #1 slices have smaller data volume than the level #2 slices and can therefore be transmitted over a lower-bandwidth data link, while maintaining the required slice timing indicated by time stamps 59. The lower data-rate transmission generally comes at the expense of inferior sound and/or image quality. Size identifier 61 describes the size of those slices in stream 41 that have a fixed size associated therewith, wherein typically the size (or the corresponding resolution) of the level #1 video slices is smaller than that of the level #2 slices.") is not present in the Priority Application. (*See* Ex. F, p. 16.) '473 patent at col. 9, ll. 6-9 (i.e., "Each of clients 30 chooses or is assigned the quality level appropriate to the bandwidth of its link on network 28 to server 36. A method for selecting and, as required, varying the level is described

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		Computer 34 continues to upload files 42, 44, 46, etc., until data stream 40 is finished or terminated by a user of computer 34. All of the files in the data stream may be saved on server 36 for any desired period of time, as long as the server has sufficient free memory that is accessible to computer 34. Typically, however, the memory available on server 36 is limited, and files 42, 44, 46, etc., will be stored on the server and erased therefrom in a "first-in-first-out" sequence. FIG. 3B is a block diagram that schematically illustrates an index file 50, which is created by computer 34, and is uploaded to server 36, in accordance with a preferred embodiment of the present invention. The index file comprises a slice ID 52, indicating the index of the file in data stream 40 that was most recently uploaded by computer 34. Each time a new file 42, 44, 46, etc., is uploaded, ID 52 in file 50 on server 36 is updated. Preferably, ID 52 holds the file name of the new file, wherein the name typically comprises a string followed by the index of the file. When one of computers 30 connects to server 36 and begins to download the data stream, it first reads the index file in order to identify at what point in stream 40 to begin and to start receiving the data stream substantially in real time, preferably with only a minimal lag, as it is transmitted from computer 34. Alternatively, a	hereinbelow with reference to FIG. 6B..") is not present in the Priority Application. (*See* Ex. F, p. 16.) '473 patent, Fig. 6B is not present in the Priority Application. (*See* Ex. F, p. 10.)

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		user of one of computers 30 may choose to begin downloading data stream 40 from an earlier point in time than that indicated by ID 52. Further alternatively, stream 40 may be multicast to clients 30, as is known in the art, typically without the use of an index file. Index file 50 may further include a message 54, which is read by computers 30 when they connect to server 36 to download data stream 40 or, alternatively or additionally, at any time the message is updated by computer 34. The message contains parameters relating generally to the data stream and/or instructions to computers 30, for example, "transmission paused." FIG. 3C is a schematic representation of a user interface graphic "slider" 55, available to users of computers 30, in accordance with a preferred embodiment of the present invention. Slider 55, which is preferably displayed on the screens of computers 30, includes a bar 56 and a movable indicator 58. The symbols J, J+1, J+2, . . . N in the figure are the indices of the slices of stream 40 that are stored on server 36, wherein N is the index of the most recent slice, and J is the index of the earliest stored slice. J may indicate the first slice in the sequence, if all of the files are stored on server 36, or it may be the earliest file not yet erased. (The indices are marked in the figure on bar 56 for clarity, and need not actually be shown on the computer screen.)	

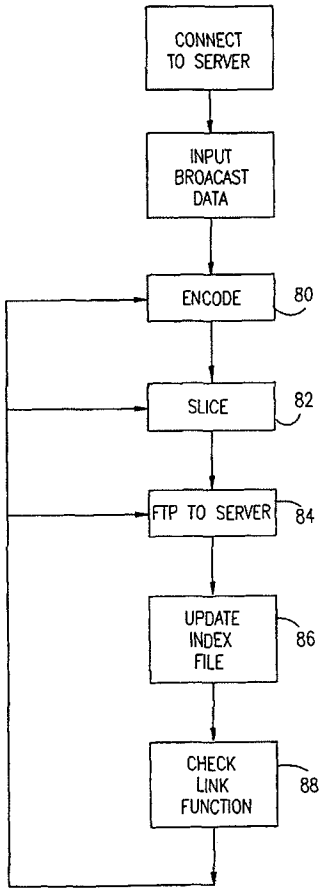
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		When one of computers 30 reads index file 50 and begins to download stream 40, indicator 58 preferably marks the most recent slice, as shown in FIG. 3C. This is the point at which the download will begin, unless the user of the computer chooses otherwise. If the user wishes to begin the download at an earlier point, he may move indicator 58 to the left along bar 56 to that point, preferably using a mouse or other pointing device, as is known in the art. Indicator 58 may be moved back and forth along bar 56 to jump back and forth along stream 40. FIG. 3D is a block diagram that schematically illustrates a file format of a multi-level data stream 41, in accordance with another preferred embodiment of the present invention. The data stream is divided into audio slices 45, 47 and video slices 49, 51, and may also include other data formats, such as a text slice 53 and/or a URL slice 55. Each slice is preferably identified by a level identifier 57, a presentation time stamp (PTS) index 59 and, as appropriate, a size identifier 61. The function of these identifiers and indices is described further hereinbelow. A header 43 includes data such as the title, author, copyright and formats of the data in the stream; the duration of the multimedia sequence represented by the stream; and a description of the available stream levels and associated data sizes. Each time slice in stream 41 includes	

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		multimedia data at multiple quality levels. There are two such levels in the example shown in FIG. 3D, identified as level #1 and level #2, but a larger number of levels may also be used. Typically, the audio and video data in level #1, contained in slices 45 and 49, are more highly compressed relative to the data in slices 47 and 51 of level #2. In consequence, the level #1 slices have smaller data volume than the level #2 slices and can therefore be transmitted over a lower-bandwidth data link, while maintaining the required slice timing indicated by time stamps 59. The lower data-rate transmission generally comes at the expense of inferior sound and/or image quality. Size identifier 61 describes the size of those slices in stream 41 that have a fixed size associated therewith, wherein typically the size (or the corresponding resolution) of the level #1 video slices is smaller than that of the level #2 slices. Each of clients 30 chooses or is assigned the quality level appropriate to the bandwidth of its link on network 28 to server 36. A method for selecting and, as required, varying the level is described hereinbelow with reference to FIG. 6B." (7:18 – 9:9; see #9 for FIG. 6B.) Claims 1, 9, 10 and 25. **Extrinsic evidence:** Exhibit D: Microsoft	

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		Computer Dictionary, Fifth Ed. 2002, p. 211 (definition of "file")	
#8	uploading the sequence to a server at an upload rate generally equal to the data rate of the stream [Claim 1] which uploads the sequence to a server at an upload rate generally equal to the data rate [Claim 25]	uploading files in the sequence from the transmitting computer to a server at an upload rate generally equal to the data rate of the stream **Intrinsic evidence:** '473 patent (Exhibit B) "The transmitting computer uploads the sequence of slices to the server substantially in real time, preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP), as is known in the art." (2:7-10.) "Preferably, uploading the sequence includes comparing the upload rate to the data rate and adjusting the upload rate responsive to the comparison." (3:43-45.) "FIG. 3A is a block diagram that schematically illustrates the structure of a stream of broadcast data 40 produced by computer 34, typically corresponding to a multimedia data sequence, in accordance with a preferred embodiment of the present invention. Data stream 40 comprises a series of data slices 42, 44, 46, 48, etc. Each slice contains a segment of video and/or audio data, corresponding to a respective, successive time interval labeled T_1, T_2, T_3, etc. The data are	This term is insolubly ambiguous and therefore indefinite under 35 U.S.C. § 112 ¶ 2 because the term "generally equal" is inherently subjective. This term is also invalid for failing to satisfy the written description and enablement requirements of 35 U.S.C. § 112 ¶ 1 because the specification does not demonstrate how, in an accused environment such as the Internet and/or in mobile networks, one can control the data rate at which the "sequence" is uploaded to the server such that it is "generally equal" to the data rate of the originally provided data stream. Should the Court disagree, however, this term must be limited with the following construction: transmitting the files from the transmitting computer to the server at a speed, as measured in bits per second, that closely matches "the data rate" [as defined in Term #3 above] **Intrinsic Evidence:** '473 patent (Exhibit B) "Preferably, uploading the sequence includes comparing the upload rate to the data rate and adjusting the upload rate responsive to the comparison." (Ex. B, 3:43-45.)

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		preferably compressed, as described further hereinbelow. Computer 34 stores each slice as a corresponding file, having a running slice index 1, 2, 3 . . . N. Preferably, each file also includes one or more time stamps, indicating a real time at which the data in the file were recorded or an elapsed time relative to the beginning of stream 40. The files are uploaded to server 36, such that while any given slice (other than first slice 42) is being created, one or more preceding slices are in the process of being uploaded." (7:18-34.) "FIG. 3B is a block diagram that schematically illustrates an index file 50, which is created by computer 34, and is uploaded to server 36, in accordance with a preferred embodiment of the present invention. The index file comprises a slice ID 52, indicating the index of the file in data stream 40 that was most recently uploaded by computer 34. Each time a new file 42, 44, 46, etc., is uploaded, ID 52 in file 50 on server 36 is updated. Preferably, ID 52 holds the file name of the new file, wherein the name typically comprises a string followed by the index of the file. When one of computers 30 connects to server 36 and begins to download the data stream, it first reads the index file in order to identify at what point in stream 40 to begin and to start receiving the data stream substantially in real time, preferably with only a minimal lag, as it is	"Further preferably, opening the plurality of links includes opening links such that the data rates of the links taken together are sufficient to upload the sequence at the upload rate generally equal to the data rate." (Ex. B, 3:55-59.) "The number of links that are actually opened between computer 34 and server 36 may be less than or greater than the five links shown in the example of FIG. 4, depending on the available data rates of the open links, compared with the rate of data in stream 40." (Ex. B, 9:40-45.) "Computer 34 monitors the time codes as file 40 is transmitted, and clients 30 similarly monitor the time codes as the file is received, in order to ensure that the transmission or reception is "keeping up" with the input of the data to the computer. In the event that a lag is detected, steps are taken to increase the data transmission or reception rate, as described further hereinbelow." (Ex. B, 7:36-42.) "Assuming that computer 34 communicates over network 28 through a 28.8 Kbaud modem and maintains a typical FTP upload rate of 2 Kbytes/sec (allowing for moderate Internet bottlenecks), data stream 40 will be uploaded to server 36 over link 60 (FIG. 4) substantially at the rate that the audio data are input to computer 34."

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		transmitted from computer 34. Alternatively, a user of one of computers 30 may choose to begin downloading data stream 40 from an earlier point in time than that indicated by ID 52. Further alternatively, stream 40 may be multicast to clients 30, as is known in the art, typically without the use of an index file." (7:59 – 8:11; see #7 for FIGS 3A, 3B.)	(Ex. B, 11:59-64.) *See also* Claims 15, 18, 30. **Intrinsic Evidence:** Priority Appl. (Exhibit F) "In preferred embodiments of the present invention, a transmitting computer generates a data stream and broadcasts the data stream via a network server to a plurality of clients. The data stream is divided into a sequence of files, each file corresponding to a segment or slice of the data, preferably a time slice, wherein the data are preferably compressed. Each file is preferably assigned a respective slice index. The transmitting computer uploads the sequence of files to the server substantially in real time, preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP), as is known in the art. The clients download the data stream from the server, preferably using an Internet protocol, as well, most preferably the Hypertext Transfer Protocol (HTTP), which is similarly known in the art. The clients use the slice indices of the frames to maintain proper synchronization of the playback. The division of the data stream into slices and the inclusion of the slice indices in the data stream to be used by the clients in maintaining synchronization allows the broadcast to go on substantially in real time without the use

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		 **FIG. 5** "FIG. 5 is a flow chart that schematically shows an overview of operations of computer 34 in preparing and transmitting data stream 40 over	of special-purpose hardware." (Ex. F, pp. 3-4.) '473 patent at col. 8, ll. 9-11 (i.e., "Further alternatively, stream 40 may be multicast to clients 30, as is known in the art, typically without the use of an index file.") is not present in the Priority Application. (*See* Ex. F, p. 15.) '473 patent at col. 12, ll. 32-35 (i.e., "[A]nd J_{MAX} may also be assigned the value 1, in which case the steps of the method of FIG. 5, and the details thereof shown in FIGS. 7, 8, and 9, are carried out over a single FTF [*sic*] link.") is not present in the Priority Application. (*See* Ex. F, p. 22.)

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		network 28, in accordance with a preferred embodiment of the present invention. Details of some of the steps in the operation are shown in FIGS. 7-9 and described further with reference thereto. Exemplary programs for carrying out the functions illustrated in FIG. 5 are incorporated herein in a software appendix, which is described further hereinbelow. To begin the broadcast, computer 34 connects to server 36, optionally opening the plurality of links shown in FIG. 4. Broadcast data are then input to the computer, for example, from input devices 22, or from a video, audio or animation sequence stored on disk or tape. The data are compressed at step 80, and are then "sliced" at step 82 into files 42, 44, 46, 48, etc., as shown in FIG. 3A. Computer 34 conveys file 40 to server 36 over links 60, 62, 64, 66 and 68, as described above, preferably using FTP, at step 84. Each time a new file is uploaded to the server, index file 50 (FIG. 3B) is updated, at step 86." (9:53 – 10:5; see #7 for FIGS 3A, 3B.) "For example, to transfer compressed audio data at 2 Kbytes/sec, file 42 may be assigned a file size of 10 Kbytes, with T_1 =5 sec. Assuming that computer 34 communicates over network 28 through a 28.8 Kbaud modem and maintains a typical FTP upload rate of 2 Kbytes/sec (allowing for moderate Internet bottlenecks), data stream 40	

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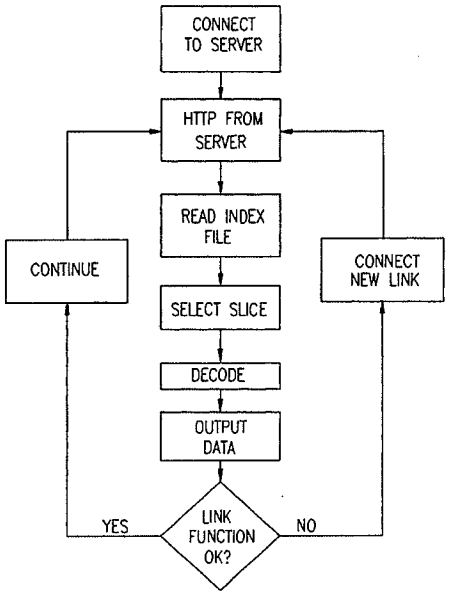
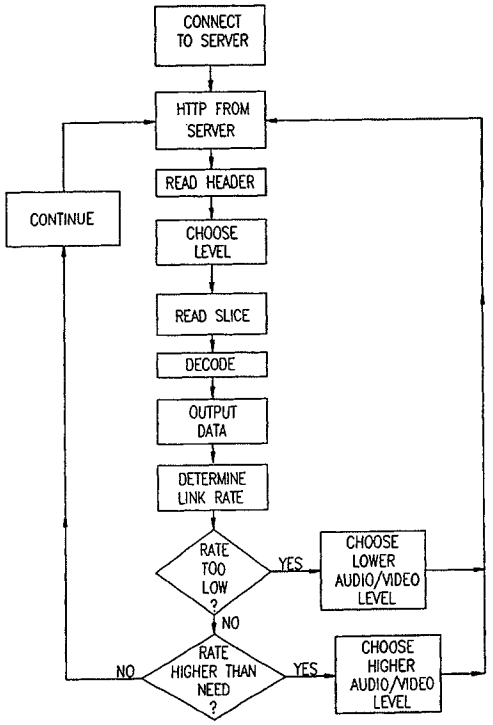
		will be uploaded to server 36 over link 60 (FIG. 4) substantially at the rate that the audio data are input to computer 34." (11:55-64.) Claims 1, 9, 15, 17-19, 21, 22, 24, 25, 30, 38 and 39. **Extrinsic evidence:** Exhibit D: Microsoft Computer Dictionary, Fifth Ed. 2002, p. 541 (definition of "upload"); p. 144 (definition of "data rate"); p. 499 (definition of "stream" and "streaming")	
#9	such that one or more client computers can download the sequence over the network from the server at a download rate generally equal to the data rate [Claims 1, 25]	one or more client computers are capable of selecting individual files corresponding to the slices for download over the network at a download rate generally equal to the data rate **Intrinsic evidence:** '473 patent (Exhibit B) "The clients download the data stream from the server, preferably using an Internet protocol, as well, most preferably the Hypertext Transfer Protocol (HTTP), or alternatively, using other protocols, such as UDP or RTP, which are similarly known in the art. The clients use the slice indices of the frames to maintain proper synchronization of the playback. The division of the data stream into slices and the inclusion of the slice indices in the data stream to be used by the	This term is insolubly ambiguous and therefore indefinite under 35 U.S.C. § 112 ¶ 2 because the term "generally equal" is inherently subjective. This term is also invalid for failing to satisfy the written description and enablement requirements of 35 U.S.C. § 112 ¶ 1 because the specification does not demonstrate how, in an accused environment such as the Internet and/or in mobile networks, one can control the data rate the "sequence" is downloaded to one or more client computers such that it is "generally equal" to the data rate of the originally provided data stream. Should the Court disagree, however, this term must be limited with the following construction: each client receiving the broadcast requests and receives each file of the sequence from the server

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		clients in maintaining synchronization allows the broadcast to go on substantially in real time without the use of special-purpose hardware." (2:11-21.) "Preferably, the method includes downloading the sequence using an Internet protocol, most preferably HTTP, or alternatively, UDP or RTP, over the network from the server to the one or more client computers." (3:63-66.) "Clients 30 connect to server 36 and receive the multimedia sequence, substantially in real time. Clients 30 preferably download the sequence using the Hypertext Transfer Protocol (HTTP), although other Internet protocols may also be used, such as UDP or RTP, as noted hereinabove with reference to uploading by computer 34. Since FTP and HTTP are supported by substantially all network servers, server 36 need not include any special-purpose broadcasting hardware or software, as noted above. Similarly, because HTTP is supported by substantially all modern Web browsers, clients 30 will typically need only add a Java applet or plug-in to their existing Web browsers, as described further hereinbelow, in order to receive and play back the broadcast." (7:3-17.) "When one of computers 30 connects to server 36	at a transmission speed, as measured in bits per second, that closely matches "the data rate" [as defined in Term #3 above] **Intrinsic Evidence:** '473 patent (Exhibit B) "Most preferably, opening the plurality of links includes opening links such that the data rates of the links taken together are sufficient to download the sequence at the download rate generally equal to the data rate." (Ex. B, 4:20-24.) "The client first reads index file 50 (FIG. 3B), and graphic 56 (FIG. 3C) is displayed by the client, so that a user can decide and indicate at which slice of data stream 40 to begin downloading. Responsive to a user input, client 30 selects an appropriate starting slice and begins to download and decode (decompress) files 42, 44, 46, etc." (Ex. B, 10:42-48.) "When one of computers 30 reads index file 50 and begins to download stream 40, indicator 58 preferably marks the most recent slice, as shown in FIG. 3C. This is the point at which the download will begin, unless the user of the computer chooses otherwise." (Ex. B, 8:32-36.) "When one of computers 30 connects to server 36 and begins to download the data stream, it first

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		and begins to download the data stream, it first reads the index file in order to identify at what point in stream 40 to begin and to start receiving the data stream substantially in real time, preferably with only a minimal lag, as it is transmitted from computer 34. Alternatively, a user of one of computers 30 may choose to begin downloading data stream 40 from an earlier point in time than that indicated by ID 52." (8:1-9.) "When one of computers 30 reads index file 50 and begins to download stream 40, indicator 58 preferably marks the most recent slice, as shown in FIG. 3C. This is the point at which the download will begin, unless the user of the computer chooses otherwise. If the user wishes to begin the download at an earlier point, he may move indicator 58 to the left along bar 56 to that point, preferably using a mouse or other pointing device, as is known in the art. Indicator 58 may be moved back and forth along bar 56 to jump back and forth along stream 40." (8:32-41; see #7 for FIG. 3C.)	reads the index file in order to identify at what point in stream 40 to begin and to start receiving the data stream substantially in real time, preferably with only a minimal lag, as it is transmitted from computer 34. Alternatively, a user of one of computers 30 may choose to begin downloading data stream 40 from an earlier point in time than that indicated by ID 52." (Ex. B, 8:1-9.) "The clients download the data stream from the server." (Ex. B, 2:11-12.) "Clients 30 connect to server 36 and receive the multimedia sequence, substantially in real time. Clients 30 preferably download the sequence using the Hypertext Transfer Protocol (HTTP), although other Internet protocols may also be used, such as UDP or RTP, as noted hereinabove with reference to uploading by computer 34." (Ex. B, 7:4-9.) "FIG. 6A is a flow chart illustrating the operation of clients 30 in downloading and playing back data stream 40 (FIG. 3A) transmitted by computer 34, in accordance with a preferred embodiment of the present invention. The operation of client is controlled by a Java applet, which may be downloaded from server 36, and includes facilities for carrying out the steps shown in FIG.

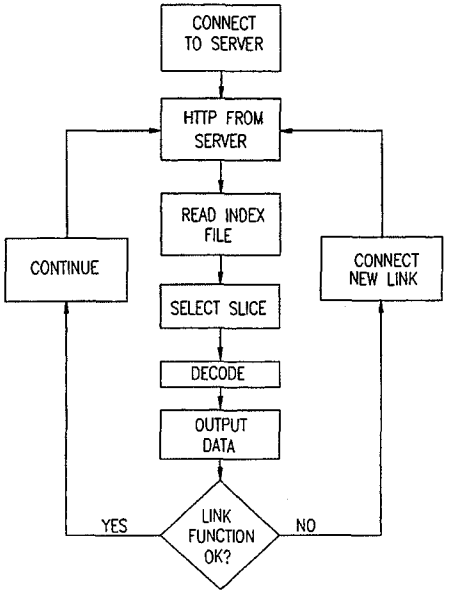
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		 **FIG. 6A** "FIG. 6A is a flow chart illustrating the operation of clients 30 in downloading and playing back data stream 40 (FIG. 3A) transmitted by computer 34, in accordance with a preferred embodiment of the present invention. The operation of client is controlled by a Java applet, which may be downloaded from server 36, and includes facilities for carrying out the steps shown in FIG. 6A, as well as for error detection and, optionally, correction in communications received by the clients and for other functions known in the	6A, as well as for error detection and, optionally, correction in communications received by the clients and for other functions known in the art." (Ex. B, 10:24-33.) *See also* Claim 18. **Intrinsic Evidence:** Priority Appl. (Exhibit F) "Preferably, the method includes downloading the encoded sequence using an Internet protocol, most preferably HTTP, over the network from the server to the one or more client computers. Preferably, the one or more client computers decode the encoded sequence and play back the data stream responsive to the indices of the files, at a replay rate generally equal to the data rate." (Ex. F, pp. 6-7.) '473 patent, Fig. 6B is not present in the Priority Application. (*See* Ex. F, p. 10.) '473 patent at col. 10, l. 64 to col. 11, l. 8 (i.e., "FIG. 6B is a flow chart illustrating the operation of clients 30 in downloading and playing back multi-level data stream 41 (FIG. 3D) transmitted from server 36, in accordance with another preferred embodiment of the present invention. As in the method of FIG. 6A, each client 30 connects to the server, generally using a single

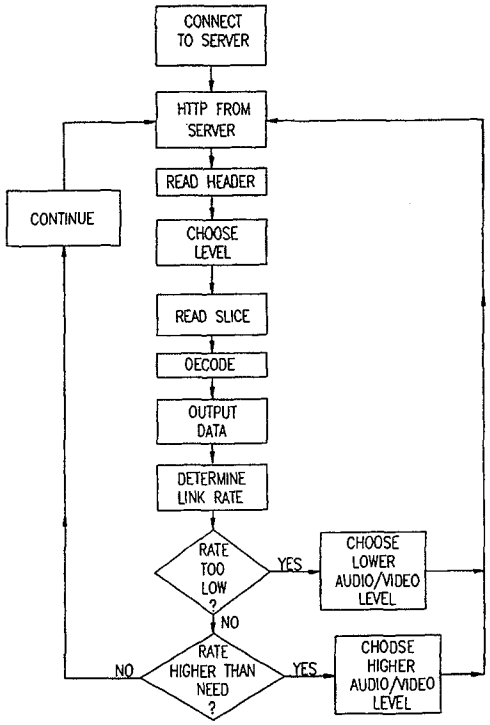
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		art. A sample applet of this sort is incorporated herein in the software appendix, as further described hereinbelow. Each client 30 connects to server 36, optionally using multiple HTTP links, in a manner similar to that shown and described above with reference to FIG. 4. Typically, client 30 opens one or two HTTP links, over which files 42, 44, 46, etc., are downloaded in successive alternation, but as in the case of transmitting computer 34, a greater number of links may similarly be opened. The client first reads index file 50 (FIG. 3B), and graphic 56 (FIG. 3C) is displayed by the client, so that a user can decide and indicate at which slice of data stream 40 to begin downloading. Responsive to a user input, client 30 selects an appropriate starting slice and begins to download and decode (decompress) files 42, 44, 46, etc. In the case of a multimedia stream, client 30 reconstructs and outputs the multimedia data for the appreciation of a user. Time stamps in the data stream are used to synchronize the data, so that the multimedia sequence is played back just as it was input at computer 34, preferably with only a minimal necessary transmission and decoding delay." (10:24-54; see #4 for FIG. 3A, #13 for FIG 3B and #7 for FIG. 3C.)	HTTP link. After reading header 43 and, preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level. The slices are received, decoded and output by the client.") is not present in the Priority Application. (*See* Ex. F, p. 19.) '473 patent at col. 11, ll. 9-22 (i.e., "Periodically, client 30 makes an assessment of the rate of data transfer over the link from the server and, if necessary, changes the quality level accordingly. For example, if the rate is low, such that time stamps 59 indicate that the slices need to be played as fast as or faster than they are being received, the client will preferably select a lower quality level if one is available. On the other hand, if the rate is substantially higher than what is needed to receive the successive slices on time, the client may select a higher quality level to take advantage of the available bandwidth. Preferably, upper and lower data rate thresholds, or watermarks, are set dynamically in response to the data rate and are used in determining when a new quality level should be selected.") is not present in the Priority Application. (*See* Ex. F, p. 19.) '473 patent, Fig. 3D is not present in the Priority

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		 **FIG. 6B** "FIG. 6B is a flow chart illustrating the operation of clients 30 in downloading and playing back multi-level data stream 41 (FIG. 3D) transmitted from server 36, in accordance with another preferred embodiment of the present invention. As in the method of FIG. 6A, each client 30 connects to the server, generally using a single HTTP link. After reading header 43 and,	Application. (*See* Ex. F, p. 10.) "Clients 30 connect to server 36 and receive the multimedia sequence, substantially in real time. Clients 30 preferably download the sequence using the Hypertext Transfer Protocol (HTTP), although other Internet protocols may also be used, as noted hereinabove with reference to uploading by computer 34." (Ex. F, p. 13.)

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level. The slices are received, decoded and output by the client. Periodically, client 30 makes an assessment of the rate of data transfer over the link from the server and, if necessary, changes the quality level accordingly. For example, if the rate is low, such that time stamps 59 indicate that the slices need to be played as fast as or faster than they are being received, the client will preferably select a lower quality level if one is available. On the other hand, if the rate is substantially higher than what is needed to receive the successive slices on time, the client may select a higher quality level to take advantage of the available bandwidth. Preferably, upper and lower data rate thresholds, or watermarks, are set dynamically in response to the data rate and are used in determining when a new quality level should be selected." (10:64 – 11:22; see #14 for FIG. 3D.) "The process shown in FIG. 5, including the interdependent steps of encoding 80, slicing 82, FTP upload 84, updating 86 and checking link function 88 thus continues until the entire data stream 40 is uploaded (except for any of files 42, 44, 46, 48, etc., that may be dropped due to	

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		excessive transmission delay, as described above), or until the transfer is terminated by a user of computer 34. Although details of these steps have been described primarily with reference to the uploading process of FIG. 5, it will be understood that similar methods are applicable, mutatis mutandis, to the method of downloading the files from server 36 to clients 30, as shown in FIG. 6A." (13:23-34; see #6 for FIG. 5.) Claims 1-3, 10, 12-14, 25 and 27-29. **Extrinsic evidence:** Exhibit D: Microsoft Computer Dictionary, Fifth Ed. 2002, p. 175 (definition of "download")	
#10	decode the sequence [Claims 8, 26]	retrieving at least a portion of the data stream from the downloaded files **Intrinsic evidence:** '473 patent (Exhibit B) "Preferably, the data in the sequence are compressed, although compression is not essential to implementation of the present invention." (6:54-56.) "Similarly, because HTTP is supported by substantially all modern Web browsers, clients 30 will typically need only add a Java applet or plug-in to their existing Web browsers, as described	decompress the files in the sequence **Intrinsic Evidence:** '473 patent (Exhibit B) "Responsive to a user input, client 30 selects an appropriate starting slice and begins to download and decode (decompress) files 42, 44, 46, etc. In the case of a multimedia stream, client 30 reconstructs and outputs the multimedia data for the appreciation of the user." (Ex. B, 10:45-50.) **Intrinsic Evidence:** Priority Appl. (Exhibit F) '473 patent, Fig. 6B is not present in the Priority

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		further hereinbelow, in order to receive and play back the broadcast." (7:12-17.)  **FIG. 6A**	Application. (*See* Ex. F, p. 10.) '473 patent at col. 10, l. 64 to col. 11, l. 8 (i.e., "FIG. 6B is a flow chart illustrating the operation of clients 30 in downloading and playing back multi-level data stream 41 (FIG. 3D) transmitted from server 36, in accordance with another preferred embodiment of the present invention. As in the method of FIG. 6A, each client 30 connects to the server, generally using a single HTTP link. After reading header 43 and, preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level. The slices are received, decoded and output by the client.") is not present in the Priority Application. (*See* Ex. F, p. 19.) '473 patent, Fig. 3D is not present in the Priority Application. (*See* Ex. F, p. 10.)

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		 **FIG. 6B** "FIG. 6A is a flow chart illustrating the operation of clients 30 in downloading and playing back data stream 40 (FIG. 3A) transmitted by computer 34, in accordance with a preferred embodiment of the present invention. The operation of client is controlled by a Java applet, which may be downloaded from server 36, and includes facilities for carrying out the steps shown	

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		in FIG. 6A, as well as for error detection and, optionally, correction in communications received by the clients and for other functions known in the art. A sample applet of this sort is incorporated herein in the software appendix, as further described hereinbelow. Each client 30 connects to server 36, optionally using multiple HTTP links, in a manner similar to that shown and described above with reference to FIG. 4. Typically, client 30 opens one or two HTTP links, over which files 42, 44, 46, etc., are downloaded in successive alternation, but as in the case of transmitting computer 34, a greater number of links may similarly be opened. The client first reads index file 50 (FIG. 3B), and graphic 56 (FIG. 3C) is displayed by the client, so that a user can decide and indicate at which slice of data stream 40 to begin downloading. Responsive to a user input, client 30 selects an appropriate starting slice and begins to download and decode (decompress) files 42, 44, 46, etc. In the case of a multimedia stream, client 30 reconstructs and outputs the multimedia data for the appreciation of a user. Time stamps in the data stream are used to synchronize the data, so that the multimedia sequence is played back just as it was input at computer 34, preferably with only a minimal necessary transmission and decoding delay. Client 30 preferably monitors the rate of data	

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		coming in over each of its links with server 36. If any of the links is non-operative or is operating unacceptably slowly, that link is closed, and a new link is opened in its place, as described above. Further preferably, the client compares the times stamped in the data stream to a local real-time clock and, if it determines that there is a significant lag in the time codes relative to the real-time clock, opens additional links with server 36 in order to increase the overall data rate. FIG. 6B is a flow chart illustrating the operation of clients 30 in downloading and playing back multi-level data stream 41 (FIG. 3D) transmitted from server 36, in accordance with another preferred embodiment of the present invention. As in the method of FIG. 6A, each client 30 connects to the server, generally using a single HTTP link. After reading header 43 and, preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level. The slices are received, decoded and output by the client." (10:24 - 11:8; see #4 for FIG. 3A, #13 for FIG 3B, #7 for FIG. 3C and #14 for FIG. 3D.) Claims 8 and 26.	

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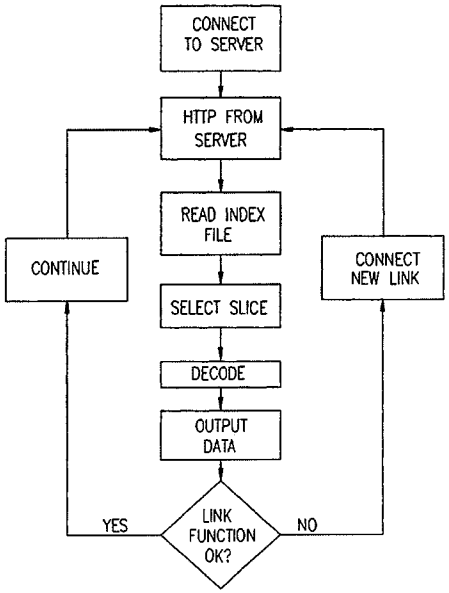
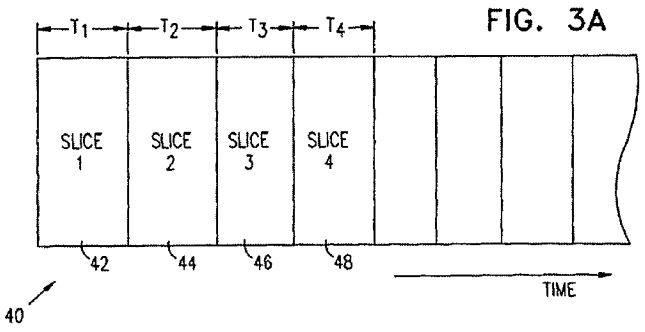
#11	play back the data stream **responsive to the indices of the files** [Claim 8] play back the data stream **responsive to the indices thereof** [Claim 26]	playing back the data stream based on the indices of the files to be played back For "indices of the files", see #7 above. **Intrinsic evidence:** '473 patent (Exhibit B)  **FIG. 6A**	play back the data stream in the order of the indices by reading the index contained in each file **Intrinsic Evidence:** '473 patent (Exhibit B) "FIG. 3A is a block diagram that schematically illustrates the structure of a stream of broadcast data 40 produced by computer 34, typically corresponding to a multimedia data sequence, in accordance with a preferred embodiment of the present invention. Data stream 40 comprises a series of data slices 42, 44, 46, 48, etc. Each slice contains a segment of video and/or audio data, corresponding to a respective, successive time interval labeled T_1, T_2, T_3, etc." (Ex. B, 7:18-25.)  FIG. 3A "Computer 34 stores each slice as a corresponding file, having a running slice index 1, 2, 3 . . . N." (Ex. B, 7:28-29.)

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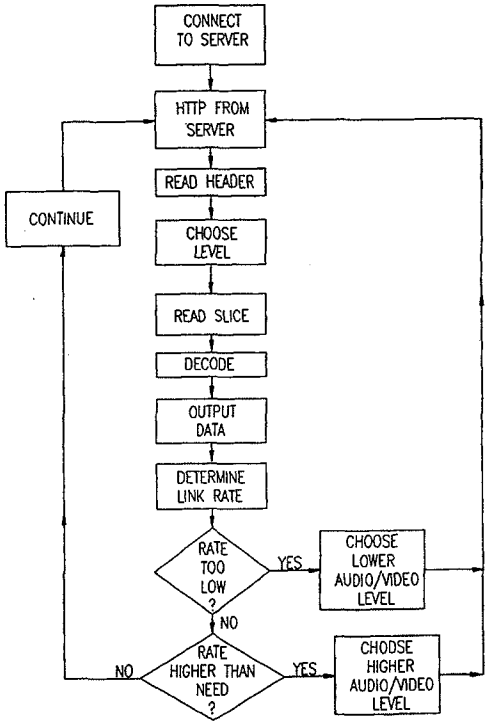
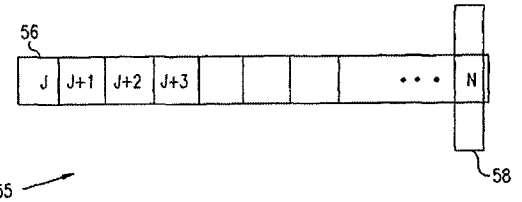
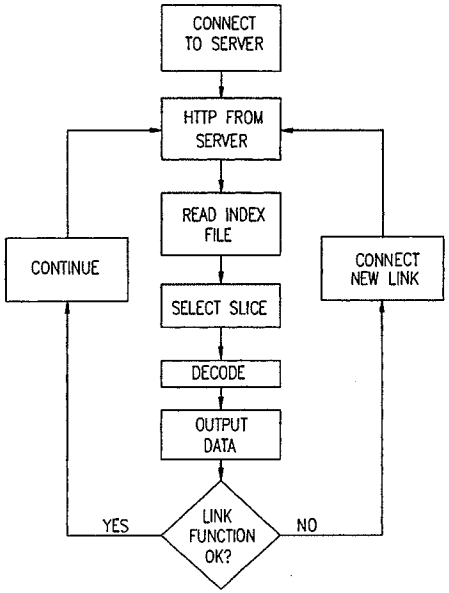
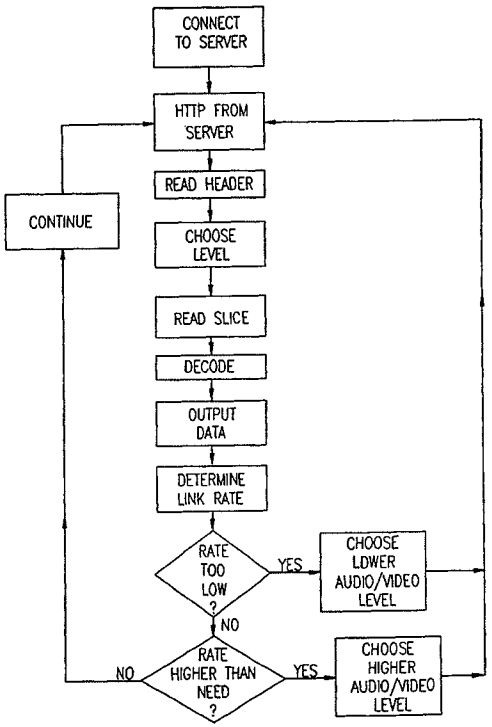
		 **FIG. 6B** "FIG. 6A is a flow chart illustrating the operation of clients 30 in downloading and playing back data stream 40 (FIG. 3A) transmitted by computer 34, in accordance with a preferred embodiment of the present invention. The operation of client is controlled by a Java applet, which may be downloaded from server 36, and includes facilities for carrying out the steps shown	"FIG. 3C is a schematic representation of a user interface graphic "slider" 55, available to users of computers 30, in accordance with a preferred embodiment of the present invention. Slider 55, which is preferably displayed on the screens of computers 30, includes a bar 56 and a movable indicator 58. The symbols J, J+1, J+2, . . . N in the figure are the indices of the slices of stream 40 that are stored on server 36, wherein N is the index of the most recent slice, and J is the index of the earliest stored slice. J may indicate the first slice in the sequence, if all of the files are stored on server 36, or it may be the earliest file not yet erased. (The indices are marked in the figure on bar 56 for clarity, and need not actually be shown on the computer screen.)" (Ex. B, 8:18-31.) FIG. 3C  "The clients use the slice indices of the frames to maintain proper synchronization of the playback. The division of the data stream into slices and the

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		in FIG. 6A, as well as for error detection and, optionally, correction in communications received by the clients and for other functions known in the art. A sample applet of this sort is incorporated herein in the software appendix, as further described hereinbelow. Each client 30 connects to server 36, optionally using multiple HTTP links, in a manner similar to that shown and described above with reference to FIG. 4. Typically, client 30 opens one or two HTTP links, over which files 42, 44, 46, etc., are downloaded in successive alternation, but as in the case of transmitting computer 34, a greater number of links may similarly be opened. The client first reads index file 50 (FIG. 3B), and graphic 56 (FIG. 3C) is displayed by the client, so that a user can decide and indicate at which slice of data stream 40 to begin downloading. Responsive to a user input, client 30 selects an appropriate starting slice and begins to download and decode (decompress) files 42, 44, 46, etc. In the case of a multimedia stream, client 30 reconstructs and outputs the multimedia data for the appreciation of a user. Time stamps in the data stream are used to synchronize the data, so that the multimedia sequence is played back just as it was input at computer 34, preferably with only a minimal necessary transmission and decoding delay. Client 30 preferably monitors the rate of data	inclusion of the slice indices in the data stream to be used by the clients in maintaining synchronization allows the broadcast to go on substantially in real time without the use of special-purpose hardware." (Ex. B, 2:15-21.) "Responsive to a user input, client 30 selects an appropriate starting slice and begins to download and decode (decompress) files 42, 44, 46, etc. In the case of a multimedia stream, client 30 reconstructs and outputs the multimedia data for the appreciation of a user. Time stamps in the data stream are used to synchronize the data, so that the multimedia sequence is played back just as it was input at computer 34, preferably with only a minimal necessary transmission and decoding delay." (Ex. B, 10:45-54.) **Intrinsic Evidence:** Priority Appl. (Exhibit F) '473 patent, Fig. 6B is not present in the Priority Application. (*See* Ex. F, p. 10.) '473 patent at col. 10, l. 64 to col. 11, l. 8 (i.e., "FIG. 6B is a flow chart illustrating the operation of clients 30 in downloading and playing back multi-level data stream 41 (FIG. 3D) transmitted from server 36, in accordance with another preferred embodiment of the present invention. As in the method of FIG. 6A, each client 30

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		coming in over each of its links with server 36. If any of the links is non-operative or is operating unacceptably slowly, that link is closed, and a new link is opened in its place, as described above. Further preferably, the client compares the times stamped in the data stream to a local real-time clock and, if it determines that there is a significant lag in the time codes relative to the real-time clock, opens additional links with server 36 in order to increase the overall data rate. FIG. 6B is a flow chart illustrating the operation of clients 30 in downloading and playing back multi-level data stream 41 (FIG. 3D) transmitted from server 36, in accordance with another preferred embodiment of the present invention. As in the method of FIG. 6A, each client 30 connects to the server, generally using a single HTTP link. After reading header 43 and, preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level. The slices are received, decoded and output by the client." (10:24 - 11:8; see #4 for FIG. 3A, #13 for FIG 3B, #7 for FIG. 3C and #14 for FIG. 3D.) Claims 8, 9 and 26.	connects to the server, generally using a single HTTP link. After reading header 43 and, preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level. The slices are received, decoded and output by the client.") is not present in the Priority Application. (*See* Ex. F, p. 19.) '473 patent, Fig. 3D is not present in the Priority Application. (*See* Ex. F, p. 10.)

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
#12	at a replay rate generally equal to the data rate [Claim 8] at a data replay rate generally equal to the data rate [Claim 26]	the rate at which the client plays back the data stream is generally equal to the data rate of the stream For "generally equal to the data rate", see ## 8, 9 above. **Intrinsic evidence:** '473 patent (Exhibit B) "Similarly, because HTTP is supported by substantially all modern Web browsers, clients 30 will typically need only add a Java applet or plug-in to their existing Web browsers, as described further hereinbelow, in order to receive and play back the broadcast." (7:12-17.)	This term is insolubly ambiguous and therefore indefinite under 35 U.S.C. § 112 ¶ 2 because the term "generally equal" is inherently subjective. This term is also invalid for failing to satisfy the written description and enablement requirements of 35 U.S.C. § 112 ¶ 1 because the specification does not provide adequate guidance as to the term "replay rate" nor how one can control the "replay rate" such that it is "generally equal" to the data rate of the originally provided data stream. Should the Court disagree, however, this term must be limited with the following construction: The speed the client computer plays back the downloaded slices, as measured in bits per second, closely matches "the data rate" [as defined in Term #3 above] **Intrinsic Evidence:** '473 patent (Exhibit B) "Time stamps in the data stream are used to synchronize the data, so that the multimedia sequence is played back just as it was input at computer 34, preferably with only a minimal necessary transmission and decoding delay." (Ex. B, 10:49-54.) **Intrinsic Evidence:** Priority Appl. (Exhibit F) '473 patent, Fig. 6B is not present in the Priority

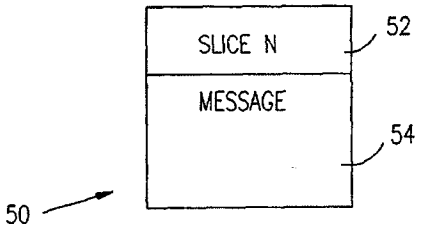
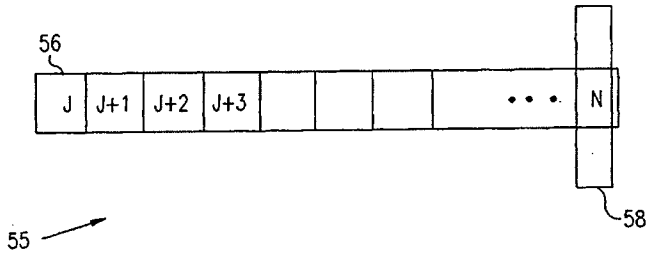
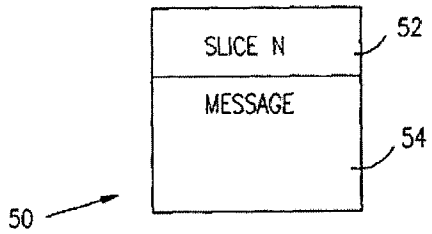
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		 **FIG. 6A**	Application. (*See* Ex. F, p. 10.) '473 patent at col. 10, l. 64 to col. 11, l. 8 (i.e., "FIG. 6B is a flow chart illustrating the operation of clients 30 in downloading and playing back multi-level data stream 41 (FIG. 3D) transmitted from server 36, in accordance with another preferred embodiment of the present invention. As in the method of FIG. 6A, each client 30 connects to the server, generally using a single HTTP link. After reading header 43 and, preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level. The slices are received, decoded and output by the client.") is not present in the Priority Application. (*See* Ex. F, p. 19.) '473 patent at col. 11, ll. 9-22 (i.e., "Periodically, client 30 makes an assessment of the rate of data transfer over the link from the server and, if necessary, changes the quality level accordingly. For example, if the rate is low, such that time stamps 59 indicate that the slices need to be played as fast as or faster than they are being received, the client will preferably select a lower quality level if one is available. On the other hand, if the rate is substantially higher than what

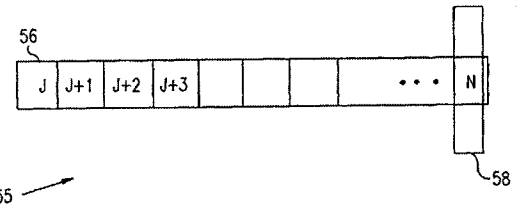
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		 **FIG. 6B** "FIG. 6A is a flow chart illustrating the operation of clients 30 in downloading and playing back data stream 40 (FIG. 3A) transmitted by computer 34, in accordance with a preferred embodiment of the present invention. The operation of client is controlled by a Java applet, which may be downloaded from server 36, and includes facilities for carrying out the steps shown	is needed to receive the successive slices on time, the client may select a higher quality level to take advantage of the available bandwidth. Preferably, upper and lower data rate thresholds, or watermarks, are set dynamically in response to the data rate and are used in determining when a new quality level should be selected.") is not present in the Priority Application. (*See* Ex. F, p. 19.) '473 patent, Fig. 3D is not present in the Priority Application. (*See* Ex. F, p. 10.) "Preferably, the one or more client computers decode the encoded sequence and play back the data stream responsive to the indices thereof, at a data replay rate generally equal to the data rate. Preferably, the one or more client computers download the encode sequence using an Internet download protocol, most preferably HTTP." (Ex. F, p. 9.)

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		in FIG. 6A, as well as for error detection and, optionally, correction in communications received by the clients and for other functions known in the art. A sample applet of this sort is incorporated herein in the software appendix, as further described hereinbelow. Each client 30 connects to server 36, optionally using multiple HTTP links, in a manner similar to that shown and described above with reference to FIG. 4. Typically, client 30 opens one or two HTTP links, over which files 42, 44, 46, etc., are downloaded in successive alternation, but as in the case of transmitting computer 34, a greater number of links may similarly be opened. The client first reads index file 50 (FIG. 3B), and graphic 56 (FIG. 3C) is displayed by the client, so that a user can decide and indicate at which slice of data stream 40 to begin downloading. Responsive to a user input, client 30 selects an appropriate starting slice and begins to download and decode (decompress) files 42, 44, 46, etc. In the case of a multimedia stream, client 30 reconstructs and outputs the multimedia data for the appreciation of a user. Time stamps in the data stream are used to synchronize the data, so that the multimedia sequence is played back just as it was input at computer 34, preferably with only a minimal necessary transmission and decoding delay. Client 30 preferably monitors the rate of data	

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		coming in over each of its links with server 36. If any of the links is non-operative or is operating unacceptably slowly, that link is closed, and a new link is opened in its place, as described above. Further preferably, the client compares the times stamped in the data stream to a local real-time clock and, if it determines that there is a significant lag in the time codes relative to the real-time clock, opens additional links with server 36 in order to increase the overall data rate. FIG. 6B is a flow chart illustrating the operation of clients 30 in downloading and playing back multi-level data stream 41 (FIG. 3D) transmitted from server 36, in accordance with another preferred embodiment of the present invention. As in the method of FIG. 6A, each client 30 connects to the server, generally using a single HTTP link. After reading header 43 and, preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level. The slices are received, decoded and output by the client. Periodically, client 30 makes an assessment of the rate of data transfer over the link from the server and, if necessary, changes the quality level accordingly. For example, if the rate is low, such that time stamps 59 indicate that the slices need to be played as fast as or faster than they are being	

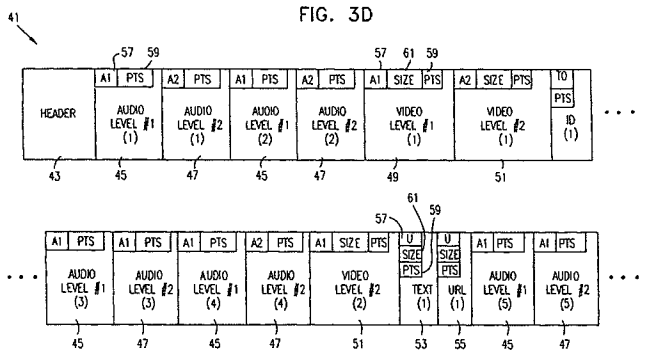
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		received, the client will preferably select a lower quality level if one is available. On the other hand, if the rate is substantially higher than what is needed to receive the successive slices on time, the client may select a higher quality level to take advantage of the available bandwidth. Preferably, upper and lower data rate thresholds, or watermarks, are set dynamically in response to the data rate and are used in determining when a new quality level should be selected." (10:24 - 11:22; see #4 for FIG. 3A, #13 for FIG 3B, #7 for FIG. 3C and #14 for FIG. 3D.) Claims 8, 9 and 26.	
#13	uploading and updating an index file containing the index of the file in the sequence that was most recently uploaded [Claim 9]	uploading to a server an index file, and updating the index file with the index of the most recently uploaded file **Intrinsic evidence:** '473 patent (Exhibit B)	uploading to the server a file that contains a single alphanumeric index variable and changing the variable to equal the index of the most recently uploaded file **Intrinsic Evidence:** '473 patent (Exhibit B) "FIG. 3B is a block diagram that schematically illustrates an index file 50, which is created by computer 34, and is uploaded to server 36, in accordance with a preferred embodiment of the present invention. The index file comprises a slice ID 52, indicating the index of the file in data stream 40 that was most recently uploaded by

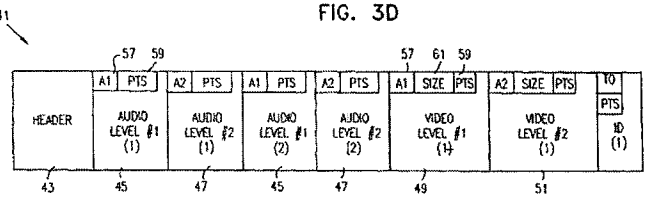
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		FIG. 3B  FIG. 3C  "FIG. 3B is a block diagram that schematically illustrates an index file 50, which is created by computer 34, and is uploaded to server 36, in accordance with a preferred embodiment of the present invention. The index file comprises a slice ID 52, indicating the index of the file in data stream 40 that was most recently uploaded by	computer 34. Each time a new file 42, 44, 46, etc., is uploaded, ID 52 in file 50 on server 36 is updated." (Ex. B, 7:59-66.) FIG. 3B  "FIG. 3C is a schematic representation of a user interface graphic "slider" 55, available to users of computers 30, in accordance with a preferred embodiment of the present invention. Slider 55, which is preferably displayed on the screens of computers 30, includes a bar 56 and a movable indicator 58. The symbols J, J+1, J+2, . . . N in the figure are the indices of the slices of stream 40 that are stored on server 36, wherein N is the index of the most recent slice, and J is the index of the earliest stored slice. J may indicate the first slice in the sequence, if all of the files are stored on server 36, or it may be the earliest file not yet erased. (The indices are marked in the figure on bar 56 for clarity, and need not actually be shown on the computer screen.)" (Ex. B, 8:18-31.)

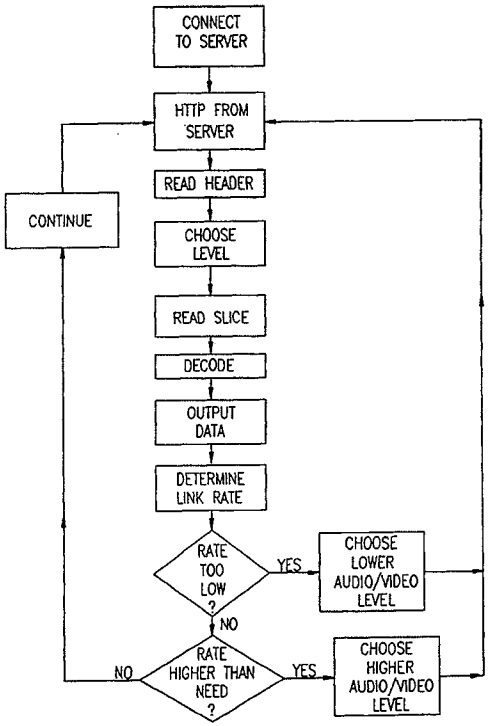
Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		computer 34. Each time a new file 42, 44, 46, etc., is uploaded, ID 52 in file 50 on server 36 is updated. Preferably, ID 52 holds the file name of the new file, wherein the name typically comprises a string followed by the index of the file. When one of computers 30 connects to server 36 and begins to download the data stream, it first reads the index file in order to identify at what point in stream 40 to begin and to start receiving the data stream substantially in real time, preferably with only a minimal lag, as it is transmitted from computer 34. Alternatively, a user of one of computers 30 may choose to begin downloading data stream 40 from an earlier point in time than that indicated by ID 52. Further alternatively, stream 40 may be multicast to clients 30, as is known in the art, typically without the use of an index file. Index file 50 may further include a message 54, which is read by computers 30 when they connect to server 36 to download data stream 40 or, alternatively or additionally, at any time the message is updated by computer 34. The message contains parameters relating generally to the data stream and/or instructions to computers 30, for example, "transmission paused." FIG. 3C is a schematic representation of a user interface graphic "slider" 55, available to users of computers 30, in accordance with a preferred embodiment of the present invention. Slider 55,	FIG. 3C  *See also* Claim 10 and Figs. 7 and 8. **Intrinsic Evidence:** Priority Appl. (Exhibit F) '473 patent at col. 8, ll. 9-11 (i.e., "Further alternatively, stream 40 may be multicast to clients 30, as is known in the art, typically without the use of an index file.") is not present in the Priority Application. (*See* Ex. F, p. 15.)

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		which is preferably displayed on the screens of computers 30, includes a bar 56 and a movable indicator 58. The symbols J, J+1, J+2, . . . N in the figure are the indices of the slices of stream 40 that are stored on server 36, wherein N is the index of the most recent slice, and J is the index of the earliest stored slice. J may indicate the first slice in the sequence, if all of the files are stored on server 36, or it may be the earliest file not yet erased. (The indices are marked in the figure on bar 56 for clarity, and need not actually be shown on the computer screen.) When one of computers 30 reads index file 50 and begins to download stream 40, indicator 58 preferably marks the most recent slice, as shown in FIG. 3C. This is the point at which the download will begin, unless the user of the computer chooses otherwise. If the user wishes to begin the download at an earlier point, he may move indicator 58 to the left along bar 56 to that point, preferably using a mouse or other pointing device, as is known in the art. Indicator 58 may be moved back and forth along bar 56 to jump back and forth along stream 40." (7:59 – 8:41.) "Each time a new file is uploaded to the server, index file 50 (FIG. 3B) is updated, at step 86." (10:3-5.) Claims 9 and 10.	

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
#14	encoding slices at a plurality of different quality levels [Claim 11] slices are encoded at a plurality of different quality levels [Claim 40]	forming slices at more than one quality level **Intrinsic evidence:** '473 patent (Exhibit B) "In other preferred embodiments, the slices are provided by the server at multiple resolution or quality levels. Each such level has a different degree of data compression, and thus corresponds to a different data bandwidth requirement. The client or the server monitors the data transfer rate of a data link opened therebetween and selects the level that is appropriate to the link bandwidth. If the monitored data transfer rate changes during transmission, the quality level is preferably reselected accordingly." (3:5-13.) "In still another preferred embodiment, encoding the slices includes encoding slices at a plurality of different quality levels, such that the files corresponding to a given one of the slices have a different, respective data size for each of the quality levels. Preferably, downloading the sequence includes determining a data bandwidth of the network between the server and the client computer and selecting one of the quality levels responsive to the determined bandwidth." (4:39-47.) "In a preferred embodiment, the slices are encoded at a plurality of different quality levels,	compressing each slice at two or more different compression levels **Intrinsic Evidence:** '473 patent (Exhibit B) "FIG. 3D is a block diagram that schematically illustrates a file format of a multi-level data stream 41, in accordance with another preferred embodiment of the present invention. The data stream is divided into audio slices 45, 47 and video slices 49, 51, and may also include other data formats, such as a text slice 53 and/or a URL slice 55. Each slice is preferably identified by a level identifier 57, a presentation time stamp (PTS) index 59 and, as appropriate, a size identifier 61. The function of these identifiers and indices is described further hereinbelow. A header 43 includes data such as the title, author, copyright and formats of the data in the stream; the duration of the multimedia sequence represented by the stream; and a description of the available stream levels and associated data sizes." (Ex. B, 8:42-55.) "Each time slice in stream 41 includes multimedia data at multiple quality levels. There are two such levels in the example shown in FIG. 3D, identified as level #1 and level #2, but a larger number of levels may also be used. Typically, the audio and video data in level #1, contained in

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		such that the files corresponding to a given one of the slices have a different, respective data size for each of the quality levels." (5:15-18.) FIG. 3D  "FIG. 3D is a block diagram that schematically illustrates a file format of a multi-level data stream 41, in accordance with another preferred embodiment of the present invention. The data stream is divided into audio slices 45, 47 and video slices 49, 51, and may also include other data formats, such as a text slice 53 and/or a URL slice 55. Each slice is preferably identified by a level identifier 57, a presentation time stamp (PTS) index 59 and, as appropriate, a size identifier 61. The function of these identifiers and indices is described further hereinbelow. A header 43 includes data such as the title, author, copyright and formats of the data in the stream; the duration of the multimedia sequence	slices 45 and 49, are more highly compressed relative to the data in slices 47 and 51 of level #2. In consequence, the level #1 slices have smaller data volume than the level #2 slices and can therefore be transmitted over a lower-bandwidth data link, while maintaining the required slice timing indicated by time stamps 59. The lower data-rate transmission generally comes at the expense of inferior sound and/or image quality. Size identifier 61 describes the size of those slices in stream 41 that have a fixed size associated therewith, wherein typically the size (or the corresponding resolution) of the level #1 video slices is smaller than that of the level #2 slices." (Ex. B, 8:56 to 9:5.) "After reading header 43 and, preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level. The slices are received, decoded and output by the client." (Ex. B, 11:2-8.) "Periodically, client 30 makes an assessment of the rate of data transfer over the link from the server and, if necessary, changes the quality level accordingly. For example, if the rate is low, such that time stamps 59 indicate that the slices need to be played as fast as or faster than they are being

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		represented by the stream; and a description of the available stream levels and associated data sizes. Each time slice in stream 41 includes multimedia data at multiple quality levels. There are two such levels in the example shown in FIG. 3D, identified as level #1 and level #2, but a larger number of levels may also be used. Typically, the audio and video data in level #1, contained in slices 45 and 49, are more highly compressed relative to the data in slices 47 and 51 of level #2. In consequence, the level #1 slices have smaller data volume than the level #2 slices and can therefore be transmitted over a lower-bandwidth data link, while maintaining the required slice timing indicated by time stamps 59. The lower data-rate transmission generally comes at the expense of inferior sound and/or image quality. Size identifier 61 describes the size of those slices in stream 41 that have a fixed size associated therewith, wherein typically the size (or the corresponding resolution) of the level #1 video slices is smaller than that of the level #2 slices." (8:42 – 9:5.)	received, the client will preferably select a lower quality level if one is available. On the other hand, if the rate is substantially higher than what is needed to receive the successive slices on time, the client may select a higher quality level to take advantage of the available bandwidth. Preferably, upper and lower data rate thresholds, or watermarks, are set dynamically in response to the data rate and are used in determining when a new quality level should be selected." (Ex. B, 11:9-22.) FIG. 3D 

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		 **FIG. 6B** "FIG. 6B is a flow chart illustrating the operation of clients 30 in downloading and playing back multi-level data stream 41 (FIG. 3D) transmitted from server 36, in accordance with another preferred embodiment of the present invention. As in the method of FIG. 6A, each client 30 connects to the server, generally using a single HTTP link. After reading header 43 and,	

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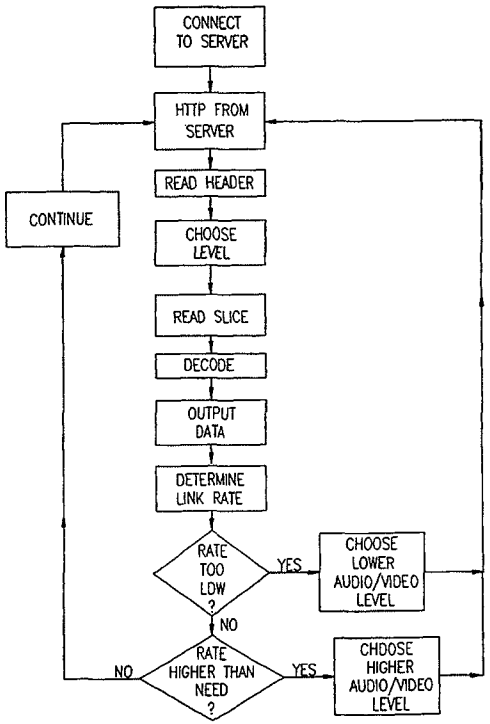
		preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level. The slices are received, decoded and output by the client. Periodically, client 30 makes an assessment of the rate of data transfer over the link from the server and, if necessary, changes the quality level accordingly. For example, if the rate is low, such that time stamps 59 indicate that the slices need to be played as fast as or faster than they are being received, the client will preferably select a lower quality level if one is available. On the other hand, if the rate is substantially higher than what is needed to receive the successive slices on time, the client may select a higher quality level to take advantage of the available bandwidth. Preferably, upper and lower data rate thresholds, or watermarks, are set dynamically in response to the data rate and are used in determining when a new quality level should be selected." (10:64 - col. 11:22.) Claims 11, 12 and 40.	
#15	determining a data bandwidth of the network	The client determines a data rate at which a client can download a file from the server	This term is invalid for failing to satisfy the written description and enablement requirements of 35 U.S.C. § 112 ¶ 1 because the specification

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
	between the server and the client computer [Claim 12]	**Intrinsic evidence:** '473 patent (Exhibit B) "In other preferred embodiments, the slices are provided by the server at multiple resolution or quality levels. Each such level has a different degree of data compression, and thus corresponds to a different data bandwidth requirement. The client or the server monitors the data transfer rate of a data link opened therebetween and selects the level that is appropriate to the link bandwidth. If the monitored data transfer rate changes during transmission, the quality level is preferably reselected accordingly." (3:5-13.) "Each of clients 30 chooses or is assigned the quality level appropriate to the bandwidth of its link on network 28 to server 36. A method for selecting and, as required, varying the level is described hereinbelow with reference to FIG. 6B." (9:6-9.)	does not demonstrate how, in an accused environment such as the Internet and/or in mobile networks, the client computer can identify what the data bandwidth is between the server storing the sequence of files and the client computer requesting the download. Should the Court disagree, however, this term must be limited with the following construction: The client measures the data transfer capacity, in bits per second, of the network connection between the server to which the sequence of files is uploaded and the client computer operated by the user requesting the download **Intrinsic Evidence:** '473 patent (Exhibit B) "Alternatively or additionally, the compression level of the data is varied, as is likewise described below, so as to adjust the data streaming rate to the available bandwidth over one or more channels between computer 34 and server 36, and/or between server 36 and client 30." (Ex. B, 7:45-49.) "FIG. 6B is a flow chart illustrating the operation of clients 30 in downloading and playing back multi-level data stream 41 (FIG. 3D) transmitted from server 36, in accordance with another preferred embodiment of the present invention.

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		 **FIG. 6B** "FIG. 6B is a flow chart illustrating the operation of clients 30 in downloading and playing back multi-level data stream 41 (FIG. 3D) transmitted from server 36, in accordance with another preferred embodiment of the present invention. As in the method of FIG. 6A, each client 30 connects to the server, generally using a single HTTP link. After reading header 43 and,	As in the method of FIG. 6A, each client 30 connects to the server, generally using a single HTTP link. After reading header 43 and, preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level." (Ex. B, 10:64 to 11:5.) "Because of bandwidth limitations of the network, the data stream from host 22 must first be compressed by a real-time encoder 24 and then routed to appropriate clients 30 by a broadcast server 26 (since not all clients on the network are necessarily intended to receive the broadcast)." (Ex. B, 1:29-33.) **Extrinsic Evidence:** Exhibit C, Microsoft Computer Dictionary (5th Ed.), p. 50 (definition of "bandwidth"): "**2.** The data transfer capacity, or speed of transmission, of a digital communications system as measured in bits per second (bps)."

Term	Claim Language[1]	Plaintiff Emblaze's Proposed Construction and Evidence in Support	Defendant Apple's Proposed Construction and Evidence in Support
		preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level. The slices are received, decoded and output by the client. Periodically, client 30 makes an assessment of the rate of data transfer over the link from the server and, if necessary, changes the quality level accordingly. For example, if the rate is low, such that time stamps 59 indicate that the slices need to be played as fast as or faster than they are being received, the client will preferably select a lower quality level if one is available. On the other hand, if the rate is substantially higher than what is needed to receive the successive slices on time, the client may select a higher quality level to take advantage of the available bandwidth. Preferably, upper and lower data rate thresholds, or watermarks, are set dynamically in response to the data rate and are used in determining when a new quality level should be selected." (10:64 - 11:22; see #14 for FIG. 3D.) Claim 12.	
#16	wherein dividing the stream into	the stream is divided into a sequence of slices, where the predetermined data size of the slices is	the stream is divided into a sequence of slices, each slice having an assigned data size and

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	the sequence of slices comprises dividing the stream into a sequence of time slices, each having a predetermined duration associated therewith [Claim 23] wherein the predetermined data size of each of the slices corresponds to a time duration of the slice [Claim 37]	established by setting the time duration of the slices **Intrinsic evidence:** See the intrinsic evidence cited for #5 above.	an assigned time duration, with both the data size and time duration of each slice being assigned in advance of the stream being divided **Intrinsic Evidence:** '473 patent (Exhibit B) "Similarly, at a set duration step 92, slice durations T_1, T_2, T_3, etc., are optionally adjusted responsive to the link bandwidths. Initially, duration T_1 of slice 1 for file 42 is set to a default value, typically between 1 and 5 sec. For example, to transfer compressed audio data at 2 Kbytes/sec, file 42 may be assigned a file size of 10 Kbytes, with T_1 =5 sec. Assuming that computer 34 communicates over network 28 through a 28.8 Kbaud modem and maintains a typical FTP upload rate of 2 Kbytes/sec (allowing for moderate Internet bottlenecks), data stream 40 will be uploaded to server 36 over link 60 (FIG. 4) substantially at the rate that the audio data are input to computer 34." (Ex. B, 11:53-64.) "Computer 34 determines a compression ratio by which to compress the data, based on the collective bandwidth of its open links with server 36. Preferably, computer 34 receives an indication of the bandwidths of the links, determined at step 88 in FIG. 5, and adjusts the compression ratio accordingly, at a set compression step 90. For example, the compression ratio may be adjusted

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			by changing compression coefficients (e.g., MPEG coefficients) so as to match the data stream bandwidth to the available link bandwidth." (Ex. B, 11:40-48.) "The process shown in FIG. 5, including the interdependent steps of encoding 80, slicing 82, FTP upload 84, updating 86 and checking link function 88 thus continues until the entire data stream 40 is uploaded (except for any of files 42, 44, 46, 48, etc., that may be dropped due to excessive transmission delay, as described above), or until the transfer is terminated by a user of computer 34." (Ex. B, 13:23-29.) "FIG. 1 is a schematic illustration showing a real-time broadcasting system 20, as is known in the art. One or more input devices 22 (for example, a video camera and/or microphone) are used to generate a multimedia data stream representing an entertainment or informational program to be transmitted to a plurality of clients 30 via a network 28. Because of bandwidth limitations of the network, the data stream from host 22 must first be compressed by a real-time encoder 24 and then routed to appropriate clients 30 by a broadcast server 26 (since not all clients on the network are necessarily intended to receive the broadcast)." (Ex. B, 1:23-33.)

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			"Encoder 24 and server 26 typically comprise high-cost, dedicated computer systems, such as a Sun Station (produced by Sun Microsystems) or a Windows NT server, running suitable RealSystem 5.0 software (produced by RealNetworks Inc., Seattle, Wash.). These dedicated systems are required in order to ensure that the data stream is distributed and received by clients 30 in real time. Similarly, host 22 must typically be connected directly to encoder 24 by a high-speed data link or LAN, and not via the Internet or other narrowband network. Therefore, real-time broadcasting is normally possible only for hosts having a suitable, dedicated encoder and broadcast server and cannot be offered by Internet service providers (ISPs) to their general clientele." (Ex. B, 1:34-47.) **Intrinsic Evidence:** Priority Appl. (Exhibit F) "In preferred embodiments of the present invention, a transmitting computer generates a data stream and broadcasts the data stream via a network server to a plurality of clients. The data stream is divided into a sequence of files, each file corresponding to a segment or slice of the data, preferably a time slice, wherein the data are preferably compressed. Each file is preferably assigned a respective slice index. The transmitting computer uploads the sequence of files to the

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			server substantially in real time, preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP), as is known in the art. The clients download the data stream from the server, preferably using an Internet protocol, as well, most preferably the Hypertext Transfer Protocol (HTTP), which is similarly known in the art. The clients use the slice indices of the frames to maintain proper synchronization of the playback. The division of the data stream into slices and the inclusion of the slice indices in the data stream to be used by the clients in maintaining synchronization allows the broadcast to go on substantially in real time without the use of special-purpose hardware." (Ex. F, pp. 3-4.) '473 patent at col. 2, ll. 22-28 (i.e., "Preferably, each segment or slice is contained in a separate, respective file. Alternatively, the segments or slices may all be contained in a single indexed file, which is streamed to the client in a series of packets, each covering a range of one or more indices. HTTP version 1.1 supports this sort of file streaming. Other protocols may also be used for this purpose.") is not present in the Priority Application. (*See* Ex. F, p. 4.) '473 patent at col. 8, ll. 42-55 (i.e., "FIG. 3D is a block diagram that schematically illustrates a file format of a multi-level data stream 41, in

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			accordance with another preferred embodiment of the present invention. The data stream is divided into audio slices 45, 47 and video slices 49, 51, and may also include other data formats, such as a text slice 53 and/or a URL slice 55. Each slice is preferably identified by a level identifier 57, a presentation time stamp (PTS) index 59 and, as appropriate, a size identifier 61. The function of these identifiers and indices is described further hereinbelow. A header 43 includes data such as the title, author, copyright and formats of the data in the stream; the duration of the multimedia sequence represented by the stream; and a description of the available stream levels and associated data sizes.") is not present in the Priority Application. (*See* Ex. F, p. 16.) '473 patent, Fig. 3D is not present in the Priority Application. (*See* Ex. F, p. 10.)