

Claims List

U.S. Patent No. 9,729,594

1. A method for operating a media player to receive and play an audio or video program, from a remote media source via a data connection over the Internet, the method comprising:
 - [a(i)] sending requests from the media player to the media source via the data connection for one or more serially identified media data elements representing the audio or video program,
 - [a(ii)] each media data element comprising a digitally encoded portion of the audio or video program and having a playback rate,
 - [a(iii)] each request specifying one or more serial identifiers of the media data elements requested;
 - [b(i)] receiving each of the requested media data elements via the data connection, wherein the data connection has a data rate more rapid than the playback rate of the media data elements, and
 - [b(ii)] each received media data element is received at a rate as fast as the data connection between the media source and the media player allows;
 - [c] storing the received media data elements in a memory of the media player;
 - [d] playing the received media data elements in series from the memory of the media player; and
 - [e] as the received media data elements are played, the media player automatically sending additional requests for subsequent media data elements for storage in the memory of the media player as required to maintain about a predetermined number of media data elements in the memory of the media player during playing.

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2. The method of claim 1, further comprising maintaining in the memory of the media player a record identifying the last media data element received and stored by the media player.
3. The method of claim 1 wherein the serial identifiers are sequential.
4. The method of claim 1, wherein the receiving is via a reliable transmission protocol.
5. The method of claim 4, wherein the reliable transmission protocol is TCP.
6. A device comprising a media player operable to receive and play an audio or video program, from a remote media source via a data connection over the Internet, the media player comprising:
 - [a] a processor, memory accessible to the processor, and a data connection;
 - [b(i)] a machine-readable, executable routine containing instructions to cause the processor to send requests from the media player to the media source via the data connection for one or more serially identified media data elements representing an audio or video program,
 - [b(ii)] each media data element comprising a digitally encoded portion of the audio or video program and having a playback rate,
 - [b(iii)] each request specifying one or more serial identifiers of the media data elements requested;
 - [c(i)] a machine-readable, executable routine containing instructions to cause the media player to receive each of the requested media data elements via the data connection, wherein the data

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- connection has a data rate more rapid than the playback rate of the media data elements, and
- [c(ii)] each received media data element is received at a rate as fast as the data connection between the media source and the media player allows;
 - [d] a machine-readable, executable routine containing instructions to cause the processor to store the received media data elements in the memory of the media player;
 - [e] a machine-readable, executable routine containing instructions to cause the received media data elements to be played in series from the memory of the media player; and
 - [f] a machine-readable, executable routine containing instructions to cause the processor to, as the received media data elements are played, automatically send additional requests for subsequent media data elements for storage in the memory of the media player as required to maintain about a predetermined number of media data element in the memory of the media player during playing.
7. The device of claim 6, further comprising a machine-readable, executable routine containing instructions to cause the processor to maintain in the memory of the media player a record identifying the last media data element received and stored by the media player.
 8. The device of claim 6, wherein the serial identifiers are sequential.
 9. The device of claim 6, wherein the receiving is via a reliable transmission protocol.

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10. The device of claim 9, wherein the reliable transmission protocol is TCP.
11. A computer program product for receiving and playing an audio or video program by a media player having a processor and a memory accessible to the processor, from a remote media source via a data connection over the Internet, the computer program product comprising a non-transitory computer readable storage medium having program instructions embodied therewith, the program instructions comprising:
 - [a(i)] instructions executable to cause the processor to send requests from the media player to the media source via the data connection for one or more serially identified media data elements representing the audio or video program,
 - [a(ii)] each media data element comprising a digitally encoded portion of the audio or video program and having a playback rate,
 - [a(iii)] each request specifying one or more serial identifiers of the media data elements requested;
 - [b(i)] instructions executable to cause the processor to receive each of the requested media data elements via the data connection, wherein the data connection has a data rate more rapid than the playback rate of the media data elements, and
 - [b(ii)] each received media data element is received at a rate as fast as the data connection between the media source and the media player allows;
 - [c] instructions executable to cause the processor to store the received media data elements in the memory of the media player;

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- [d] instructions executable to cause the received media data elements to be played in series from the memory of the media player; and
 - [e] instructions executable to cause the processor to, as the received media data elements are played, automatically send additional requests for subsequent media data elements for storage in the memory of the media player as required to maintain about a predetermined number of media data element in the memory of the media player during playing.
- 12. The computer program product of claim 11, further comprising instructions executable to cause the processor to maintain in the memory of the media player a record identifying the last media data element received and stored by the media player.
 - 13. The computer program product of claim 11, wherein the serial identifiers are sequential.
 - 14. The computer program product of claim 11, wherein the computer program product is provided as a software application for the media player.
 - 15. The computer program product of claim 11, wherein the computer program product is incorporated in the media player.
 - 16. The computer program product of claim 11, wherein the receiving is via a reliable transmission protocol.
 - 17. The computer program product of claim 16, wherein the reliable transmission protocol is TCP.