Learning services for learning communities

Information and Guidance About Streaming Media

Instructions for using Streaming Media (CCN)

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1. An Introduction to Streaming Media

Gone are the days when users had to wait for minutes to hours for a single media clip to finish downloading from the Internet before playing it. With the availability of broadband and the development of streaming technology users can now begin playing multimedia clips almost immediately, even as it is still downloading. Streaming technology breaks a video or audio file into smaller parts (or packets) and delivers the parts in a continuous stream to a buffer on the users PC. Once enough packets arrive, they are assembled back together to play as a continuous file even as other packets are still downloading. This makes it possible for real-time streaming to occur with very little delay, which allows an audience to witness an event happening on the Internet, even as it is still occurring.

So what is streaming media?

Let's start at the beginning. What is streaming media?
To understand the role of streaming media, you need to understand the functioning of the World Wide Web. Web servers are often described as "stateless." What that basically means is that the Web server takes a request for information, pushes that information out the door as fast as it can, completes the transaction, disconnects, and goes on to other requests by other users. On the client side, your Web browser takes the information it receives, assembles it on the screen, and then ignores the Web server until you click on a link.

This approach works extremely well for static media like graphics and text. The browser receives them and simply displays them on the screen. But media like moving images and sound are more challenging. Unlike a graphic, video, animation, and sound have a time component to them. With that time component comes a larger file size. Under the stateless approach, a user would need to download the entire video or audio clip before it could be viewed or heard. But with the large file size that comes with even a short clip, the wait can become intolerable especially in a teaching environment where there is a limited amount of time dedicated to each lesson. Another solution is needed.

This is where streaming media comes in. With streaming media the goal is to bypass the limitations of the World Wide Web. Using Internet based technologies that are mostly proprietary, such as MMS from Microsoft and RTSP from RealNetworks Inc; media data is fed to the user as the media is viewed. So rather than a stateless data connection, streaming media is more of a continuous connection. Much like TV or listening to the radio, you receive the images or audio just before you see or hear them.

Stretched out over time, the size of the clip becomes less of an issue. But that is not to say that it is not still an issue. The reality is that raw file sizes for digital audio and video are absolutely enormous. So in order to reduce them down to a manageable size that is deliverable to modem or LAN connections, compression is used. The goal of streaming compression is to throw away data that is not needed. This then makes the file that much smaller. The down side is that it will also begin to degrade the image and sound.
So much like other Internet based forms of delivery; working with streaming media is all about compromises.

What about quality?

Media producers, particularly those from traditional broadcast media backgrounds such as television and radio, often criticise the quality of streaming media. They fail to see the entire point. Streaming media isn't about quality. It's about access. It's about being able to sit in a school in Cambridge and receive content on-demand from all across the globe.

Surprisingly, most Internet users do get the point. Throughout the history of all forms of media, the new medium has often paled in comparison to the old one. But the new medium offers some capability that the old one hadn't. With streaming media, it is all about the access. The pictures may not be totally clear and the sound intermittently distorted. But when a Web user clicks on that link and gets media on-demand that's control.

Luckily, the streaming tools are increasingly becoming more and more powerful. The quality today, as with most Internet related technologies, is considerably better than the quality six months ago. And it will continue to improve at an astonishing rate.

So where is streaming going?

We can already see a large number of applications for streaming media in use today such as live radio broadcasts; News feeds from the BBC or CNN, coverage of international sporting events such as the Olympic games and more recently the Rugby World Cup.

Streaming media is changing the face of education in the 21st century. Today, teachers and students are interacting in new ways with students attending lectures from their living room; these can be live real time lectures or on-demand (pre-recorded).

A multimedia Web experience is far more powerful at informing, and educating than the Web, as we know it today.

2. Instructions for using Streaming Media

1) RealPlayer

Configuring versions 4.0, 5.0, G2, 7.0 and 8.0

The HTTP Only option allows almost all Players behind a firewall to access RealAudio and RealVideo content.

To configure RealPlayer versions 4.0 and 5.0 to receive content through HTTP Only:

1. In RealPlayer, click **Preferences** from the View menu (Windows) or the Edit menu (Macintosh).

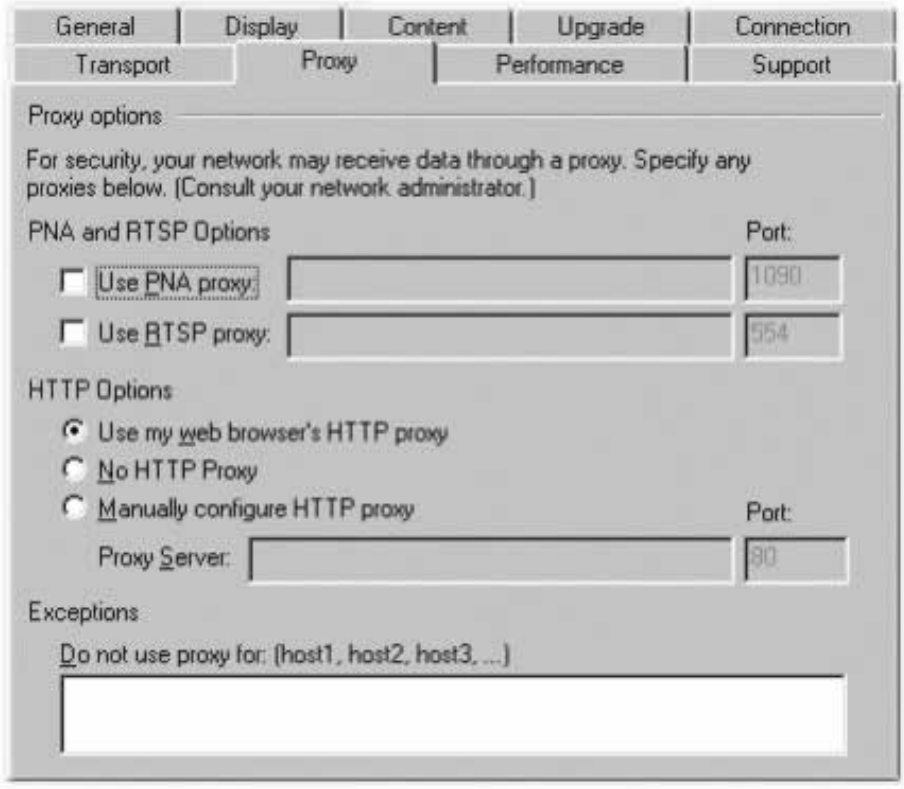
2. In the Preferences window, click the **Transport** tab.

3. Click **Automatically select best transport**.

Error! Unknown switch argument.

4. Select the Proxy tab

5. Ensure the **Use my web browser's HTTP proxy** is selected and that all other fields are blank.



6. Click **OK** in the Preferences window to save your changes.

Note: RealPlayer version 3 is not supported.

2) Microsoft Media Player

The HTTP Only option allows computers behind a firewall to access streaming media content using Windows MediaPlayer version 7 or above.

Start Windows MediaPlayer.
Click the **Tools** menu and choose **Options**.
Click the **Network** tab.
Under Protocols tick all the boxes (**Multicast, UDP, TCP and HTTP**).
Click the **Apply** button.
Click **OK**.

Note: The BBC have made video available to Microsoft Windows Media Player. This means schools can substitute RealPlayer for Media Player which comes free as part of your Windows build

Use the following steps to configure Windows Media Player 6.4:

1. Open up the Windows Media Player.

2. Click **View**, and then choose **Options**.

3. In the Options dialog box, click the tab labelled **Advanced**.

4. On the Advanced tab, choose Windows Media from the list of advanced options and then click the **Change** button.

5. On the Advanced Playback settings dialog box, look at the section labelled protocols, check the following boxes **Multicast**, **UDP**, **TCP** and **HTTP**, under HTTP ensure **use browser proxy settings** is selected. Click on OK to return to the Advance Options dialog box.

6. Click OK to return to the Windows Media Player. ____