



Adobe Flash Media Server 3.5 Frequently Asked Questions

- **What is Adobe® Flash® Media Server 3.5 and what does it do?**
 - Adobe Flash Media Server 3.5 is Adobe's latest release of their Adobe Flash Media Server portfolio which offers a flexible environment for creating and delivering rich, high-quality media experiences to broad audiences. The primary new and enhanced capabilities introduced into this release by Adobe include:
 - Dynamic Streaming – Dynamic Streaming is a new quality-of-service monitoring feature that lets you detect any changes in your viewer's bandwidth and smoothly switch between streams during playback — helping to ensure a high-quality, uninterrupted stream. Dynamic Streaming leverages Adobe Flash Player 10 and Adobe Flash Media Server to allow viewers a better viewing experience, regardless of their connection speed.
 - DVR functionality – Create high definition DVR functionality with new support for H.264 stream recording. Pause a live stream, or seek backwards into the video that was missed.
 - Improved H.264 performance – Enhancements to the underlying Adobe Flash Media Server technology for higher quality delivery of higher quality content.
 - More information is available at Adobe.com.
<http://www.adobe.com/products/flashmediainteractive/features/>
- **How is Level 3's launch of Adobe Flash Media Server 3.5 different from our competition/current marketplace offerings?**
 - Recognizing the need to provide a solid content delivery solution, the Adobe Flash Media Server is implemented on a platform that converge Level 3's internal HTTP-based Caching and Download services with its streaming services onto a single system. This converged platform is hosted over Level 3's industry-leading, international IP network enabling its CDN services to effectively and reliably deliver high-quality rich media to the broadest possible audiences, and provides:
 - A single network platform optimized to effectively support multiple delivery protocols and adaptable bitrates
 - Robust internal HTTP-based caching capabilities leveraged to quickly and efficiently deliver streamed content to the edge of the network via Flash Media Server
 - A network infrastructure constructed with proven and hardened technologies to ensure scalability and performance
 - A comprehensive (Manage: Creation → Capture → Delivery) solution

- **Does Level 3's HTTP implementation employ standard methods to deliver Adobe Flash content to the Adobe Flash player?**

- Yes, completely.

Ultimately, Adobe Flash content delivered from Level 3's CDN are streamed from Adobe Flash Media Servers on the edge of the network, determined to be best suited to deliver content to end-user's requests.

Level 3's converged CDN system leverages the hardened Caching and Download technologies that uses standard HTTP as the vehicle to quickly and efficiently deliver Adobe Flash content from the point of origin, through Level 3's intermediary CDN servers, then to the Adobe Flash Media Servers on the edge of Level 3's CDN.

These Adobe Flash Media Servers sitting on the edge of Level 3's CDN, streams Adobe Flash content to end-user's Adobe Flash player utilizing Adobe's native real-time messaging protocols such as RTMP and RTMPE.

- **What new features are being introduced in Level 3's implementation of Adobe Flash Server 3.5?**

- Dynamic Streaming is a new quality-of-service feature where the Adobe Flash player will inform the Adobe Flash Media Server of any changes to quality due to internet connection or computer capabilities. The server then dynamically and transparently adjusts its stream to deliver the most appropriate content in order to maintain high quality for the best viewing experience for the end user.
- DVR functionality enables end-users to view (or listen) to a live stream with TV-like capabilities such as pause, rewind, and fast-forward. Another benefit of DVR functionality is the server-side recording of the live streams so that archives of live events can later be made available for on-demand delivery
- Level 3 currently provides limited support for this feature for preview purposes and will soon provide general support as additional services in support of this capability are introduced.
- Leveraging delivery capabilities available from the Caching platform, including:
 - Content Invalidation – Allowing content to be invalidated through transactions submitted via Level 3's Portal or through a command line format.
 - Background Refresh – Enable background cache-fill request to be sent to the origin when a resource has expired.
 - Foreground/Background delivery – Redirect requests for resources defined as Background to lesser-utilized distributors.
 - Redirect On Error – Allow a request for content to be redirected to another location based on the status code received.
 - Query String Handling Mode (QSHMode) – Capture the Query String portion of a URL link to content in the logs.
 - Static HTTP Response Codes – Enable generic responses codes to be generated when "Status" (e.g. 100-299) or "Error" (e.g. 300-499) codes are detected or received.
- Improvements to Level 3's Live Streaming services
 - Securing Live Ingest points – Enable publishing points and stream-names to be secured.
 - FC Subscribe Support – Support for another general approach to connecting to live streams.
 - Eliminate Dual Stream-Name requirement in the URL.

- **Does Adobe Flash Media Server support HD streaming?**
 - Yes. Adobe Flash Media Server 3.5 supports the delivery of H.264/MP4 based content. More information at Adobe.com: <http://www.adobe.com/products/flashmediaserver/>

- **How does streaming with Adobe Flash Media Server help protect content?**
 - Simply streaming through the Adobe Flash Media Server, leveraging Adobe's proprietary RTMP-based protocol, is one easy method to protect media since none of the content is saved or cached on the end-user's computer. Adobe Flash Media Server also offers other security services including real-time encryption (RTMPE) and SWF (player) Verification.
 - In addition, Level 3's CDN provides additional security services including Token-Authentication and Geographic Filtering.
 - More information on content protection at Adobe.com. <http://www.adobe.com/products/flashmediaserver/faq/>

- **How does Adobe Flash Media Server support firewall traversal?**
 - The Adobe Flash Media Server can negotiate port blocking, either by "tunneling" streams via the RTMPt and RTMPte protocols or by automatically defaulting to HTTP delivery if streaming is not permitted by the client's connection.

- **Is Adobe Flash Media Server 3.5 the version of the is Adobe Flash media servers that can be used for Dynamic Streaming?**
 - Yes. Also, Adobe Flash player 10 or above is required at a minimum as well. Note: This is currently installed on more than 94 percent of all computers worldwide, according to Adobe. http://www.adobe.com/products/player_census/flashplayer/

- **What are the limitations of Dynamic Streaming?**
 - Dynamic Streaming itself has no limitations. The delivery in the number of different bitrates is the decision of the content owner, based on the cost they are willing to incur in encoding so many different profiles, as well as storing them. The actual delivery of specific profiles (bitrates) is dependent on the quality of the end-user's connection.