



IIS Media Services 3.0 Overview

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Introduction

Microsoft Internet Information Services (IIS) Media Services 3.0 is an integrated HTTP-based media delivery platform that allows you to deliver true HD streaming to your users. With these media services integrated with a proven Web server, you can extend the reach of your sites and manage it all from a unified Web platform, IIS.

With the extensions included in IIS Media Services 3.0, you do not need to build out infrastructure around a special streaming protocol to deliver your media content. Delivering media with IIS allows you to leverage your existing Web investments and deliver media content over HTTP. Not only does this allow you to take advantage of the global reach and scale of HTTP Internet delivery, but it allows you to concentrate on generating business with your media content rather than trying to adapt the Internet to the way you deliver media.

IIS Media Services 3.0

IIS Media Services 3.0 is a set of IIS 7 extensions that enable you to extend your Web server infrastructure to serve high-quality media content over the Internet. This means that you can take advantage of existing Web servers to serve media content rather than purchasing and configuring specialized media streaming server software that runs parallel to your Web infrastructure.

The extensions that are available in IIS Media Services 3.0 include:

- **Smooth Streaming**—Enables HTTP adaptive streaming of media to Silverlight clients over HTTP. Smooth Streaming provides a high-quality viewing experience that adapts to actual bandwidth and video rendering conditions on the client. You can use this to deliver on-demand video in true HD 1080p to customers with enough bandwidth and modern hardware.
- **Live Smooth Streaming**—Enhances the Smooth Streaming extension by enabling HTTP adaptive streaming of live media events to Silverlight clients over HTTP. Live Smooth Streaming enables client-side features such as Instant Replay, Slow Motion, Multiple Camera Angles, and Live Ad Integration, and provides a high-quality viewing experience that scales massively over existing content distribution networks to make delivery of live HD video to large audiences a reality.
- **Bit Rate Throttling**—Meters the download speed of most media file types automatically, based on encoded bit rate and buffer size. Typically used with existing media that you host as progressive downloads to reduce bandwidth usage and free up access to other users. You can also use bit rate throttling to dynamically allocate bandwidth and throttle bandwidth based on file or MIME type.
- **Web Playlists**—Enables you to create server-controlled sequences of digital media content and prevent caching of content on end-user computers. The delivered playlists protect the direct URLs to your content and allow you to monetize the content through advertising. Web Playlists are created on IIS using a playlist format based on the W3C Synchronized Multimedia Interface Language (SMIL), and can be used in place of most SMIL-based playlist types, such as ASX files.

- **Advanced Logging**—Enables you to monitor and measure media experiences, which is critical for understanding how users engage with content and how to more profitably deploy media. The Advanced Logging extension provides access to both real-time client- and server-side logs for media experiences that you deliver over HTTP. You can filter or extend this module to meet the needs of your organization. Advanced Logging also allows third-party analytics providers and tools to easily access data in real-time.
- **Application Request Routing (ARR)**—Enables you to configure HTTP edge caching servers so that you can store media content closer to end users. For example, if a user visits your Web site and downloads content that gets cached on your ARR edge server, subsequent users will get served that content directly from the ARR server until it expires. ARR works very well with live and on-demand Smooth Streaming, and can also serve as reverse proxy and load balancer.
- **Silverlight Media Framework (SMF)**—Enables developers to quickly deploy a robust, scalable, customizable media player for IIS Smooth Streaming delivery. The SMF builds on the core functionality of the Smooth Streaming Player Development Kit.

Media Delivery Approaches Supported by Windows Server 2008 R2

Microsoft Windows Server 2008 R2 supports both Windows Media Services 2008 R2 as well as IIS Media Services 3.0 for delivering media content over intranets, corporate networks, and the Internet. The following table shows which media delivery techniques are available on each edition of Windows Server 2008 R2.

Windows Server 2008 R2 Edition	Progressive Download	Unicast Streaming	Smooth Streaming	Multicast Streaming
Web Server	✓	✓	✓	
Standard	✓	✓	✓	
Enterprise	✓	✓	✓	✓
Datacenter	✓	✓	✓	✓

Traditional unicast and multicast streaming are only available with Microsoft Windows Media Services. Standard progressive download is available using any version of IIS. Advanced progressive download features, such as Bit Rate Throttling, Web Playlists, Smooth Streaming, and Live Smooth Streaming, are only available when you install IIS Media Services 3.0 on a server that is running IIS 7.0 or IIS 7.5.

Goals for IIS Media Services 3.0

In designing the IIS Media Services 3.0 offering, Microsoft had three main goals:

- To extend your users' engagement with media that you provide on your Web sites.

One of the main challenges to providing premium video content over the Internet is to create a positive customer experience. Regardless of the new techniques used with traditional streaming, such as streaming and smart switching of multiple bit rates, network bandwidth and local processor conditions can have a deleterious effect on traditional streaming technologies. Under some conditions, this may cause the video and audio on the client to start and stop, quality to degrade, or, in the worst case, simply not play at all. When these conditions persist, customers stop trying to view your video.

Microsoft designed the IIS Smooth Streaming, Live Smooth Streaming, and Application Request Routing (ARR) extensions to address these problems regardless of bandwidth conditions. As previously described, the Smooth Streaming extensions enable you to offer customers HD-quality content, which they can view if their actual local bandwidth and computer hardware allow it. However, if conditions prove to be less than optimal at any given moment, the video quality and audio quality degrade gracefully to a lower bit rate, with no stuttering playback or abrupt stoppages. If conditions improve, the audio and video quality will seamlessly improve again.

Similarly, if you host progressive download content on your Web servers, a large spike in traffic may prevent some users from accessing that content in a timely manner. This is because the Web servers are trying to push the full media file to each user as fast as the network will allow. Bit Rate Throttling delivers just the bits needed to provide users with a great progressive download experience, even when they seek in the content, freeing up your network connection to handle a much higher number of concurrent users.

Also key in this solution is ARR, which enables you to cache any static Web content, including progressive download content and Smooth Streaming video fragments, on your existing Web edge caching servers. ARR intelligently determines which edge caching server is closest to the incoming request and uses that cache to satisfy the request. This reduces the round trip time between the cached content and the requesting client.

Together, these extensions allow you to get a higher benefit from your existing Web infrastructure. For high-demand events, such as a pay-per-view movie or popular live event, you can quickly scale your media server infrastructure across the same servers on which you serve more traditional Web content, regardless of whether they are origin servers, distribution servers, or caching servers. Easier access to content across your existing servers results in end users having a better experience and engaging longer with your media.

- To enable you to measure and monetize customers' media use.

The IIS Advanced Logging extension enables you to measure when and how customers are viewing your media content and the Web Playlist extension enables you to enforce monetization within that content. When you use Advanced Logging you can capture information in real-time from both the server and the client in standard W3C log files. For example, client logging enables you to see how long customers watch a video, when they start, stop, and pause a video, and whether any errors occurred on the client while they were watching the video. You can customize both server and client logs to capture only the fields relevant to your content, add additional fields with ease, and provide policies around log file rollover and request filtering. You can configure these Advanced Logging fields by using the IIS Manager graphical user interface.

Video content on the web is usually either free or subscription-based. Free content is frequently paid for through the use of advertising: before the content plays, a pre-roll ad is shown. Obviously you want to ensure that viewers cannot skip over the ads. This is where Web Playlists can help, as they enable you to define the order in which customers can view a set of media content, and prevent them from skipping advertisements.

To prevent a user from sharing your content with others, the original content URLs in Web playlists are replaced for each user with unique tokenized URLs. If a customer attempts to play the URLs in the incorrect sequence, the Web Playlist extension will deny access to the content. The same is true if a different user attempts to access the content.

- To unify all content you offer onto one Web platform.

For most on-demand media scenarios, and many live media scenarios, IIS Media Services eliminates the need for you to run parallel Web and traditional streaming servers. Bit Rate Throttling and Web Playlists allow you to intelligently deliver your media libraries, including most popular media formats, using a single Web server infrastructure. Using that same infrastructure and Smooth Streaming, you can also offer your customers the best end-user experience across computers, mobile devices, and consumer electronics devices, both for live and on-demand content.

Scenarios for IIS Media Services 3.0

When you deliver media to users online, there are two presentation modes, live and on-demand.

On-demand Scenarios

The on-demand scenarios that the IIS Media Services 3.0 extensions support include:

- Progressive downloads of video and audio files
- Smooth streaming

On-demand scenarios are supported by the Bit Rate Throttling, Web Playlists, and the Smooth Streaming IIS extensions.

IIS Bit Rate Throttling

Bit Rate Throttling module for enables you to control how fast the Web server downloads media content to each media player. You can base the throttle speed on the file type, and access advanced throttling functionality for digital audio and video files. In IIS Manager, you can set throttling at the following levels: server, site, virtual directory, and file.

The IIS Bit Rate Throttling extension enables you to do the following:

- **Reduce bandwidth costs.** By regulating bandwidth usage based on the content type the server delivers per a request, you can save money on network costs. Bit Rate Throttling accomplishes this by automatically detecting the encoded bit rates of 11 common media formats, such as Windows Media Video (WMV), Flash Video (FLV), and MPEG 4 (MP4), and then throttling the response to the client. Bit Rate Throttling is highly configurable, and enables you to configure throttling rules for all file and MIME types.
- **Retain a good user experience.** For audio and video files, Bit Rate Throttling automatically detects the encoded bit rate of the file, sends a short burst of data to the client at full throttle to ensure a fast start to their playback experience, and then delivers the content at a throttled rate that is equal to or slightly greater than the encoded bit rate. Several popular digital media file types are pre-defined in the module, and you can add others. Data files are throttled at a configurable constant rate.
- **Dynamically manage bandwidth allocation.** There are scenarios where you want to use throttling to plan bandwidth better. An example would be if you want to be able to support more simultaneous downloads. In these scenarios there might be conditions where the load on the server is less. In this situation you may not want to throttle the response or you may want to split the available bandwidth among all active connections at any given point. Dynamic throttling allows you to do this. This feature lets you use all of the available bandwidth and split it among all active connections.

IIS Web Playlists

The Web Playlists module for IIS 7 provides a way to create a list of media items (audio and video files), so that playback of those assets on client computers is controlled by the Web server. This feature provides you with unprecedented control over how media content is delivered from a Web server to users.

For example, this feature allows for the insertion of advertisements in a list of media items so that users must play them before proceeding to the next item in the list. Additional constraints can be added to individual media items in the playlist, such as the ability to prevent seeking in an item, skipping to the next item in the list (or allowing skip-forward only after a specified percentage of the currently playing item is downloaded), or skipping back to the beginning of the previously played item.

You can use the Web Playlists graphical user interface to easily create playlists and configure playback rules for each media file in a playlist.

The IIS Web Playlists extension enables you to do the following:

- **Control playback and protect content on the client.** Web Playlists allows you to create sets comprised of any type of digital media file that can be downloaded from a Web server using a playlist format based on the W3C Synchronized Multimedia Interface Language (SMIL). Playlists specify content to be streamed and the order in which it is to be streamed. The playlist UI and file specify a media file and location. Playlist entries are easy to read and edit, making them easy to configure in the IIS manager interface. Piracy of media content is always a concern. The IIS Web Playlist extension prevents media piracy by tokenizing URLs so that they cannot be directly copied or captured. This protects the location of the content referenced. You can also protect media files by users to submit an ID and password to access them. IIS Web Playlists supports impersonation and can pass a unique user ID and password to access media.
- **Monetize media.** Web Playlists allows you to control the order and playback of advertising content to prevent end-users from skipping or seeking within commercial content by dynamically determining and controlling the media delivered to the user. If you have premium content mixed with multiple ads, you can choose to disable seeking within an ad video clip or skipping an ad, while allowing seeking or skipping of your feature media files. This enables you to ensure that users will watch ads if they continue to view content in the playlist.

IIS Smooth Streaming

IIS Smooth Streaming allows IT Professionals to deliver video that adapts continuously to provide the highest-quality playback based on the available bandwidth and local PC conditions. By using HTTP instead of proprietary streaming mechanisms IIS Smooth Streaming takes advantage of the existent HTTP server deployments for both caching and delivery and avoids many of the firewall issues related to custom protocols.

The IIS Smooth Streaming extension enables you to do the following:

- **Create Smooth Streaming projects and players quickly and easily.** You can use Microsoft Expression Encoder 3.0 to easily encode video for IIS Smooth streaming. When you encode a video using Expression Encoder 3.0, you can choose a Silverlight player from a list of built-in templates. You can also choose to publish the encoded project, including all encoded media files and Silverlight assets directly to an IIS Web server.
- **Deliver high quality video using your current HTTP infrastructure.** Provide the best possible video watching experience by dynamically detecting and seamlessly switching in real time the quality of a media content delivered to a Silverlight player based on local bandwidth and CPU conditions. Users with high bandwidth connections can experience true HD (720p+) quality streaming while others with lower bandwidth speeds receive the appropriate stream for their connectivity, allowing users across the board to enjoy a compelling, uninterrupted streaming experience. IIS Live Smooth Streaming takes advantage of the scale of existing global HTTP caching servers to keep content close to the end user and avoids many of the firewall issues related to custom protocols. Content Delivery Networks (CDNs) can broadcast live events taking full advantage of their HTTP caching networks without needing to increase network capacity or restrict the number of users connecting to the event.

Live Scenarios

IIS 7 supports multiple approaches to streaming live events.

- **Unicast.** This approach is used to stream single bit rate versions of a media file, typically with the user choosing which quality to play. This is the typical choice for streaming solutions across the Internet. This option is supported by Microsoft Windows Media Services
- **Multicast.** This is a one-to-many relationship between a streaming server, such as Windows Media Services, and the clients receiving the stream. With a multicast stream, the server streams to a multicast IP address on the network, and clients receive the stream by subscribing to the IP address. All clients receive the same stream and do not have control of content playback. Because of its bandwidth requirements, this option is best used in an intranet environment.
- **IIS Live Smooth Streaming.** This alternative not only enables you to adjust to bandwidth and customer hardware conditions dynamically, you can also use your existing Web server infrastructure to deploy your media across the Internet or other widely distributed networks.

The first two scenarios are supported by Microsoft Windows Media Services, while Live Smooth Streaming is one of the extensions included in IIS Media Services 3.0.

IIS Live Smooth Streaming

IIS Live Smooth Streaming allows content providers and Content Distribution Networks (CDNs) to deliver live video streams that adapt continuously to provide the highest-quality playback based on the available bandwidth and local PC conditions. By using standard HTTP instead of proprietary streaming protocols, IIS Live Smooth Streaming takes advantage of the scale of existing global HTTP caching servers to keep content close to the end user and make true HD (720p+) a realistic option for Web broadcasts and avoids many of the firewall issues related to custom protocols. New monetization opportunities are enabled by the use of rich logging technologies and the possibility to implement Personal Video Recording (PVR) functionality on live streams.

The IIS Live Smooth Streaming extension enables you to do the following:

- Provide custom Personal Video Recorder (PVR)-style interaction to your viewers. Allow your viewers to experience a full PVR-style interaction of your live events; allowing them to join events in progress, review content that has already been broadcast while the stream is still in progress, and seamlessly switch among alternate streams to provide a fully interactive experience.
- Brings HTTP scalability to previously streaming-only live scenarios. By using your existing Web infrastructure, you can scale up to broadcast for large live events quickly.
- Better together with IIS ARR for caching. You can use Application Request Routing with Live Smooth Streaming to cache content on servers nearer to your users across the globe.

IIS Extensions that Provide Support for Live and On-Demand Scenarios

There are two Media Services 3.0 extensions that provide support for both live and on-demand scenarios. These are IIS Advanced Logging and IIS Application Request Routing.

IIS Advanced Logging

IIS Advanced Logging provides a flexible mechanism to log user requests and client data by enabling IT Professionals to build logging infrastructures where they can determine what fields should be recorded and by making it possible to extend and customize these capabilities creating custom logging for modules. This new functionality allows administrators to implement policies for log file rollover and to log any of the HTTP request and response headers, server variables and client-side fields with simple configuration through IIS Manager.

The IIS Advanced Logging extension enables you to do the following:

- **Create logs for progressively downloaded media content.** IIS7 provides the server-side logging information along with the logging infrastructure while the Silverlight clients deliver logs from the client side to the IIS 7 server.
- **Logging for traditional and Smooth Streaming content.** The Advanced Logging extension is compatible with WMS logging and third-party tools. You can also customize or extend the extension. You customize the extension to log only a subset of the fields provided or can extend Advanced Logging to add custom logging fields.
- **Enable common scenarios in which logging is essential.** The Advanced Logging extension is compatible with many third-party and custom reporting tools, which means you do not have to change from your existing logging and reporting tools to analyze log data. Advanced Logging also makes it easy to use logging information to determine how much content was delivered to each customer and bill each customer appropriately. It also enables you to find statistics on which customer viewed the content and how much of the content they actually watched.

IIS Application Request Routing

ARR allows content to be cached on disk and is RFC compliant for cache control directives. By storing content on drives, geographically disperse companies and Content Delivery Networks can benefit from the reduced network traffic that is required to serve content to users and customers.

Content travels from origin to ARR servers, and while the edge network segment receives a particular number of transactions, the backend connections receive a lesser number of transactions given that the edge server is caching the content.

The IIS Application Request Routing extension enables you to do the following:

- **Optimize bandwidth use and scale your server capacity through disk caching.** ARR is able to cache on disk any HTTP traffic that passes through the server. By combining the disk caching capabilities along with a hierarchy of IIS Web servers running ARR, Content Delivery Networks are able to considerably reduce the network traffic that traverses up to the origin server. This new possibility makes it possible for CDNs to use their primary HTTP network infrastructure to

deliver live video events in true HD quality (720p+) when combining the use of IIS Application Request Routing and IIS Live Smooth Streaming.

- **Manage Caching for Optimal Performance.** Thanks to its user-friendly interface, you can browse and manage content through the cached structure across multiple drives in one consolidated graphical view in IIS Manager. You can manage all ARR caching features, including pre-cache, intelligent byte-range support and efficient compression from IIS Manager.

Deploying IIS Media Services 3.0

Designed to take advantage of the modular architecture of IIS 7.0 on Windows Server 2008 and IIS 7.5 on Windows Server 2008 R2, you can install and configure the IIS Media Services 3.0 components on the servers in your network on which each one makes sense. For example, if you only need the Smooth Streaming extension on media dedicated Web servers you should only install that extension on those servers. This is how you keep the security footprint for the server small, and dedicate storage and CPU capacity only for the role that IIS Web server will perform.

Your first step in this process, though, is to design your deployment structure. You can use IIS Media Services extensions on stand-alone servers, as a publishing point connected to a CDN, or set it up as edge and origin servers as discussed in the Architecture section of this white paper.

No matter what the deployment structure you design, you must install IIS Media Services 3.0 on each IIS origin server from which you want to serve media. To do this you can use either the Web Platform Installer (Web PI) 2.0 or use Windows Installer. The advantage of using Web PI is that if you have previous versions of IIS Media Services installed on the server, Web PI will automatically upgrade them. The advantage of using the Windows Installer is that after you download the appropriate .msi file, you can use scripts or batch files to automate distribution of the .msi file and its installation. For more information about installing IIS Media Services 3.0, see the [Smooth Streaming Readme](#).

To verify that the media services extensions have installed correctly open IIS Manager on the servers on which you installed the extensions, select a Web site, application, or virtual directory, locate the Media Services section and confirm that each media extension you installed has a feature page.

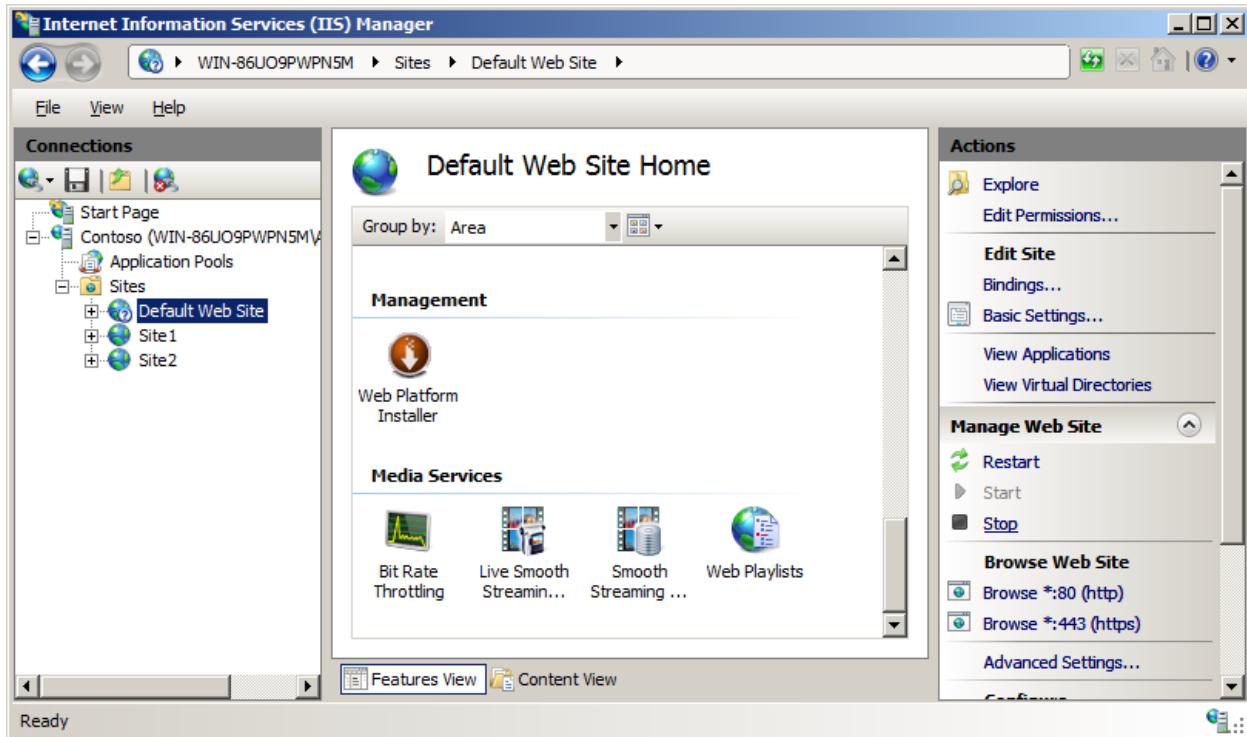
Administering the IIS Media Server

One of the greatest advantages to having Web and media applications on the same IIS 7.0 server infrastructure is that you can use the same tools that you are familiar with to manage both. You can use the tools you are most comfortable with to manage your Media applications on IIS.

IIS Manager

IIS Manager has an easy to use graphical user interface that enables you to manage and monitor Web servers, Web sites, application pools, applications and virtual directories. As a server administrator, you can control who can use IIS Manager to manage sites and applications on your servers. You can

configure IIS 7.0 so that site and application administrators can use IIS Manager remotely on each server where their sites and applications reside



Command-line and Scripting Tools

IIS 7.0 allows you to use the **appcmd** command-line tool to manage your servers and retrieve information about how each site, worker process or application is running on your server. You can also write scripts to automate common tasks on the IIS 7.0 platform. You can write WMI scripts to perform configuration, management, and monitoring tasks, or take advantage of the IIS 7.0 Windows PowerShell plug-in to write PowerShell scripts to automate these tasks.

```

Select Administrator: IIS PowerShell Management Console
tomize your shell.

For more information, see about_Automatic_Variables and about_Profiles.

----- EXAMPLE 4 -----
C:\PS>new-item -type directory -path c:\ps-test\scripts

Description
This command creates a new Scripts directory in the C:\PS-Test directory.

The name of the new directory item, Scripts, is included in the value of the Path parameter, instead of being specified in the value of the Name parameter. As indicated by the syntax, either command form is valid.

PS IIS:> new-item iis:\sites\ContosoSite -physicalPath C:\ContosoSite -bindings @<protocol="http";bindingInformation=":8080:>
Name          ID  State       Physical Path           Bindings
ContosoSite    4   Started     C:\ContosoSite          http :8080:

PS IIS:> Set-itemProperty iis:\sites\contososite -name applicationPool -value SmoothStreamAppPool
PS IIS:> New-Item IIS:\Sites\ContosoSite\SmoothStreamApp -physicalPath C:\ContosoSite\SmoothStreamDemo -type Application
Name          Application pool  Protocols  Physical Path
SmoothStreamApp DefaultAppPool  http      C:\ContosoSite\SmoothStreamDemo

PS IIS:> -

```

Monitoring the IIS Media Server

Beyond the tools mentioned in the previous section, you can use a number of different features and tools to monitor server, site and application performance on IIS 7.0.

- The Failed Request Tracing IIS 7.0 feature allows you to configure your Web server to return trace statements to a Web page when a request fails.
- The IIS Media Services 3.0 Advanced Logging extension provides you access to the current information specific to your media applications, including client and server logs.
- Microsoft System Center Operations Manager enables you to configure alerts when your server, site, or application performance indicators meet certain thresholds.

Server Performance and Scalability

One of the strengths of the IIS Media Services 3.0 offering is that it allows you to take advantage of your Web infrastructure to improve overall media playback performance.

Deploying Server Clusters

One technique you can use to scale your Web infrastructure to support your media applications is to create server clusters. Clustering allows you to improve the performance of each server in your environment by maintaining resources locally on multiple servers. Clients request a connection from a

common URI, and either a hardware or software load balancer directs the request to the Web server which can best handle the incoming request.

Microsoft offers Network Load Balancing (NLB) in Windows Server 2008 and Windows Server 2008 R2 to make it easy for you to set up load-balanced clusters in your Web infrastructure.

Deploying Edge Cache Servers

Edge caching is a technique in which you store content as close to your end users as possible. When a user requests content from a Web site, IIS 7.0 caches the content to the edge server. When subsequent requests for the same content arrive, the content will be served directly from the caching server until the cache expires.

This technique addresses one of the major issues in delivering media content over the Web. It has always been hard to set up the proper caches to take media streams and it is very expensive to build out cache servers to meet demand for short-term high demand events.

IIS Media Services 3.0 includes Application Request Routing (ARR), which is a proxy-based HTTP request routing extension that includes disk-based caching capabilities. ARR works with Smooth Streaming to cache and re-use media fragments on your edge servers. This can help you increase your media delivery scale by approximately ten times with no special server provisioning required.

Developing IIS Media Services Applications

Microsoft Expression Encoder allows you to use templates to create Silverlight Smooth Streaming output. However, if you want to create customized Silverlight players that are not included in Expression Encoder you must create your own. You can do this by customizing the Silverlight output for your project by using the Silverlight Media Framework (SMF).

Player Development with the Silverlight Media Framework

The Silverlight Media Framework is a development platform that enables you to easily take advantage of Smooth Streaming, DVR controls, client logging, and other advanced features offered by IIS Media Services 3.0.

The framework includes application programming interfaces (APIs) that enable your developers to manipulate the capture the main player elements that you would expect, such as play and pause, rewind, fast forward, next and previous chapter markers, slow motion, volume, and full-screen and restore. The framework also includes a number of advanced features that you can take advantage of when you customize your player. These features enable you to:

- Brand the player. Designers can use Microsoft Expression Blend to change the player skin and change the appearance of elements on the Silverlight media player itself. You
- Embed markers in your timeline.
- Modify how the player communicates and responds to bandwidth usage when it accesses a Smooth Streaming or Live Smooth Streaming broadcast.

- Deliver live and on-demand experiences that are differentiated.
- Integrate the player with external data sources using the built-in Data framework.

The Microsoft Expression and Visual Studio tools are integrated so that designers and developers can use both toolsets seamlessly while working on the same project.

The following figure shows the architecture of the Silverlight Media Framework.

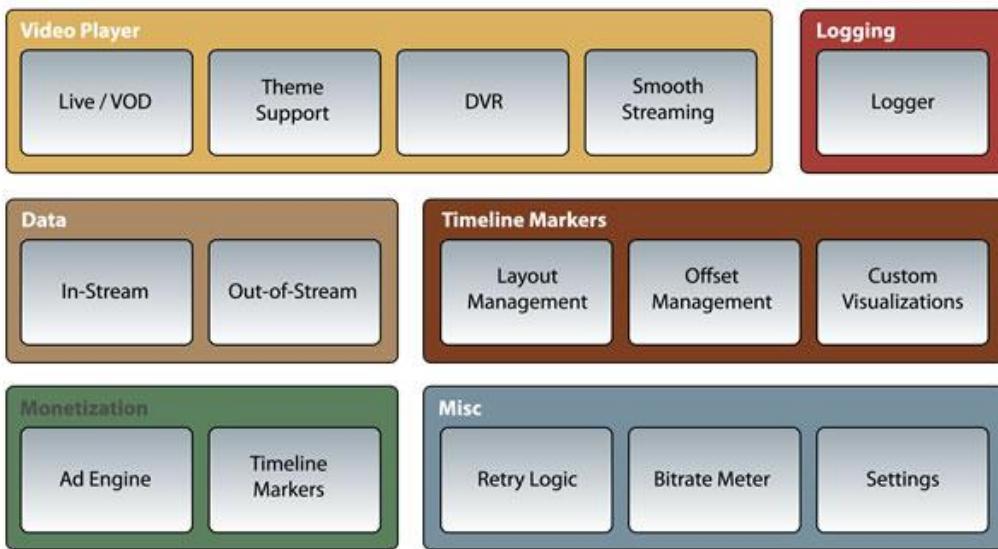


Figure 7. Silverlight Media Framework Architecture.

By default, the Silverlight 3.0 media player provides content protection to the media that your users view over the Internet, using the Silverlight DRM. Silverlight DRM is a specialized version of a Microsoft® PlayReady client for use specifically with Silverlight. You can protect your content using PlayReady either by creating a PlayReady server environment to support this solution or use a Microsoft-approved PlayReady application service provider (ASP) to provide the server-side support for your DRM solution.

Summary

IIS Media Services 3.0 provides you with extensions that enable you to leverage your existing Web server infrastructure to provide high-quality media experiences to your users over HTTP. It also allows you to save costs throughout your organization by providing control over the amount of bandwidth that progressive downloads can consume, and allows you to monetize existing content that you provide over the Internet.

For More Information

Media on IIS 7.0	http://iis.net/media
Microsoft Silverlight—Media	http://www.microsoft.com/silverlight/overview/media.aspx
Microsoft Expression	http://www.microsoft.com/expression
Silverlight Developer Center	http://msdn.microsoft.com/silverlight
Microsoft Silverlight Community	http://silverlight.net/community/
Windows Media Services 2008	http://www.microsoft.com/windows/windowsmedia/forpros/serve/prodinfo2008.aspx

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