Unreal Media Server

Specifications data sheet

High performance and small resources footprint software platform for streaming live and on demand audio / video content over IP networks. Integrates into existing solution infrastructure and delivers high quality streaming experience.

Have bandwidth? See what you can do with it!

Unreal Media Server consists of 3 major components: the **Media Server** that streams live and recorded content to the clients, the **Live Server** that encodes live sources and streams them to Media Server, and **Player** applications.

Media Server specs:

<table>
<tr><td>OS</td><td>Windows 2000, XP, 2003 Server, 2008 Server, Vista, 7; 32-bit and 64-bit.</td></tr>
<tr><td>Required system software</td><td>DirectX 8.0 or higher (comes with OS or service packs)</td></tr>
<tr><td>Process</td><td>Runs as a windows service</td></tr>
<tr><td>Configuration</td><td>Windows GUI application, API for remote or web-based configuration</td></tr>
<tr><td>Supported file formats</td><td>
<table>
<tr><td>No need to install codecs (codecs come with OS)*</td><td>WMV, WMA, ASF, AVI(MS MPEG-4/MP3), MPEG-1, MP3, MPA, QUICKTIME (version 2 and lower).</td></tr>
<tr><td>3rd Party DirectShow codecs are required</td><td>AVI with custom audio/video codecs (DIVX, VP6…/ AC3...), MPEG-2, Apple mp4, 3gpp, Vorbis, any other codecs.</td></tr>
</table>
OS that comes without Windows Media Player needs it for WMA/WMV codecs.
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<tr><td>Playlist</td><td>Alphabetical and random order file playlists are supported</td></tr>
<tr><td>Delivery protocols</td><td>
<table>
<tr><th>Protocol</th><th>Reach limits</th><th>Players</th></tr>
<tr><td>Proprietary TCP Unicast</td><td>May be limited by some corporate firewalls.</td><td>Unreal Streaming Media Player/ browser plugin.</td></tr>
<tr><td>RTP (UDP) Multicast</td><td>Works only on multicast-enabled networks (mostly LAN).</td><td>Unreal Streaming Media Player/ browser plugin.</td></tr>
<tr><td>HTTP, HTTPS Unicast</td><td>Works via IIS Web Server; gets through Proxy servers and corporate firewalls.</td><td>Unreal Streaming Media Player/ browser plugin.</td></tr>
<tr><td>MMS over HTTP Unicast</td><td>Gets through Proxy servers and corporate firewalls.</td><td>Silverlight, Windows Media Player/browser plugin.</td></tr>
<tr><td>RTMP Unicast</td><td>May be limited by some corporate firewalls.</td><td>Flash Player.</td></tr>
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</td></tr>
<tr><td>User authentication</td><td>Live and recorded resources can be configured to use Internal or Session-based authentication.
<table>
<tr><td>Internal authentication</td><td>The player applications display Username/Password box; users need to be created on the server side</td></tr>
<tr><td>Session-based authentication</td><td>Web portals/applications authorize users; only those authorized users are given access to media resources</td></tr>
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User logging	Full user activity logging including media resources used, amount of data transfer and other information
Users control	Live console allows real-time user monitoring and management
Resources control	Concurrent connections limit and throughput limit are supported. Live broadcasts can be configured to limit per-user playback time. Live console displays resources being used in real time
Live statistics	Live console displays current server state – current throughput for each delivery protocol, active users and media resources being used
SDK	API for programmatic user administration and session management. API for programmatic addition/removal of virtual folders and live broadcasts to/from Media Server configuration metabase. SDK for creating custom user logging component to log user information to specific storages such as database.

Live Server specs:

OS	Windows 2000, XP, 2003 Server, 2008 Server, Vista, 7; 32-bit and 64-bit.
Required system software	DirectX 8.0 or higher (comes with OS or service packs) Windows Media Player runtime required for recording.
Process	Runs as a windows service
Configuration	Windows GUI application, API for remote or web-based configuration
Live sources	

Video	USB, Firewire cameras. DV sources such as camcorders. Analog sources via capture cards, graphics card input or TV-tuner card. Hardware encoding appliances with DirectShow support.
Audio	Sound card inputs – Microphone, Line In. DV audio. TV-tuner card audio.

Codecs used for compression

Video	VC1 (WMV9), H264, Microsoft MPEG-4 Video V2
Audio	WMA, Fraunhofer MP3, GSM 6.10
Hardware encoded content	Ability to stream hardware encoded content without software transcoding.

Encoding bitrates

Video	From 40 kbps to 24 mbps. Predefined profiles for Modem (40 kbps), Slow DSL (150 kbps), DSL (256 kbps), T1 (400 kbps), T3 (600 kbps), LAN (3000 kbps).
Audio	MP3 codec: 8 kbps to 320 kbps. WMA codec: 5 kbps to 320 kbps.

Live streaming latency in Near Real Time mode

Video over LAN	0.05-0.1 sec
Video over Internet	0.1-0.3 sec
Audio or Audio/Video over LAN	0.2-0.4 sec
Audio or Audio/Video over Internet	0.3-1 sec

Latency may grow if network bandwidth is not sufficient for particular stream bitrate.

Streaming delivery modes	Near Real Time mode: minimal latency on the client side. Refer to the table above. Suitable for conferencing or surveillance applications. Buffered mode: Media Server, Live Server and Player buffer live content to compensate on network congestions. Suitable for live event webcasting; live radio/TV.
Connection to Media Server	Connections can be initiated by Media Server or by Live Server. Multiple Media Servers can connect to the same Live Server.
Access restrictions	IP-based restrictions can be set to allow or prohibit Media Servers to use Live Server sources
Transformations	Built-in logo/watermark, text, timestamp overlays. Ability to insert custom transformation plugin to get access to raw video frames / audio samples.
Recording	Live sources can be recorded based on scheduler or video motion / audio beat detection, independently of streaming. Recording format is ASF containing VC1-H264-MPEG-4/WMA-MP3 encoded media
Resources control	Live console displays resources currently being streamed and recorded. Live console displays current Media Server connections. Live console allows connecting to Media Server and starting/stopping recording of live sources.
SDK	API for programmatic control over recording of live sources. API for connecting live broadcasts to Media Server programmatically. SDK for creating custom Audio/Video transform components.

Client playback applications:

OS	*Player*
Windows	**Unreal Streaming Media Player, Windows Media Player, Flash Player, Silverlight**
MAC	**Flash Player, Silverlight, QuickTime Player (with additional installation of Windows Media Components for QuickTime.)**
Linux	**Flash Player, MPlayer, Kaffeine Player**
Windows Mobile 5+	**Unreal Streaming Media Player, Windows Media Player, Flash Player, Silverlight**
Other Mobile OS	**Flash Player, Silverlight**

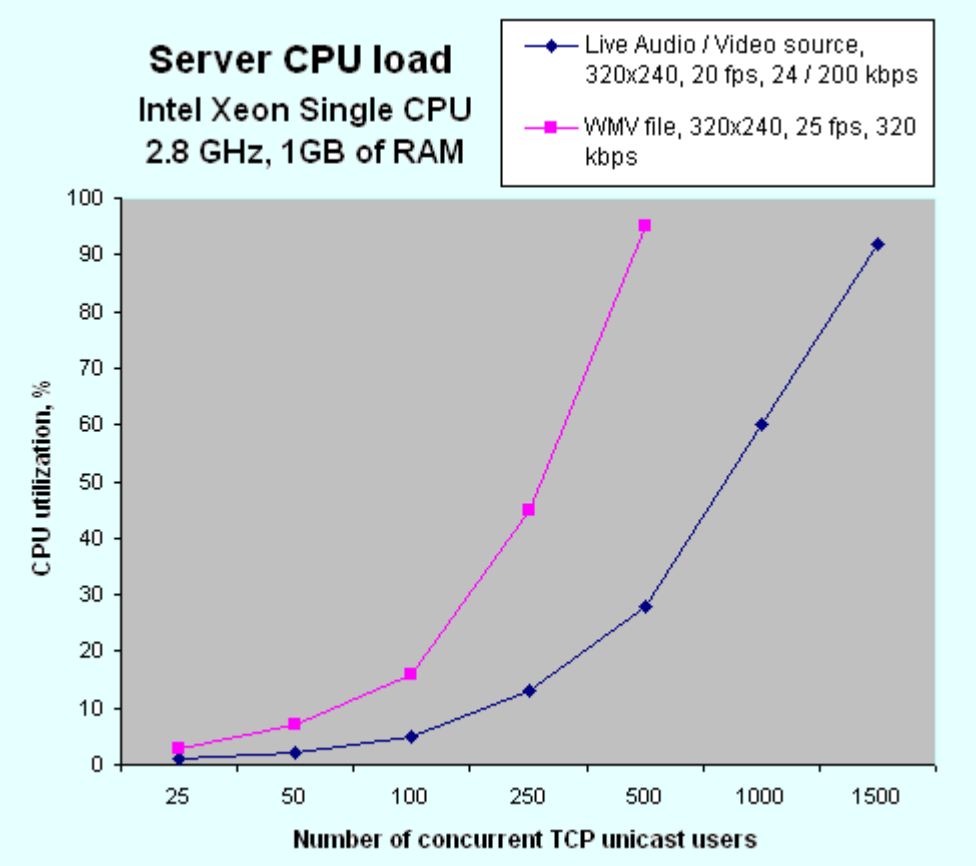
Unreal Streaming Media Player is our native player for playing streams sent with our proprietary TCP, HTTP/S and RTP Multicast protocols. Streaming Media Player enables low latency, user authentication and stream protection. Streaming Media Player can be embedded into web page and supports all major browsers.

Unreal Streaming Media Player specs:

OS and Browsers	**Windows 98, ME, XP, 2000, 2003, 2008, Vista, 7; Handheld devices with Windows Mobile 5 + OS.** ActiveX control and plugin for embedding in web browsers. Browsers supported: Internet Explorer, Firefox, Netscape, Mozilla, Safari, Opera, and Chrome. (browsers plugin not supported on mobile devices)
Player features	Pause/Resume/Seek controls. Resizable frame - custom size; Full screen. Contrast/brightness enhancements, playlist browsing, volume control. Buffer control for playing Buffered-mode live sources. Uses hardware video acceleration. Precise audio/video synchronization. Any number of players can run on a single desktop at the same time (CPU bound).
DRM	Incoming content is not stored on client computer's hard disk and user is not allowed to save media locally. Streams can not be ripped.
SDK	API for ActiveX control: complete automation control for customizing player behavior.

Performance benchmarking:

Unreal Media Server runs on regular hardware and utilizes system resources as efficiently as possible. It doesn't need a dedicated server to run on; it can share computer with Web server and other applications.



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