Wowza Media Server® 3 - Overview

Wowza Media Systems, Inc.
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About Wowza Media Server 3

Any-screen content delivery has become the most important industry trend, ranked significantly higher than any other, according to the Devoncroft Partners 2011 Big Broadcast Survey (BBS). Wowza Media Systems recognized this trend in 2007 when it rolled out its industrial-strength media server software. Today more than 80,000 worldwide licensees in over 150 countries use Wowza Media Server software for simultaneous streaming to PCs, smartphones, tablets and IPTV set-top boxes.

Wowza Media Server 3, is the next generation of Wowza's award-wining software providing a single extensible foundation and value-added components for "Any Screen Done Right™" media delivery. Wowza Media Server 3 makes hard to implement features such as adaptive bitrate (ABR) streaming, time-shifted live playback, and digital rights management simple and cost-effective. With Wowza Media Server 3 organizations of any size can profit from these high-value features while offering their viewers the best possible experience when and where they want it.

Wowza Media Server 3 covers the broadest range of player technologies and screens, including Adobe® Flash® player, Microsoft® Silverlight® player, Apple® iPhone®, iPad®, iPod® touch, and QuickTime® player, Android™ smartphones and tablets, a variety of Internet connected TVs, and IPTV/OTT set-top boxes.

Wowza Media Server 3 supports many streaming protocols, including the Real-Time Messaging Protocol (RTMP), Flash HTTP Dynamic Streaming (HDS), Apple HTTP Live Streaming (HLS), Microsoft Smooth Streaming, Real-Time Streaming Protocol (RTSP), Real-time Transport Protocol (RTP), MPEG2 Transport Streams (MPEG-TS) and more.

A variety of AddOn components are available to help our customers deliver, transform, enhance, protect, integrate, monitor, and manage live and on-demand media streaming, chat and recording.

Integrated Live Adaptive Bitrate (ABR) Transcoding enabled by Wowza Transcoder™ AddOn eliminates the provisioning complexity typical of adaptive bitrate streaming, reduces needed access bandwidth by up to 80 percent, and enables better utilization of network resources such as routers and switches. Wowza Transcoder AddOn takes advantage of commodity hardware to transform incoming live streams from encoders, IP cameras, IPTV headends, and other live sources into multiple stream sets that can be delivered over Wowza® supported protocols.

Any-screen time-shifted delivery of live streams with Wowza nDVR™ AddOn increases revenues for content publishers and enhances viewer engagement by delivering a familiar DRV viewing experience on their device of choice.   For Operators, Wowza nDVR significantly reduces cost by minimizing network storage requirements and simplifying the delivery workflow for all screens.

Support for multiple studio-approved DRM platforms with Wowza DRM™ AddOn provides content owners and delivery networks with robust and truly secure streaming with on-the-fly encryption for both live and on-demand content to any screen - computers, mobile devices and TV's - with a choice of industry-leading digital rights management platforms, including Verimatrix® VCAS™ and Microsoft PlayReady®.

Armed with Wowza Media Server 3 software's market-leading performance and pricing, content publishers, service providers, and other organizations of any size can profit from its high-value features while offering their viewers the best possible experience when and where they want it.

Superior Economics

Wowza Media Server 3 delivers unbeatable economics when compared to other media server solutions on the market. The server software is offered in several cost-effective editions to fit the business models and budgets of a diverse variety of users.

At just $55/month per instance and even cheaper in volume, the **Wowza Media Server 3 Monthly Edition** is a risk-free subscription that requires no upfront investment or long term commitment. The Wowza Media Server 3 Monthly Edition includes all future upgrades so you are always assured to have access to the latest software. It also delivers operational convenience like no other – this license can be used on your own or hosted hardware, Amazon® EC2 or other cloud servers with just a single license key. With this license edition it is easy to add or delete servers, or turn on or off the extra cost value added features; Wowza Transcoder AddOn, Wowza nDVR AddOn or Wowza DRM AddOn. You are only billed monthly for the servers and AddOn features you use.

The new **Wowza Media Server 3 Daily Edition** provides convenience for occasional or sporadic event use or for conducting short-term production scale testing at just $5 a day per-server (and similarly low fees for paid AddOns). Similar to the Monthly Edition, a single Daily license key can be used on your own or hosted hardware, Amazon EC2 or other cloud servers. The Daily fees are aggregated into one convenient monthly bill.

The **Wowza Media Server 3 Perpetual Edition** delivers multi-protocol, any-screen streaming performance with a total cost of ownership (TCO) that is nearly 90% lower than limited-protocol servers such as Adobe Flash Media Interactive Server (FMIS) or Microsoft Server with IIS. Each Wowza Media Server 3 Perpetual license key can be used on a single server instance. The Wowza Media Server 3 software download includes all premium AddOn capabilities that can be turned on with the purchase of separate AddOn license keys.

The Wowza Media Server 3 economics are the result of its high-performance, low licensing cost, and its innovative "Any Screen Done Right" streaming capability. Wowza Media Server 3 eliminates the need for separate client-specific encoders and servers, reduces the access bandwidth burden for adaptive bitrate streams by up to 80% when Wowza Transcoder AddOn is used, consumes less storage for time-shifted content with Wowza nDVR AddOn, and gives you more revenue opportunities for streaming DRM protected premium content. All of this provides you cost savings across your capital and operating expenses. This means you don't have to compromise your deployment flexibility and future growth as you would with the competing servers.

99% Total Satisfaction

Wowza has earned a 99.2% overall satisfaction rating from its customers. Each customer – regardless of its size – is of paramount importance to us, and it's an honor that our customers are overwhelmingly satisfied with us. Outstanding customer satisfaction has been important to us from day one and continues to be a primary focus as we grow our company.

Over the years Wowza Media Server software has earned many awards. Among the recognitions it was named the best server by Streaming Media Magazine Editors, and the #1 media server choice and the best innovation by the magazine readers. Why all this praise? Because Wowza Media Server software outperforms the competition in reliability, scalability, features, innovation and cost-effectiveness.

Visit our website to see what our customers are saying.

Wowza Media Server 3 Delivers Across a Variety of Markets

With over 100,000 licensees in more than 150 countries, Wowza Media Server 3's reliability, scalability, extensibility, innovation, and the unbeatable economics are benefiting users in many different industries and markets, including:

- Content publishers
- TV broadcasters
- Radio broadcasters
- IPTV/OTT service providers
- K-12 and higher educational institutions
- Houses of worship
- Hosting companies
- CDN and streaming service providers
- Government organizations
- OEMs

See how Wowza Media Server 3 can benefit you.

Designed for Any-Screen Delivery

Maintaining a streaming status quo is no longer an option. Content owners and producers want their content to reach users on any screen - on PC's, mobile devices and in the living rooms. Users want their content everywhere from their device without being tethered to a specific technology. This creates a number of challenges that impact both content production and delivery.
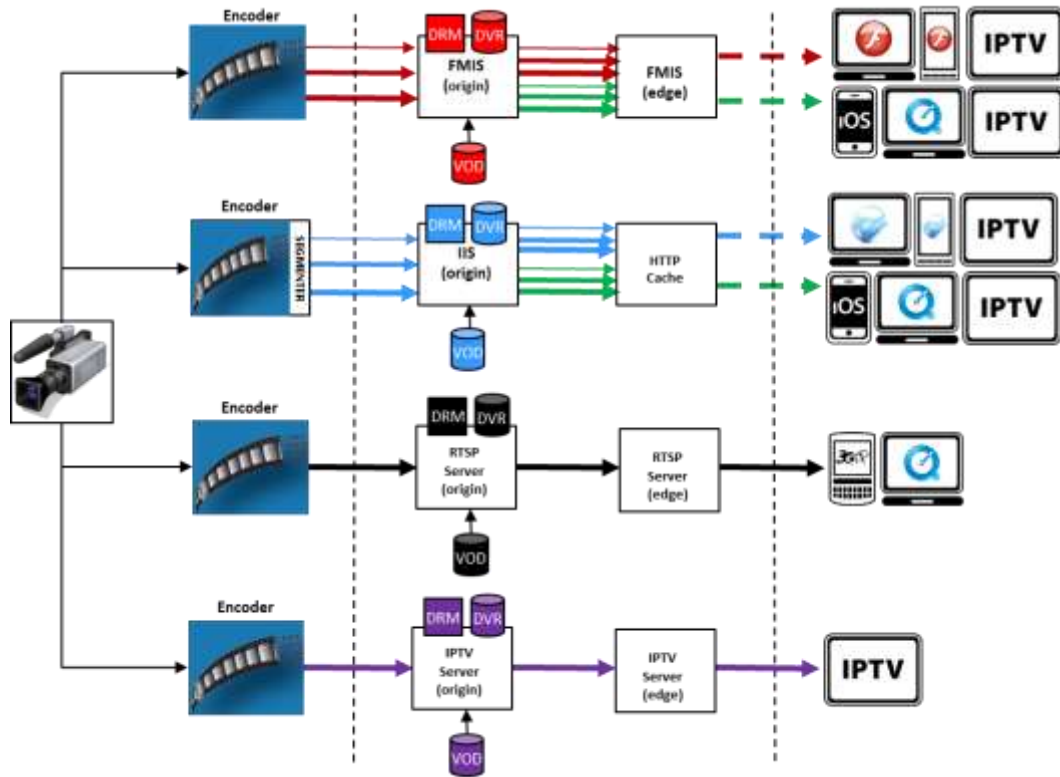
The Wowza Media Server 3 "Any Screen Done Right" solution is changing the way business is conducted. Wowza is setting a new benchmark for media servers in functionality, performance, flexibility, and overall economic and operational value. It effectively addresses the any screen media delivery challenges that content owners, producers and network operators are facing, such as rapid proliferation and the ever evolving mix of video-capable devices with a diversity of playback technologies and protocols.

Wowza Media Server 3 software is geared for high performance. It's tightly architected 64-bit Java server was built from the ground up for multi-protocol, multi-client media streaming. It scales up effectively with the growing demand for streaming content and its industrial strength architecture is specifically tuned to efficiently utilize the modern generation of highly-threaded multi-core CPU and memory resources, as well as higher storage I/O capacities. This scalability allows you to increase the efficiency of your server infrastructure and benefit from the opportunities offered in this rapidly growing market.

Streaming Media Done Wrong: Segregated Workflow Streaming

Conventionally, to deliver streams to different player client types, separate encoders and client-specific servers were used. This approach is expensive in terms of the capital investment required to acquire multiple client-specific encoders and servers plus the management costs incurred with separate delivery workflows. In many cases it is simply unfeasible to maintain separate infrastructures, limiting the delivery choices for the content owners/producers and consumers.

The example below illustrates how multi-client delivery for live streaming is approached in a conventional segregated fashion.


Figure 1. Segregated networks are capital, resources & labor intensive

Enter Wowza Media Server 3: Any Screen Delivery Done Right

Wowza introduced "Any Screen Done Right" streaming to help users slash costs and increase operational efficiencies. Being able to stream from a single H.264 encode (either live or on-demand) to all client types simultaneously eliminates the need to invest in client specific encoders and servers. Operational costs associated with required power and space are reduced drastically by eliminating unnecessary equipment. Management complexity is also minimized by allowing your team to focus their knowledge on a unified server infrastructure that delivers the best possible viewing experience to your customers.

With Wowza Media Server 3 you have a broad choice of conventional live RTSP/RTP, MPEG-TS and RTMP encoders. It eliminates the need for expensive specialized HTTP segmenting encoders. With Wowza Transcoder's ability to ingest high-bitrate streams and transform them directly on the server into adaptive bitrate (ABR) stream groups, we make the previously hard to deliver ABR streaming simple and cost-effective. With Wowza Media Server 3 you save on storage costs due to zero maintenance of on-demand content in client-specific formats. For VOD, Wowza Media Server 3 can stream simultaneously to multiple clients from a single set of MP4 (QuickTime) files.
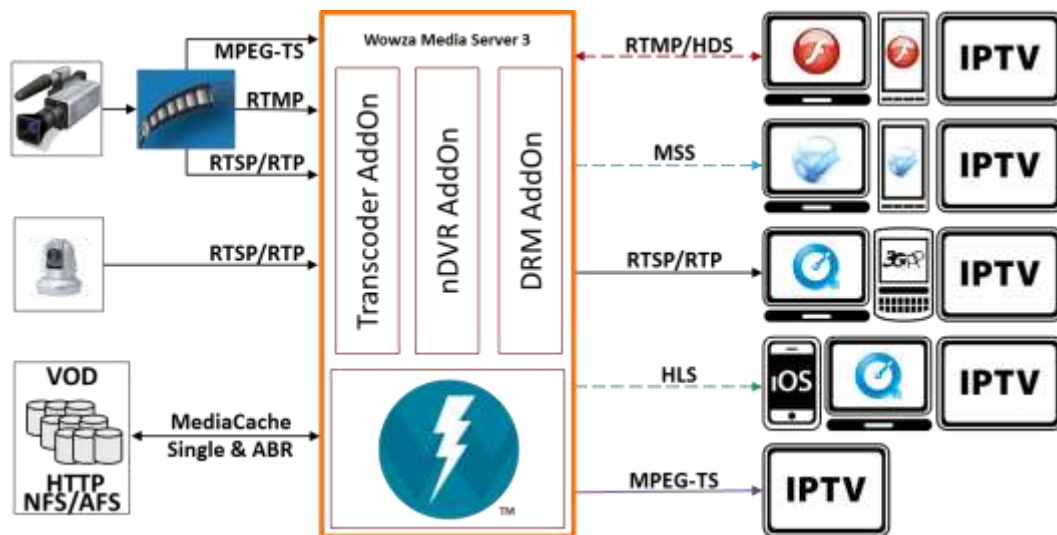
Figure 2. Wowza's any-screen approach: saves costs in encoding, servers & storage

Broad Suite of AddOn Components

Wowza Transcoder™ AddOn

This extra-cost AddOn runs on the same hardware as the Server to transform incoming live streams from encoders, IP cameras, IPTV headends, and other live sources into multiple stream sets 'done right' for H.264-everywhere adaptive bitrate delivery to Flash RTMP and HDS, Apple HLS, and Silverlight Smooth Streaming clients. Wowza Transcoder AddOn also delivers non-adaptive streams over any transport protocol supported by Wowza Media Server 3, including RTMP, HDS, HLS, RTSP/RTP, MPEG-TS, and Smooth Streaming. If available, Wowza Transcoder takes advantage of Intel$^®$ QuickSync or NVidia$^®$ CUDA™ GPU acceleration to free up CPU for more outbound streaming capacity.

Wowza nDVR™ AddOn

This extra-cost AddOn provides an innovative live stream cache that stores content in a normalized format accessible to Wowza Media Server 3 for any-screen time-shifted playout. Compared to client-specific nDVR implementations, Wowza nDVR AddOn significantly reduces cost by minimizing network storage requirements and simplifying the delivery workflow for all screens. Wowza nDVR enables Wowza licensees to increase revenues and viewer engagement by delivering live linear streams as time-shifted services with features like live pause, rewind, and resume.

Wowza DRM™ AddOn

This extra-cost AddOn provides simultaneous secure key exchange with multiple DRM platforms such as Verimatrix VCAS and Microsoft PlayReady, and encrypts individual live or on-demand content on-the-fly for HLS and Silverlight delivery to viewers on a wide range of devices including set-top boxes (STBs), connected TVs, and smartphone and tablets. Wowza DRM AddOn can help users up-sell

content for OTT premium services, and cross-sell content for multi-device distribution. Integration with other DRM platforms is planned for future releases.

Free AddOns

Wowza offers many free AddOn components that provide users with high-value tools to efficiently manage and protect content while enhancing overall viewer experience. Wowza Media Server software is designed to integrate easily in your application or operating environment. Source code and APIs are included with many free AddOn components to enable users to extend and customize offered functionality to better fit their specific needs. [Visit Wowza Forums to see the entire suite of free AddOns.](#)

Flash and Beyond

Fully Interactive Flash Streaming: Chat, Recoding and More

Wowza Media Server 3 is a fully interactive Flash server. It communicates with the Adobe Flash player using the Real-Time Messaging Protocol (RTMP) and delivers adaptive bitrate (dynamic) live and on-demand media, data and remote procedure call information to and from the Flash player using RTMP. Wowza Media Server 3 supports Shared Objects, video recording, video/audio/text chat, remote procedure calls and more for delivery of a completely interactive user experience.

Wowza Server implements five variants of the protocol for Flash streaming: RTMP, RTMPE (encrypted RTMP), RTMPT (tunneling), RTMPTE (encrypted RTMPT) and RTMPS (RTMPT over SSL). RTMP is the base protocol and is the most efficient of the five variants. RTMPT is a tunneling variant of the RTMP protocol that can be used to tunnel through firewalls that employ stateful packet inspection. RTMPE and RTMPTE are encrypted variants of the RTMP and RTMPT protocols that secure the data being transmitted between the Flash player and Wowza Media Server 3.

Wowza Media Server 3 also includes bi-directional support for Action Message Format (AMF) AMF3 and AMF0 for data serialization (AMF3 was introduced in Flash Player 9 and ActionScript 3.0).

Flash HTTP Dynamic Streaming (HDS)

Wowza Media Server 3 also supports Flash HTTP Dynamic Streaming (HDS) for delivery of live and on-demand audio/video content to Flash Player compatible devices. The server can simultaneously deliver the same content using RTM or HDS, as well as any other protocol supported by Wowza Media Server 3.

Apple HTTP Streaming (HLS) for iOS and Other HLS Compatible Devices

Wowza Media Server 3 provides adaptive bitrate live and on-demand H.264 video AAC and MP3 audio content to the iPhone, iPad, and iPod touch (version 3.0 OS or greater), QuickTime player (version 10 or greater) and Safari browser (version 4.0 or greater), as well as other HLS compatible devices such as the popular Roku® OTT media player using the Apple HTTP Live Streaming (HLS) protocol. Apple HLS is a chunk based streaming protocol that uses HTTP for delivery. All media chunking and

packaging necessary to deliver a stream using this protocol is performed on-the-fly by Wowza Media Server 3.

Wowza Media Server 3 also supports the encrypted version of the Apple HTTP Live Streaming protocol which uses a 128-bit version of the Advanced Encryption Standard (AES-128). Additionally, Wowza DRM AddOn provides key server integration with the studio-approved Verimatrix® VCAS™ DRM platform. Wowza Media Server 3 encrypts content using these keys on-the-fly for truly secure HLS delivery to the Verimatrix ViewRight® client for iOS devices, Android phones and tablets, PC, MAC, Connected TVs and set-top boxes.

Microsoft Smooth Streaming (MSS): Delivery to the Silverlight player

Wowza Media Server 3 can stream adaptive bitrate live and video on demand H.264 with AAC and MP3 audio content to the Microsoft Silverlight player using the Smooth Streaming protocol. Microsoft Silverlight is cross-browser, cross-platform technology that exists on many personal computing devices, including Windows 7 smartphones. Smooth Streaming is also a chunk based streaming protocol that uses HTTP for delivery. All media chunking and packaging necessary to deliver a stream using this protocol is performed by Wowza Server so there is no need for a specialized segmenting encoders or the IIS 7 server.

Additionally, Wowza DRM AddOn provides key server integration with the studio-approved Microsoft PlayReady DRM platform. Wowza Media Server 3 encrypts content using these keys on-the-fly for truly secure Smooth Streaming delivery to the Silverlight client used in PCs, and a variety of other devices.

Real-Time Streaming Protocols: QuickTime, 3GPP Smartphones and IPTV Set-Top Boxes

Wowza Media Server 3 can stream live H.264, AAC and MP3 audio content to players and devices that support the Real Time Streaming Protocol (RTSP), Real-time Transport Protocol (RTP) and MPEG2 Transport Stream protocol (MPEG-TS). This includes players and devices such as QuickTime Player, VideoLAN VLC player, IPTV set-top boxes and 3GPP smartphones. Wowza Media Server 3 supports RTP and MPEG-TS input and output over UDP as well as multicast. In addition, Wowza Media Server 3 supports interleaved RTSP/RTP, where the RTP portion of the stream flows over the RTSP TCP connection, which enables RTSP/RTP to be delivered in network environment that do not allow UDP transmission.

Broad Live Encoder Support

Wowza Media Server 3 can accept incoming streams from H.264 encoding devices (encoders, transcoders, IP cameras, etc.) that use RTSP, RTP, and MPEG-TS protocols. This give you great flexibility to choose an encoder that fits you operations and budget, regardless of the protocol used to deliver content to the user device. Wowza Media Server 3 will repackage (transmultiplex) the incoming video/audio payload into a protocol which is required by the destination devices. For example, if Wowza Media Server 3 is receiving H.264 over MPEG-TS, for streaming to the iPhone the server will first segment the payload into .ts chunks and then deliver them using HLS protocol to the iPhone.

When Wowza Transcoder AddOn is used, you will have a much broader range of encoding protocols that the server could ingest. Wowza Transcoder can accept channels (streams) containing video encoded in MPEG-2, MPEG-4 or H.264 formats with a variety of audio encoding formats, such as AAC, MP3, Speex, and G.711. It will transrate or transcode these channels to multiple bitrates of H.264 video and AAC audio for adaptive or non-adaptive bitrate delivery over any outbound transport protocol supported by Wowza Media Server 3.

Additionally, Wowza Media Server 3 can be used to re-stream SHOUTcast and Icecast (MP3, AAC and AAC+) audio streams, making these streams accessible to listeners on any supported player technology.

For up to date list of supported encoding formats and transport protocols visit www.wowza.com/specs.html. More detail about supported encoders is available at Wowza Media Server Forums: Live Streaming and Encoders.

Supported On-Demand File Formats

Wowza Media Server 3 supports many video on demand file formats, including FLV (Flash Video - .flv), MP4 (QuickTime container - .mp4, .f4v, .mov, .m4v, .mp4a, .3gp, and .3g2) and MP3 (.mp3). H.264/AAC content in MP4 container files can be delivered to any supported player technology.

Live Stream Recording

Wowza Media Server 3 allows you to instantly record any incoming live stream to either the Flash Video (FLV) or MP4 (QuickTime container) format. Recordable live stream source can be any compatible live video device, including webcams encoded through the Flash player, encoders, IP cameras, or streams originating from Wowza Transcoder AddOn.

Live stream recording is particularly useful for offering video messaging services, such as video email, instant video feedback on Web 2.0 web sites, or for applications, such as surveillance, training or education, that require content archiving or later replay.

Wowza nDVR AddOn provides a special recoding functionality that permits time-shifted playback of live streams on HDS, HLS and MSS compatible devices. It records live streams into a normalized cache while simultaneously allowing all users to play, pause, rewind and resume live playback. An extensive set of APIs is available for building custom applications, such as catch-up TV for creating an even more engaging viewer experience.

## Innovative Functionality

H.264 Everywhere

Only Wowza Media Server 3 lets you simultaneously stream your H.264/AAC content to a any screen. With Wowza Server 3 you don't have to use client-specific encoders and servers, or pre-process files for consumption by specific clients. The software works with a wide range of conventional RTMP, RTSP/RTP or MPEG-TS H.264 encoders for live streaming, and for on-demand content, with standard file container formats.

And with Wowza Transcoder AddOn, your live content source doesn't have to be H.264. Your MPEG-2, MPEG-4 (and H.264) content will be transcoded on-the-fly to multiple bitrates for perfect adaptive bitrate H.264 streaming.

With Wowza Media Server 3 you can truly take your H.264 content everywhere.

SHOUTcast Re-streaming

Thanks to the Wowza Media Server 3 exclusive SHOUTcast/Icecast re-streaming capability, delivers the best sounding AAC/MP3 audio to the biggest audiences on the Internet has never been easier. This capability simplifies audio delivery by eliminating the need to install SHOUTcast-specific players on every client machine and device.
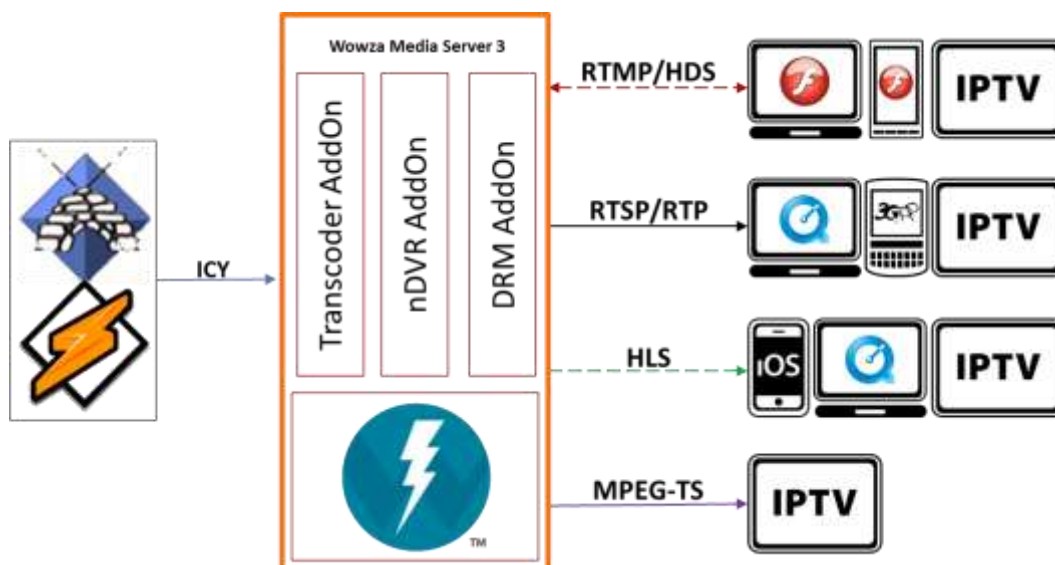
Figure 3. SHOUTcast/Icecast audio multi-protocol content re-streaming

Streaming Security

One of the inherent advantages that streaming media has over progressive download is content protection and security. Simply streaming your content however, does not always provide sufficient security against content intrusion, unauthorized diversion and stream ripping. Wowza Media Server 3 provides several levels of protection to help guard your content against these threats. For Flash, Wowza Media Server 3 offers link encryption (RTMPS, RTMPE, RTMPTE), and free AddOns for implementing other security measures, such as content URL protection and domain verification. In addition, Wowza's SecureToken methodology provides strong content protection against spoofing threats like those posed by the Replay Media Catcher and similar streaming media interceptors.

AES-128 encryption is available for even stronger protection when streaming to the iOS devices using internally or externally generated encryption keys. Wowza DRM AddOn provides integration with multiple studio-approved DRM platforms which are often required for delivery of premium content. Wowza DRM supports Verimatrix VCAS and Microsoft PlayReady DRM, and integration with other DRM platforms is planned.

Future Extensibility

Wowza Media Server 3 features a flexible custom module interface (API) which can be used to extend server functionality with custom modules or integrate the server with backend and other systems for

billing, log analysis, content and asset management, or even integrate Wowza Media Server with SIP calling systems and IP PBX's. This can be done directly through Java, Service-Oriented Architectures (SOAP), remote procedure calls (RPC) or the Java Native Interface (JNI).

Embedding Potential

Wowza Media Server 3 is implemented to be small and embeddable. Its compact size offers an opportunity to expand the applications for the Wowza Media Server technology beyond the data center by embedding it with other software and hardware products ranging from network appliances, TelePresence/video conferencing systems, security systems, carrier-grade delivery platforms, or even consumer devices.

If your company would like to integrate Wowza Media Server 3 streaming capabilities with your hardware or software products, or otherwise partner with Wowza, please fill out our Partner Request form.

Infrastructure Grade Operation

Wowza Media Server 3 is built to deliver infrastructure grade stability and operational robustness that is well suited for deployments of all sizes -- from the smallest site to the largest CDN.

Cost-Effective Scalability

Cost-effective scalability of server infrastructure for both on-demand and live content is one of the most important challenges you will face with the demand onslaught for streamed content. Wowza Media Server 3 effectively solves this challenge with multi-dimensional scalability:

- Thanks to its full 64-bit multi-threaded capabilities, Wowza Media Server efficiently manages CPU, memory and disc I/O resources to get the most streaming out of available hardware.

- Wowza Media Server 3 also provides features to scale the capacity for both on-demand and live content across multiple servers to a virtually unlimited numbers of concurrent streams.

In fact, Wowza Media Server software was first to reach a new record streaming performance benchmark of up to **10Gbps** for VOD and live media delivery using qualified off-the-shelf server hardware, such as HP ProLiant G6 or similar servers.

All of these components, paired with low operating expenses, allow you to scale effectively while enjoying a much lower TCO.

Efficient Load Balancing

Wowza Media Server 3 can intelligently manage traffic across multi-server clusters with robust demand-based load balancing to ensure that streams are distributed evenly across servers without overwhelming your infrastructure. To further optimize performance, using custom GeoIP modules you can create a CDN-style redirection of streaming requests to the closest server based on the users geographic location.

Video on Demand Scalability

With Wowza Media Server 3 you can easily scale up multi-server VOD delivery networks. Using the free Wowza MediaCache AddOn, each edge server efficiently caches content from the centralized NAS/ASO of HTTP storage to the local disk for immediate playback. MediaCache Addon eliminates the bottlenecks associated with origin server based VOD delivery and give you the control to decide how long to keep content in cache and when to purge it.

Live Streaming Scalability

Wowza Media Server 3 includes the Live Stream Repeater functionality that allows live stream mirroring to multiple edge servers for delivery of streams to virtually unlimited audiences. Any Wowza Media Server node can be configured to act as a Live Stream Repeater (origin), edge server, or both, offering flexibility to allow maximum utilization of the licenses you purchase.
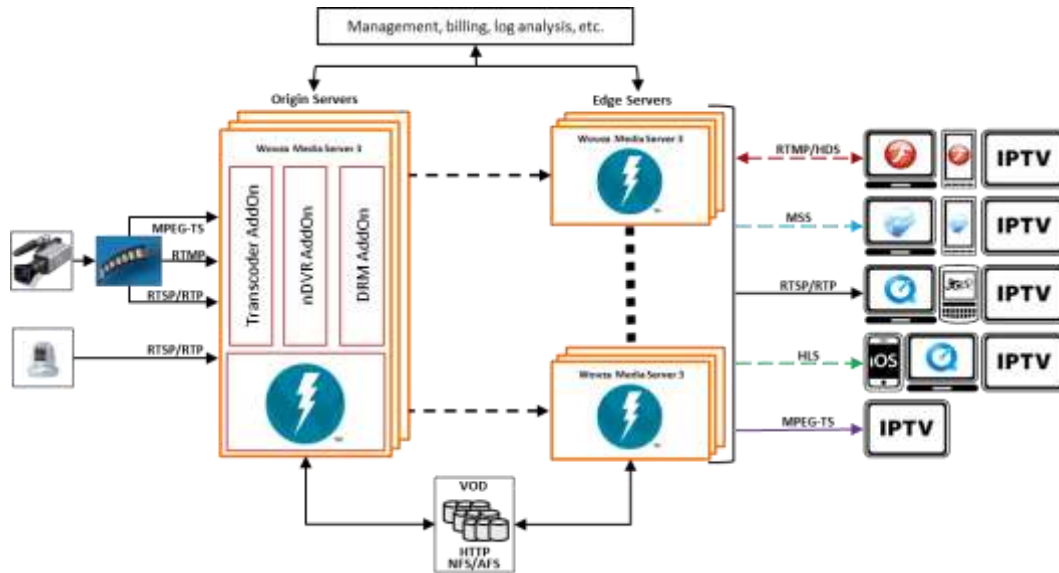
Figure 4. Unlimited any-screen streaming scalability for live and on-demand.

Support for More OS Platforms

Wowza Media Server 3 can be deployed on any platform that supports the Java Runtime Environment. For best performance we recommend 64-bit OS and 64-bit Java runtime. To simplify deployment, the following downloadable installation packages are available:

Windows®

Linux® - RPM - Red Hat Package Manager

Linux® - DEB - Debian Package Manager

Mac® OS X

Linux/Unix/Solaris® - straight install using tar command

Each installer includes the server and premium AddOn software. Wowza Transcoder AddOn will work only in 64-bit Windows or Linux installations. To download Wowza Media Server 3 installer for you specific OS visit www.wowza.com/store.

Flexible Administration and Management

Wowza Media Server 3 provides standards-based mechanisms that fit into existing management and administrative infrastructure. For event logging it uses the Java-based log4j logging system. By default the server is configured to log basic information to the console window and detail information in W3C Extended Common Log Format (ECLF) to log files.
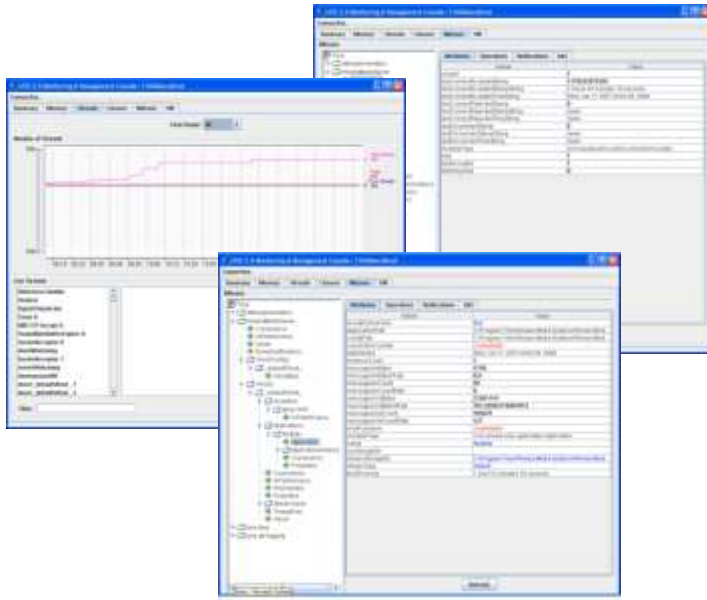
Wowza Media Server 3 uses the Java Management Extention (JMX) interface that works with the Wowza IDE JMX perspective and a variety of administation consoles and management systems, such as HP® OpenView®, IBM® Websphere®, BEA® Weblogic® and many others.

For simple administration you can use JConsole, available with most Java SDKs, or the open source MC4J browser, to monitor and control both local and remote servers. These administration consoles capture a wide range of data, giving you a detailed view of server performance, the status of applications, connections and virtual hosts, bandwidth utilization and more.

You can see the data as a snap shot or capture it over time to let you analyze and manage your operations effectively.

Per-Session Logging for Complete Content Visibility

Content providers and their customers need access to precise logging to see how their business is performing. This information is used for a variety of business intelligence needs such as billing, to ascertain the users' behavior or see how a specific piece of content is performing. Wowza Media Server 3 gives you complete visibility by providing the pre-session logging for all supported client types.

Centralized Configuration Management

To simplify the deployment and operation of multi-server environments, Wowza offers a free Centralized Configuration AddOn. This AddOn includes examples with all the functionality needed for deployment. These examples can be easily extended to fit your specific environment.

Wowza IDE - Free Integrated Development Environment

To simplify and streamline the tasks of extending, configuring and managing Wowza Media Server 3 we offer Wowza Integrated Development Environment (Wowza IDE), a free tool based on popular Eclipse application framework. Wowza IDE provides a rich environment that greatly simplifies Java development tasks. It allows you to easily create, debug and validate your server-side code prior to deployment. Additionally, Wowza IDE includes Java Management Extensions (JMX) perspective for managing and monitoring Wowza Media Server 3 software. Wowza IDE is available for the Windows and Mac OS X platforms.

Deploying Wowza Media Server 3 Software

This section provides the basic information you will need to plan a Wowza Media Server 3 deployment.

Wowza Media Server 3 Editions

Wowza Media Server 3 is available in several editions. All Wowza Media Server 3 Editions are licensed software products and require acceptance of the Wowza Media Software End User License Agreement ("EULA"), which contains additional details, terms and conditions. For the most current pricing, volume discounts and to find out which licensing option is applicable to your specific business, please visit www.wowza.com/pricing.html.

In brief, the following licensing editions are offered:

- **Wowza Media Server 3 Trial Edition**: This **free** Edition provides full, unrestricted functionality of Wowza Media Server 3 and AddOns, but is limited to 30 days from the date of issue and the Wowza Transcoder AddOn streams contain audio/video watermarks. Other restrictions apply as described in the Wowza Media Software EULA.
- **Wowza Media Server 3 Monthly Edition:** This Edition provides full, unrestricted functionality of Wowza Media Server 3 and is a no-risk, all-inclusive subscription license - it requires no up-front investment or long term commitment. The Monthly Edition permits the use of an unlimited number of servers and AddOns with a single license key. It lets you pay monthly for the server instances and AddOns you use, and you can cancel at any time. This Edition is ideal for all applications and all users, including Content Delivery Networks (CDNs), Hosting and Streaming Service Providers. This Monthly Edition is also valid for use on Amazon Elastic Computing Cloud (EC2) and other cloud computing environments.
- **Wowza Media Server 3 Daily Edition:** This Edition provides full, unrestricted functionality of Wowza Media Server 3 and is a no-risk, all-inclusive subscription license ideal for sporadic short events lasting a few days or for occasional production-scale testing. The Daily Edition requires no up-front investment or long term commitment, and you pay low fixed fees only for the days when servers are running, and the AddOns are in active use. Daily fees are aggregated into one convenient monthly bill. A single license key permits the use of an unlimited number of server instances and AddOns. This Daily Edition is also valid for use on Amazon EC2 and other cloud computing environments.
- **Wowza Media Server 3 Perpetual Edition**: The Perpetual Edition provides full, unrestricted functionality of Wowza Media Server 3, but requires separate license keys for each server. In addition, each AddOn feature is licensed separately. Wowza nDVR AddOn and Wowza DRM AddOn licenses provide unlimited connection capacity per instance. Each Wowza nDVR and Wowza DRM license must be used with a Wowza Media Server 3 Perpetual Edition license. Each Wowza Transcoder AddOn license is limited to two incoming channels (streams) and an unlimited number of outbound streams per Wowza Media Server 3 Perpetual Edition license. Multiple Wowza Transcoder AddOn licenses can be stacked on a single Wowza Media Server 3 Perpetual Edition license for additional channel capacity. Full version upgrades are charged an additional upgrade fee. *Not valid for use by Service Providers*.
- **Wowza Media Server 3 Developer Edition**: This free Edition is offered for long-term use by developers. The Developer Edition provides full, unrestricted functionality of Wowza Media

Server 3 and AddOns, but is limited to 180 days of use from the date of issue, and is further limited to ten (10) concurrent connections with live streaming restricted to one (1) inbound and nine (9) outgoing streams. The Wowza Transcoder streams contain audio/video watermarks.

Note: While the Wowza Media Server 3 Trial, Monthly, Daily, and Perpetual Editions do not limit the number of connections, connection capacity will depend on your choice of physical or virtual server and specific application.

Selecting Hardware

In video on demand applications, much of Wowza Media Server 3 software performance is driven by the underlying system's I/O performance and will be limited by how fast the hardware can deliver the streamed file bits from the disk. To get the most throughput from your hardware we suggest you use RAID 0 or RAID 10 configurations with as many disks as possible in the RAID array.

For production servers the minimum configuration we recommend is a quad-core hardware with at least 1 GB of RAM per core, a dual disk in a RAID 0 configuration and a Gigabit Ethernet interface.

Wowza Media Server 3 has no per-server limits on a number of CPU cores. This means that you can take full advantage of the highly-threaded multi-core hardware for an even higher streaming efficiency and cost-effectiveness.

For use with Wowza Transcoder AddOn, hardware equipped with Intel QuickSync technology or NVidia CUDA GPU acceleration is highly recommended.

Installation Prerequisites

Wowza Media Server 3 software requires the Java 6 (a.k.a. 1.6), Java 7 (a.k.a. 1.7) or later Runtime Environment (JRE). You can download the JRE free of charge from http://www.oracle.com/technetwork/java/javase/downloads/index.html. Use of 64-bit Java is recommended for higher performance.

Specifications

Please visit www.wowza.com/specs.html to see a summary of the Wowza Media Server 3 software specifications.

Server Tuning

To optimize Wowza Media Server 3 software performance on production hardware, we provide a set of the suggested general tuning instructions on the Wowza forums.

Wowza Media Server 3 Performance

The performance of Wowza Media Server 3 software depends on your hardware selection and the applications you intend to run. For example, on any given hardware configuration, connection capacity for video chat or live streaming applications will likely be higher than connection capacity for video-on-demand applications since disc I/O is less of a factor in the former examples.

On the properly configured and tuned modern multi-threaded servers, like HP ProLiant G6 or equivalent hardware, Wowza Media Server 3 has demonstrated the ability to deliver **up to 10Gbps** of streaming throughput for both the on-demand and live content.

Wowza offers a free Load Testing Tool to enable customers to benchmark the Wowza Media Server 3 software performance on the hardware of their choice. To request this tool email to test@wowza.com.

Summary

The volume of online video consumption is growing exponentially and it now spans a wide spectrum of devices and players -- from traditional desktops to mobile devices and Internet connected TVs. Content producers and network operators now realize that building out parallel media delivery networks to meet this media sprawl will not scale economically or operationally – they need to unify the infrastructure to harness the economies of scale.

Wowza Media Server 3 offers you an efficient solution at an unbeatable value by providing a high-performance, any-screen delivery platform allowing you take full advantage of the growing market opportunities. Get Wowza Media Server 3 now or contact one of the Wowza Streaming Partners and let your content flourish.

Resources

For most up to date information on Wowza Media Server 3 software please visit www.wowza.com.

For technical questions please visit the Wowza forums at www.wowza.com/forums or email us to support@wowza.com.

Wowza Media Server 3 documentation is available at www.wowza.com/documentation.html.