Monitor server connections, load, and application statistics in Wowza Streaming Engine

Learn how to monitor server and streaming applications in Wowza Streaming Engine™ media server software. Comprehensive metrics deliver real-time data about CPU and memory usage, connection counts, client players, applications, and network statistics.

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Viewing monitoring information

Wowza Streaming Engine Manager has the following options available to access data and display historic charts in a browser.

Home page

The **Home** page displays a **Connections** graph of connection counts that are updated every 5 seconds. This chart contains up to one hour of data and is updated as new samples are requested. The **Usage** bar chart displays system-level details about Wowza Streaming Engine and are refreshed along with the connection count graph.

Server monitoring

On the **Server Monitoring** page, the **Current Usage** bar chart displays current server metrics, refreshed every 5 seconds, with charts for the stored data. The **Connections** line chart shows
historic connection data. This information is refreshed on-demand and doesn't automatically update.

All times are displayed in the user's local time. Wowza Streaming Engine translates to Coordinated Universal Time (UTC) to get the appropriate data.

You can specify that data from a specific date/time range be displayed by selecting a predefined date and time range in a list.

Unless otherwise specified, these selections start from the current time and go backward for the appropriate range. For example, last hour shows data from 60 minutes ago to the current time. If the current time is 10:50, the data range is from 9:50 to 10:50.

Below the date/time range selection are options to show the minimum or maximum values, average values, or actual values of the data.

When you select an hour range and the selected hour occurs no more than 12 hours before the current time, 5-second samples are returned and can be viewed as well. If this criteria is satisfied, you can click the actual option to display the 5-second sample data on top of the currently selected option.

Each chart allows click-and-drag zooming to highlight areas. This won't increase the chart data resolution beyond what's stored. To highlight a section, place the mouse cursor inside the chart at the desired start point, then click, hold, and drag. When you release the mouse, the highlighted section fills the chart area. A Reset button can reset the display to the original range.

The following charts are available on the Server Monitoring page:

- Current Usage
- Connections
- Network
- Wowza CPU
- Memory
Application and virtual host monitoring

The charts on the Monitoring pages for applications and virtual hosts (VHosts) work the same as the Server monitoring page and use the same metrics.

To display incoming stream details when streaming to a live application, click the live application name in the contents panel, click Incoming Streams, and then click the stream name (for example, myStream). This loads a details page that includes current connection, uptime, and network throughput information but no historical data charts.

Metrics that are collected

Wowza Streaming Engine keeps detailed metrics from various server components. Each application and virtual host (VHost) collects and stores the following metrics:

- Connection count by protocol
- Bandwidth in
- Bandwidth out

Wowza Streaming Engine itself collects and stores the following metrics:

- Total connection count
- Bandwidth in
- Bandwidth out
- CPU usage of the Wowza Streaming Engine server
- Heap usage of the Wowza Streaming Engine server
- Total memory used
- Total disk used across all drives

Wowza Streaming Engine records these metrics every five seconds on the per-application, VHost, and server levels. Collected metrics are averaged every minute and stored. Up to 12 hours of 5-second samples are kept at any one time. Per-minute averages are cycled—kept for 72 hours and then deleted—on a rolling basis. Hourly averages are computed from the minute data and 31 days of hourly averages are kept. Daily averages are computed from the hourly data and up to 365 days of daily averages are kept. All times are stored in Coordinated
Universal Time (UTC) in the database. The raw, fixed-size database files are stored in the Wowza Streaming Engine stats folder, located in [install-dir].

Enabling monitoring and statistics

The graphical displays of server and application data are enabled in the Wowza Streaming Engine Manager by default. If they’re not showing, you can set an option to display them:

1. Click the Server tab at the top of the manager page, and then click Server Setup in the contents panel.
2. On the Server Setup page, click Edit.
3. Select Enable monitoring and statistics for this server, and then click Save.

Getting data from HTTP providers

You can view statistical data supplied by the following built-in HTTP providers (found in /conf/VHost.xml in a web browser):

**HTTPServerInfoXML** - (com.wowza.wms.http.HTTPServerInfoXML)
Returns detailed server and connection information in XML format and is available through administrative port 8086 (http://[wowza-ip-address]:8086/serverinfo).

**HTTPConnectionCountsXML** - (com.wowza.wms.http.HTTPConnectionCountsXML)
Returns detailed connection count information in XML format and is available through administrative port 8086 (http://[wowza-ip-address]:8086/connectioncounts).

**HTTPConnectionInfo** - (com.wowza.wms.http.HTTPConnectionInfo)
Returns detailed connection information in XML format and is available through administrative port 8086 (http://[wowza-ip-address]:8086/connectioninfo).

**Note:** In some browsers, you may need to view the page source to see all of the information.
Source code for customized output

To build and deploy custom HTTP providers, use the Wowza IDE.

If you want customized output, use the source code for the serverinfo HTTP provider. See How to get detailed server info with an HTTP provider.

To get the source code for the connectioncounts HTTP provider, see How to get connection counts for server, applications, application instances and streams with an HTTP provider.

To see how these HTTP providers are configured for Wowza Streaming Engine, look at the “Admin HostPort” settings in [install-dir]/conf/VHost.xml.

Accessing data from another program

You can use basic or no authentication to access the statistical data from another program. Open [install-dir]/conf/VHost.xml in a text editor and change the AuthenticationMethod in the / container. For example, for the connectioncounts HTTP provider, set the AuthenticationMethod to admin-basic as in the following code sample, or to none:

```
AuthenticationMethod: admin-basic
```

If you specify admin-basic authentication, you can add user name and password to the URL:

```
http://username:pwd@[wowza-ip-address]:8086/connectioncounts
```