

# **Illustra Mobile Video Manager server – Performance Metrics**

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## Requirements

- Working knowledge of SNMP or JMX interface and their associated tools
- System admin knowledge to configure Illustra Mobile Video Manager server start-up parameters
- System admin knowledge to configure and secure server ports

## Important Notes

Performance metrics are **disabled by default** – Illustra Mobile Video Manager server needs to be restarted to initiate access (see more details below).

Accessing the performance metrics requires additional ports to be opened on the server. To ensure maximum system security, these ports must be protected.

## Introduction

Illustra Mobile Video Manager server is critical to the smooth operation of the overall system, therefore it is essential that system performance be monitored and, where necessary, remedial action taken to ensure system reliability and integrity.

To permit an insight into Illustra Mobile Video Manager server performance, certain key data points are available (see the tables below). The data taken from these can be used to determine system health.

Note: Most of the data returned is dynamic and represents the condition of the server at that point in time. There is no trend analysis performed within Illustra Mobile Video Manager server. Any such analysis may be provided by a third-party tool.

## Enabling Performance Metrics

Access to the Illustra Mobile Video Manager server performance information is disabled by default. The following action is required by IT systems administrators to permit this information to be accessed.

- The Illustra Mobile Video Manager server must be restarted with the access details included as part of the service start-up command (on windows, edit the file **C:\Program Files (x86)\Illustra Mobile Video Manager server \conflwrapper.conf**)
- One or more ports must be opened on the server
- Starting Illustra Mobile Video Manager server with specific parameters (specifying the SNMP and/or JMX interface)

Once enabled, performance data is accessed by one of two methods:

- Simple Network Management Protocol (SNMP)
- Java Management Extensions (JMX)

Each requires configuration information to be included as part of the Illustra Mobile Video Manager server start-up process.

The process of SNMP/JMX set-up is beyond the scope of this document.

## SNMP

Accessing information using this method requires SNMP to be enabled at a system level, which in most circumstances is an IT system admin function. In addition, the following parameters must be added to the Illustra Mobile Video Manager server start-up command.

Parameter	Description
-Dcom.evs.server.snmp.enabled=true	Enable output from Illustra Mobile Video Manager server
-Dcom.evs.server.snmp.port=1884	Define the port to be used for output (1884 in this case)

Interpretation of SNMP data can be simplified by using a Management Information Base (MIB). To obtain the Johnson Controls MIB, please contact support: <https://illustracameras.com/technical-support/>

## JMX

Accessing information using this method requires JMX to be enabled at a system level, which in most circumstances is an IT system admin function. In addition, the following parameters must be added to the Illustra Mobile Video Manager server start-up command

Parameter	Description
-Dcom.sun.management.jmxremote=true	Enable output from Illustra Mobile Video Manager server
-Dcom.sun.management.jmxremote.port=7091	Define the port to be used for output (7091 in this case)

JMX data is presented using MBeans. To view the information, the relevant MBean tree namespaces are com.evs.server (for Illustra Mobile Video Manager server metrics) and com.evs.server.streams (for camera specifics).

Details of information available in each namespace can be found on the next page.

## Performance Metrics – Illustra Mobile Video Manager server

System metrics report on the overall health of the Illustra Mobile Video Manager server, some of which may be reset on demand (either via SNMP or JMX). Items that can be reset include an \* below.

Metric	Description
ViewerCount	The current number of viewers attached to the server
*ViewCountPeak	The peak number of viewers attached to the server
*ViewCountPeakTime	The time when the peak number of attached viewers occurred
EncoderCount	The current number of cameras attached to the server
*EncoderCountPeak	The peak number of cameras attached to the server
*EncoderCountPeakTime	The time when the peak number of attached viewers occurred
IncomingStreams	The total number of incoming streams
OutgoingStreams	The total number of outgoing streams
WatchedOutgoingStreams	The total number of watched outgoing streams
MuxLinkDataReceived	The total number of bytes received by the server via the Mux protocol
MuxLinkDataSent	The total number of bytes sent by the server via the Mux protocol
TcpChannelDataReceived	The total number of bytes received by the server via the TCP protocol
TcpChannelDataSent	The total number of bytes sent by the server via the TCP protocol
UdpConnectionManagerDataReceived	The total number of bytes received by the server via the UDP protocol
UdpConnectionManagerDataSent	The total number of bytes sent by the server via the UDP protocol
DataTransmitAndReceive	The total number of bytes transmitted and received by the server
DataTransmitAndReceiveRateMbps	The rate at which data is transmitted and received by the server in mbps. (Please divide by 1000)
*PeakDataTransmitAndReceiveRateMbps	The peak rate (Please divide by 1000)
*PeakDataTransmitAndReceiveRateMbpsTime	The time when the peak occurred
ByteBufferPoolSize	The current number of ByteBuffers allocated by the com.evs.protocol.BufferPool class
ByteBuffersAllocated	The total number of ByteBuffers that have been allocated by the com.evs.protocol.BufferPool class

Illustra Mobile Video Manager server – Performance Metrics

Metric	Description
LoadAverage	The system load average for the last minute
MemActualFree	The amount of physical memory currently available in bytes, taking into account that committed to paging/swap files
MemActualUsed	The amount of physical memory currently used in bytes, taking into account that committed to paging/swap files
MemFree	The amount of physical memory currently available, in bytes
MemFreePercent	The amount of physical memory currently available, as a percentage
MemTotal	The amount of actual physical memory, in bytes
MemUsed	The amount of physical memory currently used, in bytes
MemUsedPercent	The amount of physical memory currently used, as a percentage
ProcCpuPercent	The CPU time as a percentage of CPU capacity of the Illustra Mobile Video Manager server
ProcCpuStartTime	the start time of the Illustra Mobile Video Manager server process (based on milliseconds since January 1, 1970)
ProcCpuSysTime	The time in milliseconds that the Illustra Mobile Video Manager server process has executed in kernel/system mode
ProcCpuTotalTime	The sum of ProcCpuSysTime and ProcCpuUserTime
ProcCpuUserTime	The time in milliseconds that the Illustra Mobile Video Manager server process has executed in user mode
ProcMemResident	The amount of memory in bytes allocated to the Illustra Mobile Video Manager server process and is in RAM
ProcMemSize	The amount of memory in bytes that the Illustra Mobile Video Manager server process can access, including memory that is swapped out and memory that is from shared libraries
SampleTime	The time in milliseconds when the data in this table was sampled (based on milliseconds since January 1, 1970)
SysCpuPercent	The "recent" CPU usage for the system. The value is a double between 0.0 and 1.0

## Performance Metrics – Camera Specific

This table defines those details that are reported for each camera that is connected to the Illustra Mobile Video Manager server

Metric	Description
connectionTable	The connection table contains the list of current connections (to and from) the Illustra Mobile Video Manager server
connectionEntry	A conceptual row representing a connection to or from the Illustra Mobile Video Manager server
connectionIndex	An index computed by the agent, and which uniquely identifies a Illustra Mobile Video Manager server connection
connectionName	The name of the connection
connectionBytesRead	The number of bytes read by the connection since creation
connectionBytesReadDataRate	The current rate in kbps of bytes read by the connection. Please divide by 1000
connectionBytesWritten	The number of bytes written by the connection since creation
connectionBytesWrittenDataRate	The current rate in kbps of bytes written by the connection. Please divide by 1000
connectionClient	The client of the stream
connectionClientID	The client id of the stream
connectionProtocol	The communications protocol in use on the stream
connectionSampleTime	The time in milliseconds when the connection data was sampled
connectionStartTime	The time in milliseconds when the stream was created
connectionState	The current state of the stream
connectionStream	The name of the stream source
connectionStreamID	The stream id for the connection
connectionType	The type of the connection



## Security

It is highly recommended that access to SNMP and JMX interfaces is protected.

## Use Cases

With performance metrics enabled, it is possible to determine how the Illustra Mobile Video Manager server is performing:

- How many cameras are connected?
- How many viewers are connected?
- How much data has been used?

## FAQ

- **How can the values be reset?**  
Using either JMX or SNMP interfaces.
- **Is it possible to see historic data?**  
Not within Illustra Mobile Video Manager server, however there are several third-party applications that are available for this purpose.
- **Can trends be seen?**  
Not within Illustra Mobile Video Manager server, however there are several third-party applications that are available for this purpose.
- **Are performance metrics enabled by default?** No.
- **How can performance metrics be enabled?**  
See **Enabling Performance Metrics** above.
- **Is there a performance cost when performance metrics are enabled?** Overall system performance is not affected as the cost is negligible.
- **Can the data be viewed in Illustra Mobile Video Manager server web interface?** Not at this time.
- **Can the data be reset in Illustra Mobile Video Manager server web interface?** Not at this time.

## Contact Information

If you have any questions regarding these release notes, please contact Tyco Security Products Technical Services at:

**Toll Free:** 800-507-6268, Option 2

**International:** 561-912-6259, Option 2

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