

NLSS Gateway Version 2.2 Performance and Supported Devices

The NLSS Gateways interoperate with many IP cameras and storage devices from leading vendors. This technical bulletin details performance and support for specific devices and formats in version 2.2.20316. Additional information can be found at www.nlss.com

Performance

The NLSS Gateways support simultaneous recording of video, viewing of video, and video analytics. Each of these operations has an impact on system performance. As the table below shows, there is a trade off between the number of streams recorded vs. number of video analytic operations that can be run. Video Analytics require the most system resources and are the limiting factor for performance of the system. The optimal video codec for performance is H.264.

Different Video Analytics require different levels of processing power. A baseline level of one (1) is used to measure the impact of a video analytic behavior on the system. The table below shows the level of each video analytic behavior on the system.

Metric Level	Video Analytic
.5	Transcode – MPEG4 stream viewed on browser
1	Activity, Direction, Face Capture, Line Crossing, People Count, People Count Direction, Perimeter
2	Dwell, Object Moved, Object Taken
3	Forensic Video Analytics (All behaviors)

The actual performance will vary based on video codec, bit rate, resolution, IP camera, and network, but the following has been tested successfully. The Streams are defined as H.264, 720p, 30 fps, with bitrate of 2 Mb/s.

Platform	Streams	Video Analytics
GW-500	8	4
GW-500	16	2
GW-3000	16	6
GW-3000	32	4

IP Cameras

Many IP cameras and encoders are compatible with the NLSS Gateways. The following IP cameras and encoders have been tested. Cameras from the same vendor that have the same video specification but different form factor or additional features should also be

supported. Examples would be a dome camera that has been tested, and there is also a bullet camera with the same specifications, or a camera with the same video specifications that also has IR illumination.

Vendor	Model/Series	Video Codec	Max Resolution
AXIS	VAPIX 2.0 and above	H.264, MJPEG, MPEG4	1920x1080
Sony	SNC-XH120, 140, 180 series, X=C, D	H.264, MJPEG	1280x720
Sony	SNC-XM110, 120, 160 series, X=C, D	MPEG4	640x480
Sony	SNC-DFXXN series, XX=50, 80, 85	H.264, MJPEG, MPEG4	704x480
Sony	SNC-RS series	H.264, MJPEG, MPEG4	720x480
Sony	SNC-RH series	H.264, MJPEG, MPEG4	1280x720
Sony	SNC-H180 series	H.264, MJPEG, MPEG4	1280x720
Sony	SNC-CH110, 210 series	H.264, MJPEG, MPEG4	1920x1080
Sony	SNC-DH110, 210 series	H.264, MJPEG, MPEG4	1920x1080
Sony	SNC-CH220 series, 240 series, 260 series, 280 series	H.264, MJPEG, MPEG4	1920x1080
Sony	SNC-DH220 series, 240 series, 260 series, 280 series	H.264, MJPEG, MPEG4	1920x1080
Pelco	IXE20 series	H.264, MJPEG	1920x1080
Pelco	IX30 series	H.264, MJPEG	1920x1080
Panasonic	WV-SF33X series	H.264, MJPEG, MPEG4	1280x720
Panasonic	WV-SC385	H.264, MJPEG, MPEG4	1280x720
Panasonic	NP244, NF284, NW484	MPEG4	640x480
Panasonic	NS series	MPEG4	640x480
Panasonic	NX502 series	MPEG4	1280x960
Panasonic	NW502S	H.264	1280x960
Panasonic	WV-SW352	H.264, MJPEG	800x600
Arecont Vision	AV21X5 series, X=0,5	H.264, MJPEG	1600x1200
Arecont Vision	AV28X5 series, X=0,1,2	H.264, MJPEG	1920x1080
Arecont Vision	AV31X5 series, X=0,5	H.264, MJPEG	1600x1200
Arecont Vision	AV51X5 series, X=0,5	H.264, MJPEG	1920x1080
Arecont Vision	AV8185 (4 separate streams)	H.264	1600x1200
Arecont Vision	AV8365 (4 separate streams)	H.264	1600x1200

IQinVision	4 series, 5 series	MJPEG	1600x1200
IQinVision	7 series	H.264, MJPEG	1920x1080
IQinVision	Alliance Series (Domes, MiniDomes)	H.264, MJPEG	1920x1080
IQinVision	Sentinel Series	H.264, MJPEG	1920x1080
Bosch	NBC, NDC Series	H.264, MJPEG	640x480
Bosch	Dinion, Flexidome	H.264, MJPEG	704x480
HikVision	DS-2CD7153-E	H.264, MPEG4, MJPEG	1600x1200
HikVision	DS-2CD752MF-E	H.264, MPEG4	1600x1200
HikVision	DS-2CD754F-E	H.264, MJPEG	1920x1080
HikVision	DS-2CD863NF-E	H.264	1280x720
Vivotek	IP8632 Series	H.264, MPEG4, MJPEG	1920x1080

RTSP Streams

If an IP camera is not in the list above, or is not discovered automatically, and it supports RTSP, it can be added as a Camera. To display an RTSP stream, the user must configure the RTSP syntax and provide the user and password of the IP Camera. Example RTSP syntax of tested vendors is below.

Manufacturer	Default User	Default Password	Sample RTSP Syntax
Axis	root	Must be set	rtsp://<ip_address>:554/mpeg4/media.amp rtsp://<ip_address>:554/axis-media/media.amp
IQInvision	root	system	rtsp://10<ip_address>:554/PSIA/Streaming/channels/0
Panasonic	admin	12345	rtsp://<ip_address>:554/MediaInput/mpeg4
Pelco	admin	blank	rtsp://<ip_address>:554/stream1
Sony	admin	admin	rtsp://<ip_address>:554/media/video1
Arecont Vision	admin	blank	rtsp://<ip_address>:554/h264.sdp?res=half&x0=0&y0=0&x1=1920&y1=1200&qp=20&doublescan=0&bitrate=65535&ssn=20
Basler	admin	admin	rtsp://<ip_address>/h264
Hikvision	admin	12345	rtsp://<ip_address>

Honeywell administrator 1234 rtsp://<ip_address>/mpeg4

HTTP Streams

The NLSS Gateways can stream MJPEG encoded video via HTTP “Server Push”. This is a common mechanism for some versions of IP Cameras to stream video. To display an HTTP stream, the user must configure the HTTP syntax and provide the user and password of the IP Camera. The syntax is vendor specific. See vendor documentation for example syntax.

Audio Codecs on IP Security Cameras

The following audio codecs are supported:

G.711, G.726, Advanced Audio Codec (AAC)

External Storage

The NLSS Gateways can use external storage via USB, eSATA, NFS, and iSCSI. Many external storage drives should be compatible, but the following devices have been tested.

Vendor	Model	Connection	Storage	Mount Syntax
Iomega	Prestige Series	USB	2 TB	N/A
Iomega	StorCenter ix2 Series	NFS, iSCSI	4 TB	<ip_address>:/nfs/folder_name <ip_address>
MobileSTOR	MS2UTN	USB, eSATA	2 TB	N/A
Synology	DS410j	NFS	4TB	<ip_address>:/nfs/folder_name
Western Digital	MyBook	USB	1 TB	N/A