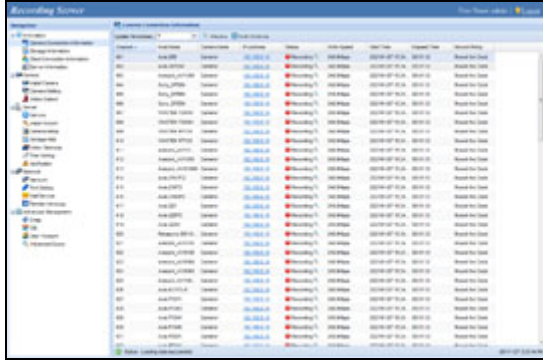# GV-Recording Server

INTRODUCTION

The GV-Recording Server is a video streaming server designed for large-scale video surveillance deployments. It can receive and record up to 128 channels from various IP video devices. Through an intuitive Web interface, each IP camera can be configured to record video continuously, upon motion detection, upon I/O trigger or according to a schedule.

In addition, it can simultaneously distribute up to 300 channels to its clients which include GV-System (DVR/NVR system), GV-GIS (geographic information system), GV-Mobile Server, GV-Control Center (central monitoring system) and Multi View (viewing software). Using the GV-Recording Server, the desired frame rates can be reached while the CPU loading and the bandwidth usage of IP video devices are significantly reduced.

-1-
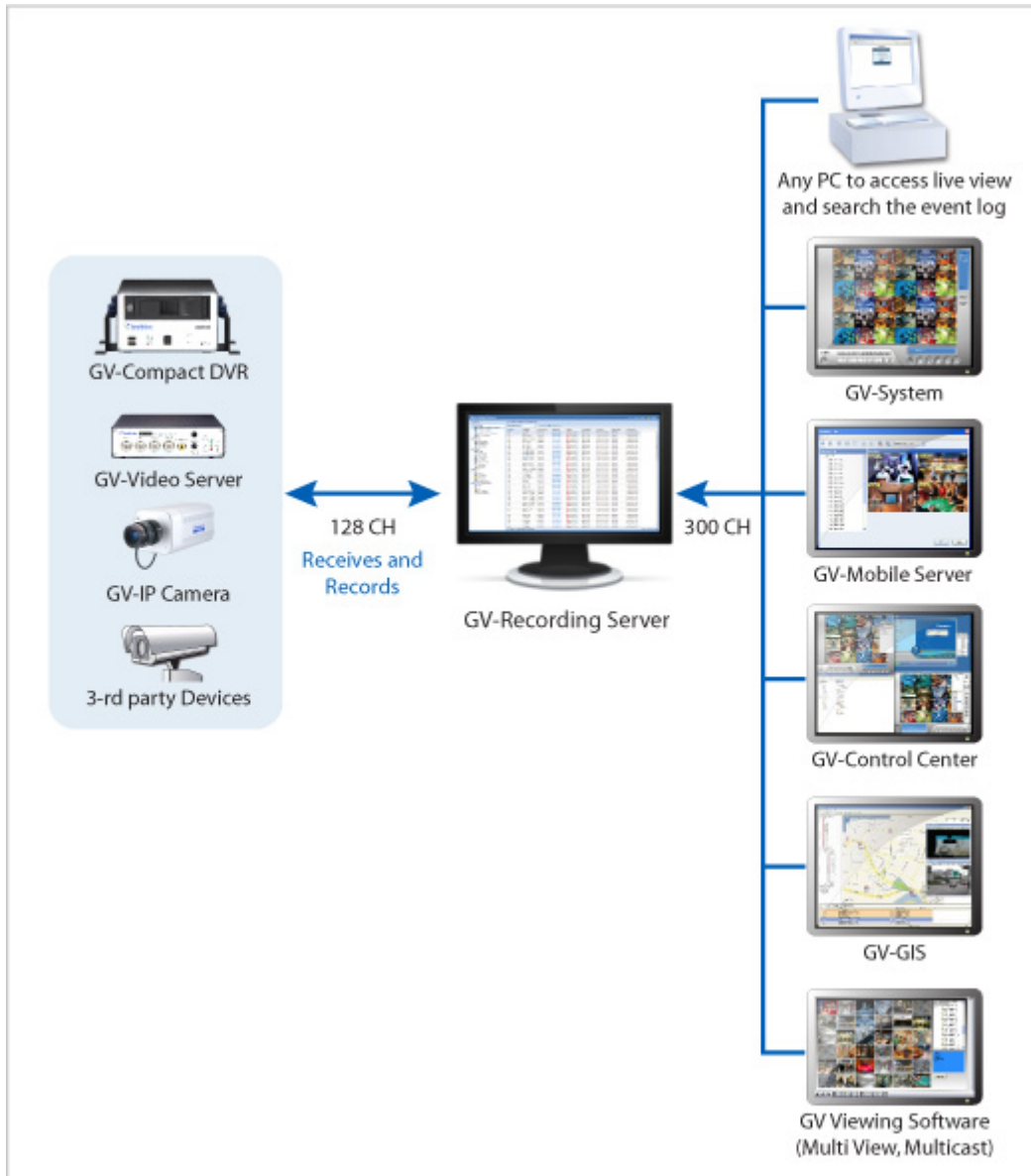
Note: The arrows in the diagram indicate the direction of the connections.

In some areas or countries, you may like to install 3G wireless Internet module (e.g. GPRS/UMTS) on the GV-Video Server or GV-Compact DVR but have the problem to obtain a public IP address from ISP. The Passive connection method of GV-Recording Server can solve the public IP issue by accepting the connection request from the GV-Video Server or GV-Compact DVR, and then distribute the video streaming to clients.

Features

- Simultaneous receiving and recording up to 128 IP channels
- Distributing up to 300 IP channels of video to clients
- Video gateway between IP devices and receiving clients (GV-System, GV-Control Center GV-GIS, GV-Mobile Server and Multi View)
- Support for third-party IP video devices (Sony, Axis, VIVOTEK, Panasonic, HikVision, Arecont Vision)
- Support for ONVIF, PSIA and RTSP protocols
- Different recording policies to set each channel to record continuously, upon motion detection, upon I/O trigger or by schedule (recording upon I/O trigger is only for GV-IP devices)
- Video playback using Remote ViewLog
- Web interface to remotely configure and monitor GV-Recording Server using Internet Explorer, Firefox, Google Chrome and Safari
- Passive and active connection methods with IP video devices (Passive connection only supported by GV-IP devices)
- Solution for Mobile DVR (GV-Video Server, GV-Compact DVR) to obtain a public IP address
- Bandwidth monitoring
- Two-way audio communication (only for GV-IP devices through active connection)
- Support for 31 languages

Minimum System Requirements

Servers meeting the minimum system requirements have the capacity to receive up to 128 channels and transmit up to 300 channels with the image settings of 1280 x 1024 resolution, 30 fps and H264 / MPEG4 codec for each channel.

OS	64bit	Windows 7, Windows Server 2008 R2
CPU		Core i5 2500, 3.3 GHz
Memory		6 GB Dual Channels (without recording) 8 GB Dual Channels (with recording) 16 GB Dual Channels (with motion recording for 3rd party IP devices)
Hard Disk		1 GB. (for installation)
Browser		● Internet Explorer 8.0.7600.16385 ● Internet Explorer 9.00.7930.16406 ● Firefox 3.6.13 ● Google Chrome 9.0.597.94 ● Safari 5.33.19.4
LAN		Gigabit Ethernet X 1
Hardware		Internal GV-USB Dongle

Note: In order to receive 128 channels and transmit up to 300 channels with the image settings of 1280 x 1024 resolution, 30 fps and JPEG codec for each channel, Gigabit Ethernet x 6 is required.

Optimal System Requirements

Servers meeting the optimal system requirements have the capacity to perform one of the following:

- Receive up to 128 channels and transmit up to 300 channels with the image settings of 1280 x 1024 resolution, 30 fps and JPEG codec for each channel. OR
- Receive up to 128 channels and transmit up to 128 channels with the image settings of 1920 x 1080 resolution, 30 fps and JPEG codec for each channel. OR
- Receive up to 128 channels and transmit up to 128 channels with the image settings of 2048 x 1536 resolution, 20 fps and JPEG codec for each channel. OR
- Receive up to 128 channels and transmit up to 300 channels with the image settings of 1280 x 1024 resolution, 30 fps and H.264/MPEG4 codec for each channel. OR
- Receive up to 128 channels and transmit up to 300 channels with the image settings of 1920 x 1080 or 2048 x 1536 resolution, 20 fps and H.264 codec for each channel.

OS	64bit	Windows 7, Windows Server 2008 R2
CPU		Core i7 2600, 3.4 GHz
Memory		6 GB Dual Channels (without recording) 8 GB Dual Channels (with recording) 16 GB Dual Channels (with motion recording for 3rd party IP devices)
Hard Disk		1 GB. (for installation)
Browser		• Internet Explorer 8.0.7600.16385 • Internet Explorer 9.00.7930.16406 • Firefox 3.6.13 • Google Chrome 9.0.597.94 • Safari 5.33.19.4
LAN		Gigabit Ethernet X 6
Hardware		Internal GV-USB Dongle

Software License

Free License	N/A
Maximum License	128 channels
Increment for Each License	1. GV-IP video devices only: 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 96, 100, 104, 108, 112, 116, 120, 124, 128 IP channels. 2. Third-party IP devices (Includes GV-IP video devices): 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 96, 100, 104, 108, 112, 116, 120, 124, 128 IP channels.
Optional Combinations	N/A
Dongle Type	Internal

Recommended Hard Disk Requirements

The recommended hard disk requirements for 24 hours of recording are listed as below.

Resolution	Frame rate	Codec	Motion		Round-the Clock	
			Max. channel per HDD	Max. channel per HDD and required HDD size	Required HDD size (recording 128 ch, 24 hr)	Recommended HDD Requirements
1.3 M	30 fps	H.264 / MPEG4	10 ch	32 ch / 2.5 TB	10 TB	3 TB 7200RPM HDD x 4 (SATA3)
		JPEG		8 ch / 2.7 TB	43.2 TB	3 TB 7200RPM HDD x 16 (SATA3)
2.0 M	30 fps	H.264	7 ch	21 ch / 2.2 TB	13.5 TB	3 TB 7200RPM HDD x 7 (SATA3)
		JPEG		5 ch / 2.5 TB	64 TB	3 TB 7200RPM HDD x 26 (SATA3)
3.0 M	20 fps	H.264	10 ch	32 ch / 3 TB	12 TB	3 TB 7200RPM HDD x 4 (SATA3)
		JPEG		4 ch / 2 TB	64 TB	3 TB 7200RPM HDD x 32 (SATA3)

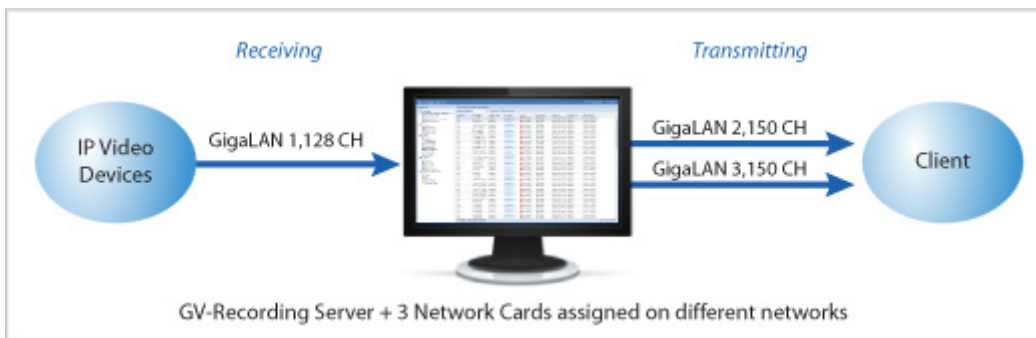* Motion detection is not supported when codec is set to JPEG.

Network Requirements

The server's transmitting capacity varies depending on the number of Gigabit connections. The numbers of Gigabit network cards required to receive 128 channels and transmit 300 channels are listed below according to the resolution of the source video.
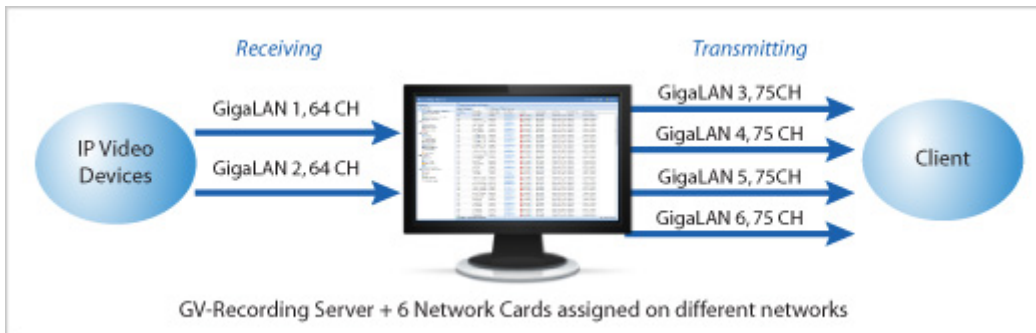
Resolution	FPS	Codec	Gigabit Network Cards Required	
			Receiving 128 ch	Transmitting 300 ch
1.3 M	30 fps	H.264	Gigabit network card x 1 (up to 128 ch per card)	Gigabit network card x 2 (up to 150 ch per card)
2.0 M	30 fps	H.264	Gigabit network card x 2 (up to 64 ch per card)	Gigabit network card x 4 (up to 75 ch per card)
3.0 M	20 fps	H.264	Gigabit network card x 1 (up to 128 ch per card)	Gigabit network card x 2 (up to 150 ch per card)

The deployment of Gigabit connections for transmitting and receiving is suggested as illustrated below. Ensure to run every Gigabit connection on a different network in order to reduce the lag on any network connection.

1 MP / 3 MP Source Video

2 MP Source Video

Specifications

Feature	Device
Number of IP Video Device Connections	128 channels
Number of Remote Client Connections	300 channels
Active Connections	Yes
Passive Connections	Yes (only for GV IP devices)
3rd Party IP Cameras Support	Yes
Live Viewing	Single live view, multi-channel live view
Recording	Yes (up to 128 channels)
Protocol	HTTP, HTTPS, TCP, UDP, SMTP, UPnP, DynDNS, RTSP, PSIA, ONVIF
E-Mail Notification	Yes (for Active connection lost, passive connection lost, USB protection key removed, recycling of recorded video, start keep days operation, motion detection, disk full, disk error, I/O trigger, disk removed, recording failure)
SMS Notification	No
2-Way Audio	Yes (only for GV-IP devices through active connection)
GPS support	Yes (only for GV-IP cameras)
Number of Accounts	Up to 1000 accounts
Mobile Phone Support	No
Bandwidth Control	No
IE Live View	Yes (up to 32 channels)
IE Event Query	Yes
IE I/O Control	No
Language	Arabic / Bulgarian / Czech / Danish / Dutch / English / Finnish / French / German / Greek / Hebrew / Hungarian / Indonesian / Italian /Japanese / Lithuanian / Norwegian / Persian / Polish / Portuguese / Romanian / Russian / Serbian / Simplified Chinese / Slovakian / Slovenian / Spanish / Swedish / Thai / Traditional Chinese / Turkish

IP Camera Support List

The following camera brands and models have been tested for compatibility with GV-Recording Server.

Arecont Vision	AXIS	GeoVision	HikVision
Panasonic	Sony	VIVOTEK	Panasonic

Note: GV-Recording Server V1.0 only supports IP devices with V8.4 or earlier versions listed under the GV S/W column in the support list. GV-Recording Server V1.1 only supports IP devices with V8.5 or earlier versions listed. GV-Recording Server V1.2 only supports IP devices with V8.5.6 or earlier versions listed.

Compatible Standard and Protocol

GV-Recording Server also allows for integration with all other IP video devices compatible with ONVIF, PSIA standards, or RTSP protocol.

ONVIF	PSIA	RTSP	