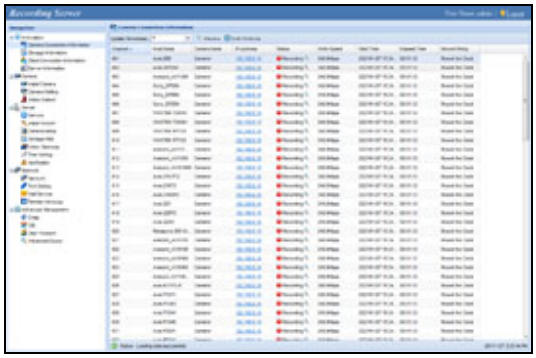
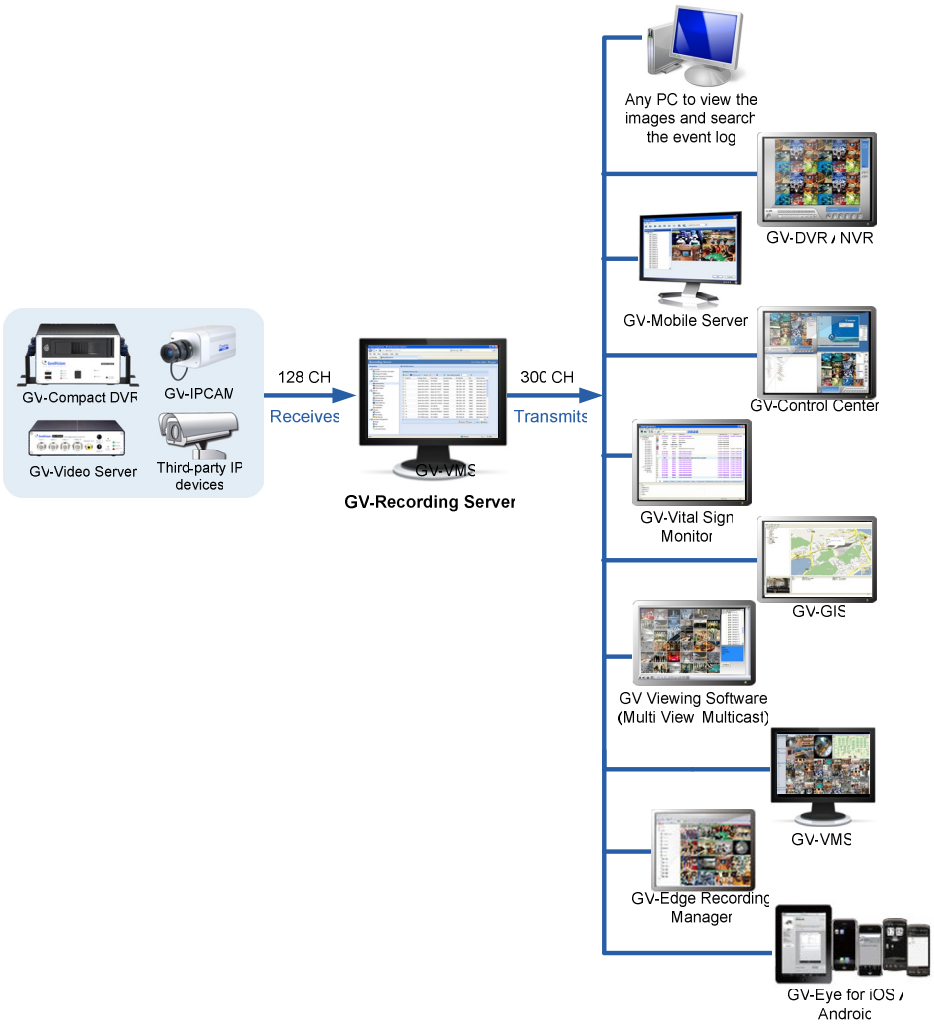
GV-Recording Server



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.

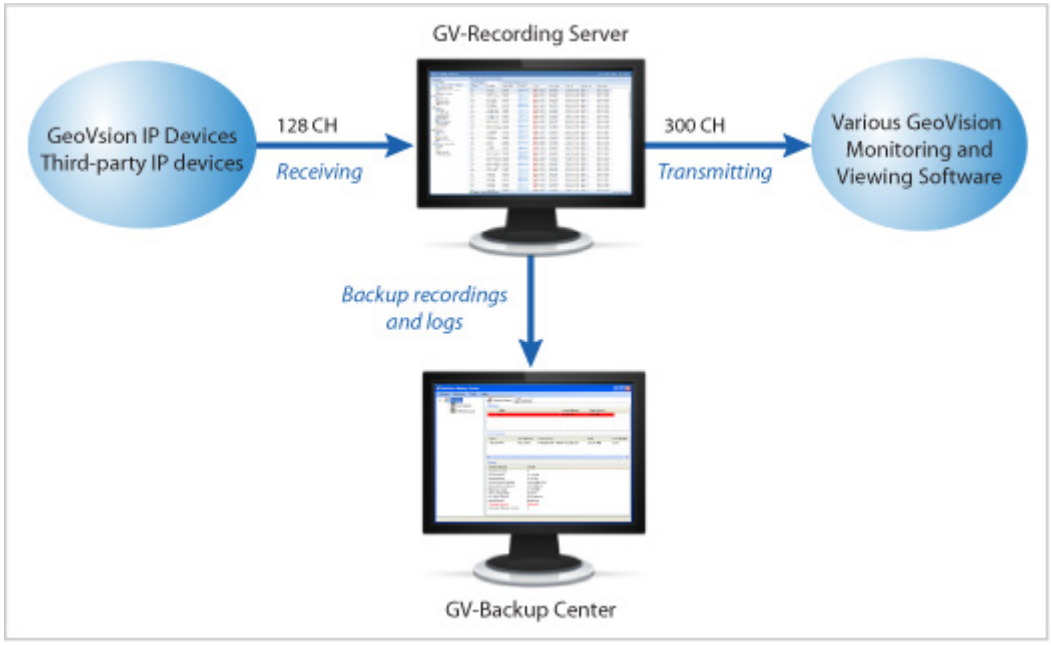
In addition, it can simultaneously distribute up to 300 channels to its clients which include GV-DVR / NVR / VMS, GV-GIS (geographic information system), GV-Mobile Server, GV-Control Center (central monitoring system), Multi View (viewing software), and GV-Edge Recording Manager. GV-Recording Server can also send text notifications to one GV-VSM (Vital Sign Monitor) when alert conditions occur. 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.



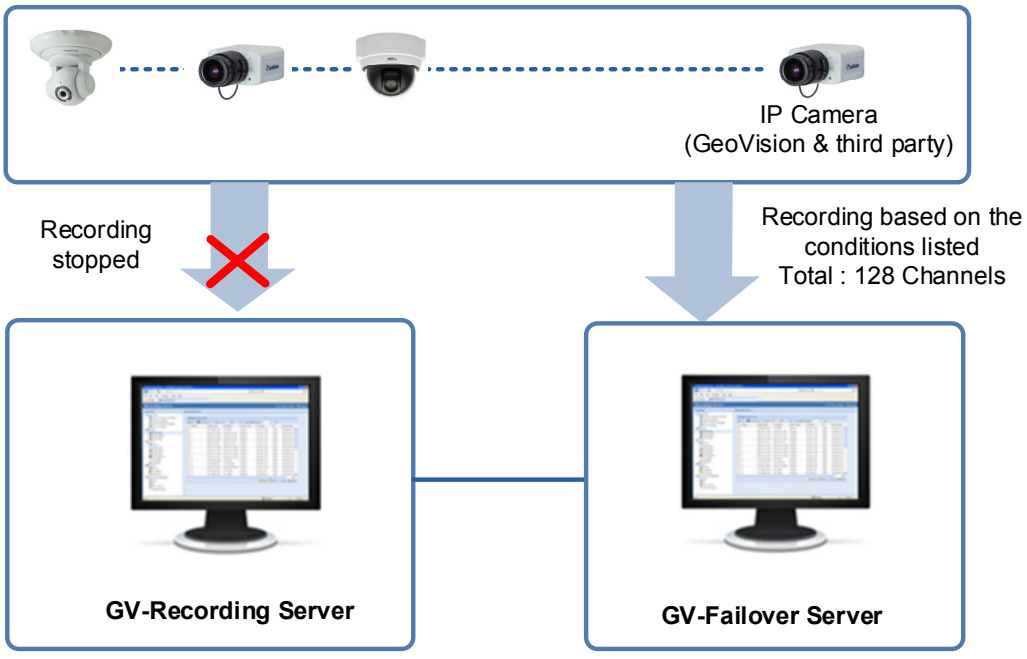
In some areas or countries, you may like to install 3G wireless Internet module (e.g. GPRS/UMTS) on the GV-Video Server or GV-Compact DVR but have the problem to obtain a public IP address from ISP. The Passive connection method of GV-Recording Server can solve the public IP issue by accepting the connection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

The GV-Recording Server provides you with a secure and affordable remote backup solution with the GV-Backup Center, GV-Failover Server and GV-Redundant Server.

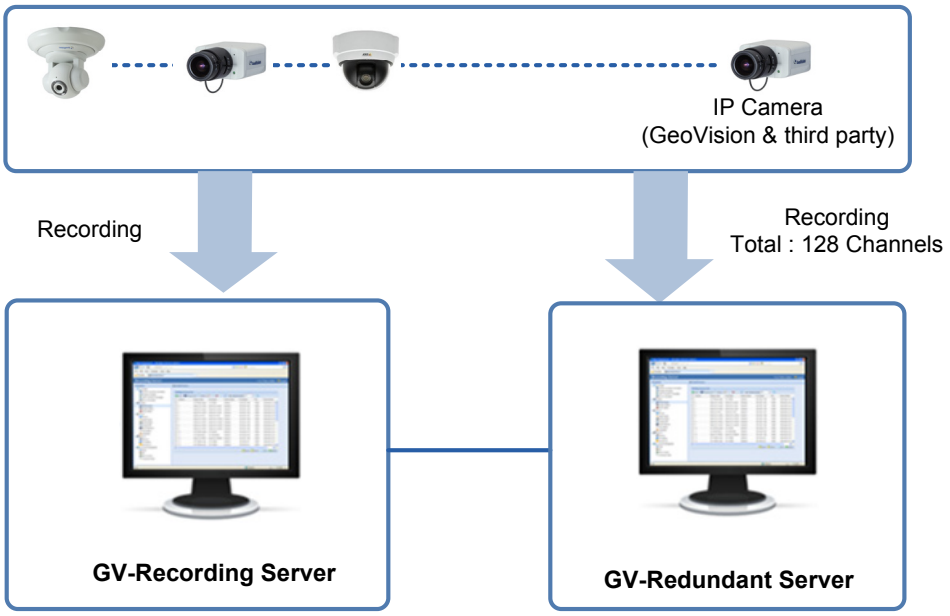
The GV-Backup Center can automatically store a copy of recordings to the offsite location. If a disaster strikes where the GV-Recording Server is located, the recording data remain safe in a different location.



The GV-Failover Server is a video backup server that records up to 128 IP streams from the host GV-Recording Server when any of the following conditions occurs: (1) when the host GV-Recording Server starts up without recording; (2) when file recycling fails; (3) when there is an error in the hard drive; (4) when the connection between GV-Recoding Server and IP cameras fails; (5) when the host GV-Recording Server fails.



Similar to the GV-Failover Server, GV-Redundant Server is also a video backup server. The main difference is that it keeps an extra copy of recordings from up to 128 IP channels connected to GV-Recording Server.



Note: Passive connection is not currently supported for GV-IP devices to GV-Failover Server / Redundant Server.

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-DVR / NVR / VMS, GV-Control Center, GV-GIS, GV-Mobile Server, Multi View, GV-Edge Recording Manager and GV-Eye)
- 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)
- Remote event monitoring through GV-Vital Sign Monitor
- Remote backup through GV-Backup Center, GV-Failover Server and/or GV-Redundant Server
- IP device monitoring, event search and remote playback through GV-Cloud Center
- Smart streaming
- Support for live streaming of GV-IP cameras on YouTube
- Support for 31 languages

Minimum System Requirements

Servers meeting the following minimum 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 H.264 codec for each channel. OR
- Receive up to 128 channels and transmit up to 300 channels with the image settings of or 1920 x 1080 resolution, 30 fps and H.264 codec for each channel. OR
- Receive up to 128 channels and transmit up to 300 channels with the image settings of 2048 x 1536 resolution, 20 fps and H.264 codec for each channel.

OS	64bit	Windows 7 / 8 / 8.1 / 10 / Server 2008 R2 / Sever 2012 R2
CPU		Core i7 2600, 3.4 GHz
Memory		16 GB Dual Channels
Hard Disk		1 GB (for installation)
Browser		● Internet Explorer 8 to 11 ● Firefox 26.0 ● Google Chrome 31.0.1650.63 ● Safari 5.1.7
LAN		Gigabit Ethernet X 1~6
Software		.Net Framework 3.5
Hardware		Internal GV-USB Dongle
Note: In order to receive 128 channels and transmit up to 300 channels with the image settings of 1920 x 1080 resolution, 30 fps and H.264 codec for each channel, Gigabit Ethernet x 6 is required. Refer to the Network Requirements section below for details.		

Software License

Free License	N/A
Maximum License	128 channels
Increment for Each License	1. GV-IP video devices only: 8, 16, 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): 8, 16, 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 MP	30 fps	H.264	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 MP	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 MP	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.

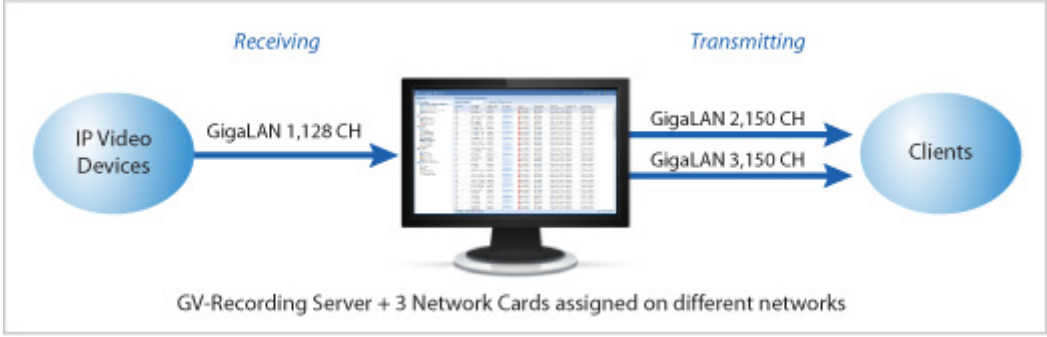
Network Requirements

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.

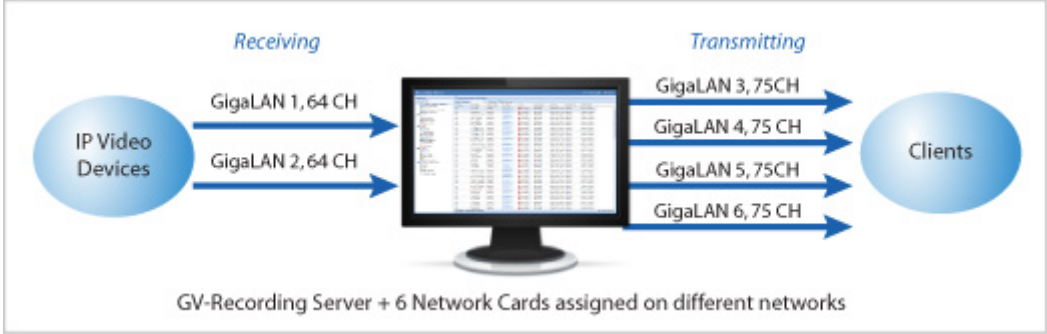
Resolution	FPS	Codec	Gigabit Network Cards Required	
			Receiving 128 ch	Transmitting 300 ch
1.3 MP	30 fps	H.264	Gigabit network card x 1 (up to 128 ch per card)	Gigabit network card x 2 (up to 150 ch per card)
2.0 MP	30 fps	H.264	Gigabit network card x 2 (up to 64 ch per card)	Gigabit network card x 4 (up to 75 ch per card)
3.0 MP	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)
Remote Backup	Yes (with GV-Backup Center, GV-Failover Server and GV-Redundant Server)
Protocol	DynDNS, HTTP, HTTPS, ONVIF, PSIA , RTSP, SMTP, TCP, UDP, UPnP
E-Mail Notification	Yes (for Active connection lost, passive connection lost, USB protection key removed and inserted, 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	Yes (With GV-Eye)
Bandwidth Control	No
IE Live View	Yes (up to 36 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

Suggested Motion Detection Frequency

The number of channels supported may vary depending on the frequency of motion detection you set. When the time interval between each motion detection is small, motion detection is more sensitive, but more CPU resource is required and the number of channels supported is decreased.

Below is the suggested time interval for motion detection and the number of channels supported at that time interval.

Resolution	Time Interval for Motion Detection	Receiving	Transmitting
1.0 MP (1280 x 1024)	500 milliseconds	128 ch	240 ch
2.0 MP (1920 x 1080)		90 ch	180 ch
3.0 MP (2048 x 1536)	250 milliseconds	55 ch	111 ch
5.0 MP (2560 x 1920)		45 ch	90 ch

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

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	