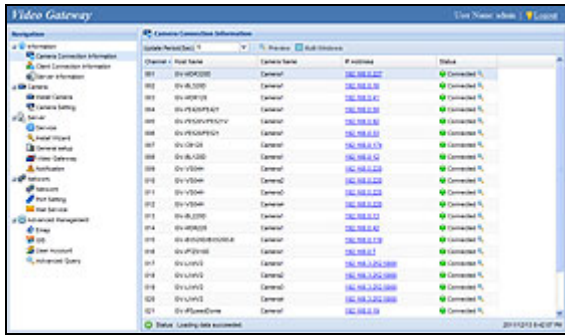# GV-Video Gateway

INTRODUCTION

The GV-Video Gateway is a video streaming server designed for large-scale video surveillance deployments. It can receive up to 128 IP cameras from various IP video devices. 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-Video Gateway, the desired frame rates can be reached while the CPU loading and the bandwidth usage of IP video devices are significantly reduced.
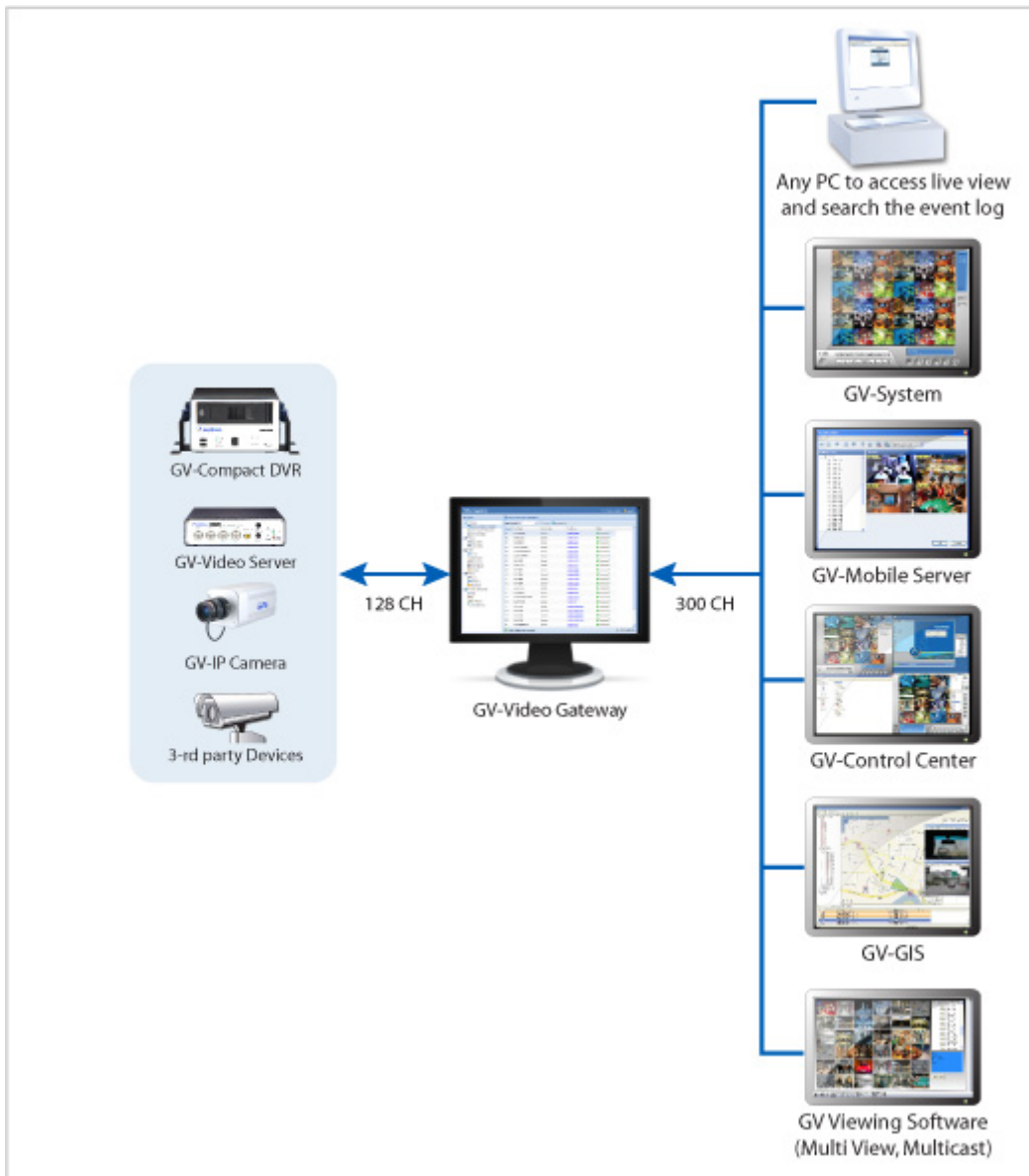
Note: The arrows in the diagram indicate the direction of the connections.

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-Video Gateway 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.

It is also possible to view single-channel live images on the GV-Video Gateway server or multiple-channel live images on any PC through the GV-Video Gateway's Web interface.

Features

- Video gateway between IP cameras and receiving clients (GV-System, GV-GIS, GV-Mobile Server, GV-Control Center and Multi View)
- Simultaneously receiving up to 128 IP channels
- Video distribution for clients up to 300 IP channels
- Passive and Active connection methods with IP video devices (Passive connection only supported by GV-IP devices)
- Compatibility with a variety of third-party IP video devices (Sony, Axis, VIVOTEK, Panasonic, HikVision, Arecont Vision)
- Single-channel or multi-channel live view through IE browser
- Bandwidth monitoring
- Two-way audio communication (only for General Hosts) (only for GV-IP devices through active connection)
- Solution for Mobile DVR (GV-Video Server, GV-Compact DVR) to obtain a public IP address
- Web interface to remotely configure and monitor GV-Video Gateway using Internet Explorer, Firefox, Google Chrome and Safari
- 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	64-bit Windows 7 / Server 2008 R2
CPU	Core i5 2500, 3.3 GHz
Memory	6 GB Dual Channels
Hard Disk	1 GB (for installation)
Software	.Net Framework 3.5
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 or External GV-USB Dongle

Note:
1. 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.
2. It is recommended to use the internal GV-USB Dongle to have the Hardware Watchdog function which restarts the PC when Windows crashes or freezes.

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 or 1920 x 1080 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 2048 x 1536 resolution, 20 fps and H.264 codec for each channel.

OS	64-bit Windows 7 / Server 2008 R2
CPU	Core i7 2600, 3.4 GHz
Memory	6 GB Dual Channels
Hard Disk	1 GB (for installation)
Software	.Net Framework 3.5
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 or External GV-USB Dongle

Note: It is recommended to use the internal GV-USB Dongle to have the Hardware Watchdog function which restarts the PC when Windows crashes or freezes.

Software License

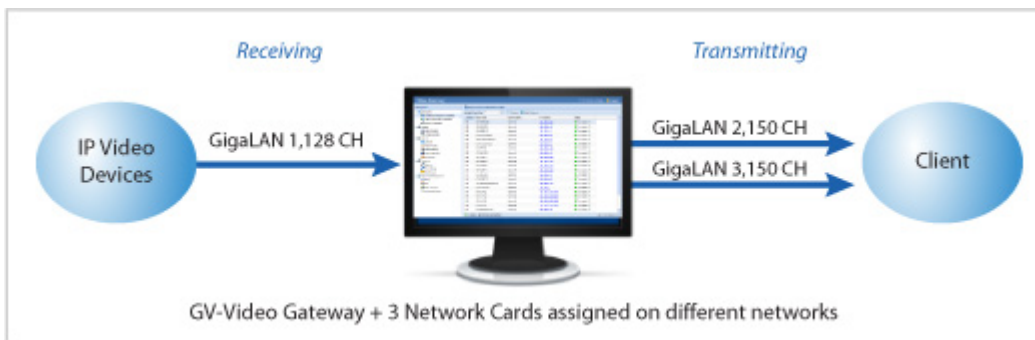|	
Free License	N/A
Maximum License	128 channels
Increment for Each License	N/A
Optional Combinations	N/A
Dongle Type	Internal or external

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.
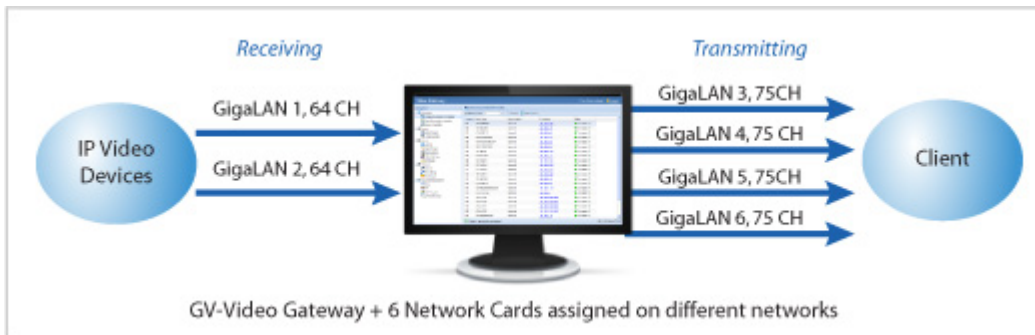
Resolution	FPS	Codec	Gigabit Network Cards Required	
			Receiving 128 ch	Transmitting 300 ch
1.3 M	30 fps	H.264	Gigabit network card x 1 (up to 128 ch per card)	Gigabit network card x 2 (up to 150 ch per card)
2.0 M	30 fps	H.264	Gigabit network card x 2 (up to 64 ch per card)	Gigabit network card x 4 (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

GV-Video Gateway + 3 Network Cards assigned on different networks

2 MP Source Video

GV-Video Gateway + 6 Network Cards assigned on different networks

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	No
E-Mail Notification	Yes (for Active connection lost, passive connection lost, USB protection key removed)
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 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

IP Camera Support List

The following camera brands and models have been tested for compatibility with GV-Video Gateway.

GeoVision	Arecont Vision	AXIS	HikVision
Panasonic	Sony	VIVOTEK	

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