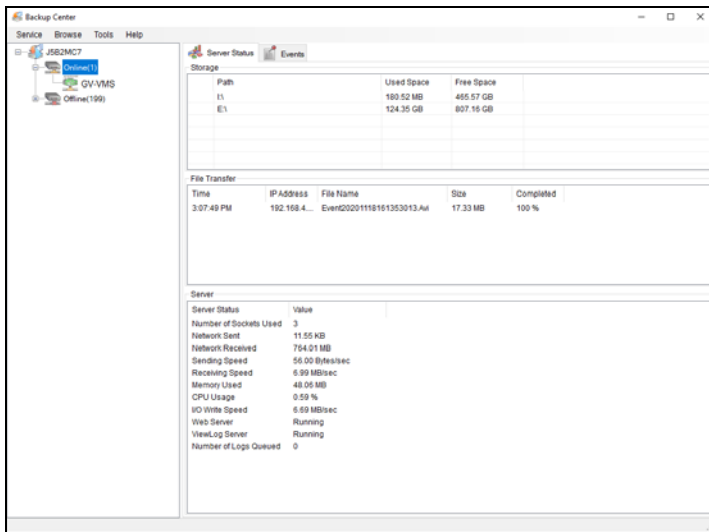
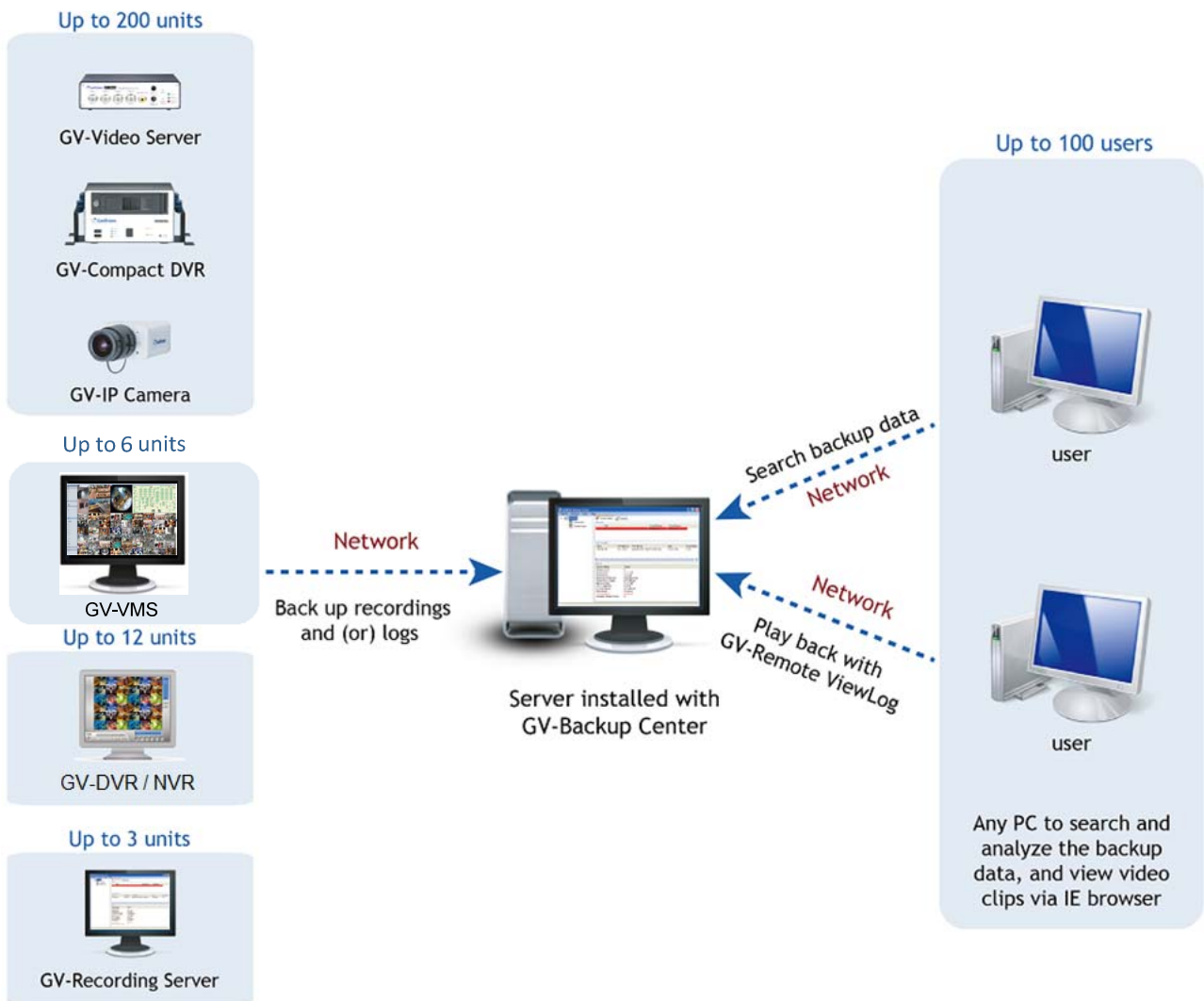


GV-Backup Center



INTRODUCTION

GV-Backup Center provides you with a secure and affordable remote backup solution for GV-DVR / NVR, GV-VMS, GV-Recording Server and GV-IP Devices. GV-Backup Center automatically stores a copy of recordings and logs to an offsite location. If data are lost at where GV-DVR / NVR, GV-VMS, GV-Recording Server or GV-IP Devices are located, the recording data remain safe in a different location.



Features

- Remote backup
- Up to 200 units of GV-IP Devices supported
- Up to 12 units of GV-DVR / NVR supported (32 ch per unit)
- Up to 6 units of GV-VMS supported (64 ch per unit)
- Up to 3 units of GV-Recording Server supported (128 ch per unit)
- Up to 10 backup rules for working and non-working days independently for GV-DVR / NVR, GV-VMS and GV-IP Devices
- E-Mail alerts for low disk space, disconnection and file transfer failure
- Online data analysis by Event Count, File Size and Time
- Failover support

Minimum System Requirements

The following is minimum system requirements for the server to run the GV-Backup Center.

| | |
|-----------|---|
| OS | 64-bit Windows 10 / Server 2016 |
| CPU | Core 2 Duo, E6600, 2.4 GHz |
| Memory | 2 X 2 GB Dual Channels |
| Hard Disk | 1 GB |
| Directx | 9.0c |
| Software | .Net Framework 3.5 |
| Browser | Internet Explorer 7.X Mozilla Firefox 4.0 or above Google Chrome 4.0 or above |
| Hardware | Internal or External GV-USB Dongle |

Software License

| | |
|----------------------------|----------------------|
| Free License | N/A |
| Maximum License | 200 hosts |
| Increment for Each License | N/A |
| Optional Combinations | N/A |
| Dongle Type | Internal or external |

Note: GV-USB dongle comes in internal and external forms. Internal dongle is recommended for the Hardware Watchdog function, which restarts the PC when Windows crashes or freezes.

Specifications

| Feature | Device |
|-------------------------|---|
| Number of hosts | 200 units of GV-IP Devices; OR 12 units of GV-DVR / NVR (32 ch per unit); OR 6 units of GV-VMS (64 ch per unit); OR 3 units of GV-Recording Server (128 ch per unit) |
| Number of user accounts | 100 in total including Supervisors and Users |
| Backup schedule | Yes for GV-DVR / NVR, GV-VMS, and GV-IP Devices |
| Backup rules | 10 rules for working and non-working days independently for GV-DVR / NVR, GV-VMS and GV-IP Devices |
| E-mail alert | Low disk space, disconnection, file transfer failure |
| Disk space recycle | Yes |
| Keep Day | Definable and unlimited in number |
| System Log query | Web-based query pages |
| Video playback | Available through web-based query pages, or Remote ViewLog Playback program |
| Language | Danish, English, French, German, Hebrew, Hungarian, Italian, Japanese, Polish, Portuguese, Russian, Serbian, Simplified Chinese, Spanish, Traditional Chinese, Turkish |

Note: All specifications are subject to change without notice.

Options

| Optional Devices | Description |
|---------------------|--|
| Internal USB Dongle | The USB dongle can provide the Hardware Watchdog function to the GV-Backup Center by restarting the computer when Windows crashes. You need to connect the dongle internally on the motherboard. |

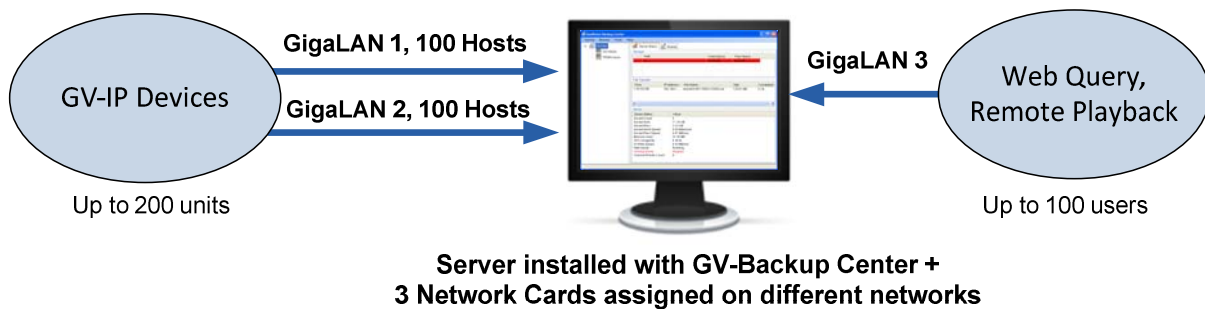
Network and Hard Disk Requirements for-GV-IP Devices

The server's backup speed and transmitting capacity vary depending on the number of Gigabit connections. The number of Gigabit network cards required to receive 200 GV-IP Devices and to support remote access of backed up data are listed below according to the resolution of the source video.

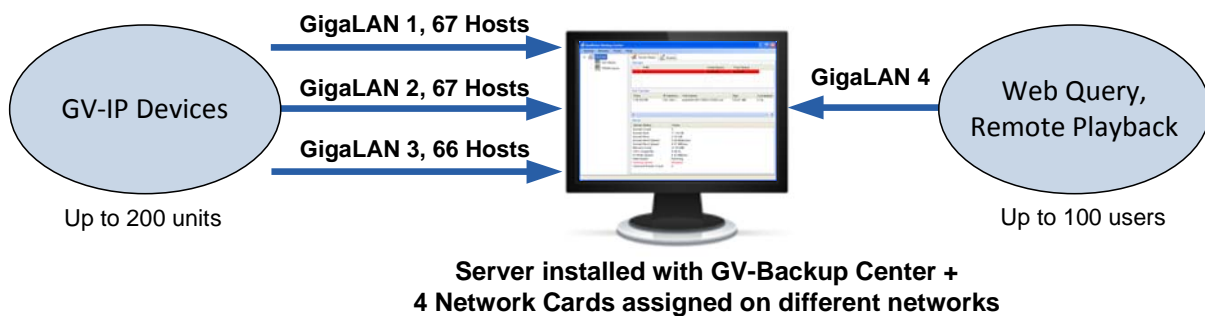
Also note the maximum number of hosts supported by a single hard disk to calculate the number of hard disks required.

| Resolution | FPS | Codec | Gigabit Network Cards Required | | Max. hosts per HDD |
|------------|--------|-------|--|---------------------------------|--------------------|
| | | | Receiving 200 GV-IP Devices | For Playback / Web Query access | |
| 1.3 MP | 30 fps | H.264 | Gigabit network card x 2 (up to 100 hosts per card) | Gigabit Network Card x 1 | 32 hosts |
| 2.0 MP | 30 fps | H.264 | Gigabit Network Card x 3 (up to 67 hosts per card) | Gigabit Network Card x 1 | 21 hosts |
| 3.0 MP | 20 fps | H.264 | Gigabit network card x 2 (up to 100 hosts per card) | Gigabit Network Card x 1 | 32 hosts |
| 4.0 MP | 15 fps | H.264 | Gigabit Network Card x 3 (up to 67 hosts per card) | Gigabit Network Card x 1 | 24 hosts |
| 5.0 MP | 10 fps | H.264 | Gigabit Network Card x 3 (up to 67 hosts per card) | Gigabit Network Card x 1 | 24 hosts |

1 MP / 3 MP Source Video



2 MP / 4 MP / 5MP Source Video



Recommended Network and Hard Disk Requirements for Connecting to GV-Recording Server

When GV-Backup Center connects with GV-Recording Server, it will back up the recordings of all the channels connected to the GV-Recording Server. Each GV-Backup Center supports up to 3 units of GV-Recording Server, with each GV-Recording Server being connected under an independent LAN.

Hard Disk Requirements for Receiving Data from GV-Recording Server

To back up all 128 channels of recordings from GV-Recording Server, it is recommended to install the following number of hard disks in the GV-Backup Center, in addition to the 1 hard disk used for installing GV-Backup Center.

| Number of GV-Recording Server | Data Size / Ch | Total Size | Recommended HDD requirements in GV-Backup Center | Time required to transfer all files |
|-------------------------------|----------------|------------|--|-------------------------------------|
| 1 unit (128 ch) | 162 MB | 20736 MB | 1 TB 7200RPM HDD x 2 (SATA3) | 03:10 min |
| 2 units (256 ch) | 162 MB | 41472 MB | 1 TB 7200RPM HDD x 3 (SATA3) | 03:37 min |
| 3 units (384 ch) | 162 MB | 62208 MB | 1 TB 7200RPM HDD x 5 (SATA3) | 04:18 min |

Note:

- The results were obtained using SATA3 hard disks with an average write speed of 100 MB/s.
- The results were obtained with video clip time set to 5 minutes. If the time required to transfer all files exceeds the clip time, file transferring to GV-Backup Center may not be able to keep up with recording.

Maximum Bit Rate Supported by GV-Recording Server (based on 128 Ch)

To back up the recordings of 128 channels, it is required to meet the maximum bit rate supported by the GV-Recording Server and the maximum number of channels assigned to a single hard disk in the GV-Recording Server.

| Res. | Codec | Clip Time | Bit Rate / Ch | Round-the-Clock and Motion Detection | |
|--------|-------|-----------|---------------|--|-------------------------------|
| | | | | Max. Ch per HDD in GV-Recording Server | Recommended HDD requirements |
| 1.3 MP | H.264 | 1 min | 5.39 Mbps | 7 Ch | 1 TB 7200RPM HDD x 19 (SATA3) |
| | | 5 min | 5.82 Mbps | 7 Ch | 1 TB 7200RPM HDD x 19 (SATA3) |
| 2.0 MP | H.264 | 1 min | 5.33 Mbps | 7 Ch | 1 TB 7200RPM HDD x 19 (SATA3) |
| | | 5 min | 5.96 Mbps | 7 Ch | 1 TB 7200RPM HDD x 19 (SATA3) |
| 3.0 MP | H.264 | 1 min | 5.4 Mbps | 7 Ch | 1 TB 7200RPM HDD x 19 (SATA3) |
| | | 5 min | 5.9 Mbps | 7 Ch | 1 TB 7200RPM HDD x 19 (SATA3) |

Maximum Channels Supported by GV-Recording Server (based on 30 fps)

To back up the recordings with full 30 fps, it is required to meet the maximum number of channels supported by the GV-Recording Server and the maximum number of channels assigned to a single hard disk in GV-Recording Server.

| Res. | Codec | Clip Time | FPS | Total Ch | Round-the-Clock and Motion Detection | |
|--------|-------|-----------|-----|----------|--|-------------------------------|
| | | | | | Max. Ch per HDD in GV-Recording Server | Recommended HDD requirements |
| 1.3 MP | H.264 | 1 min | 30 | 108 | 6 Ch | 1 TB 7200RPM HDD x 18 (SATA3) |
| | | 5 min | 30 | 113 | 6 Ch | 1 TB 7200RPM HDD x 19 (SATA3) |
| 2.0 MP | H.264 | 1 min | 30 | 56 | 3 Ch | 1 TB 7200RPM HDD x 19 (SATA3) |
| | | 5 min | 30 | 59 | 3 Ch | 1 TB 7200RPM HDD x 20 (SATA3) |
| 3.0 MP | H.264 | 1 min | 30 | 78 | 4 Ch | 1 TB 7200RPM HDD x 20 (SATA3) |
| | | 5 min | 30 | 80 | 4 Ch | 1 TB 7200RPM HDD x 20 (SATA3) |

Recommended Network and Hard Disk Requirements for Connecting to GV-VMS

When GV-Backup Center connects with GV-VMS, it will back up the recordings of all the channels connected to the GV-VMS. Each GV-Backup Center supports up to 6 units of GV-VMS, with each GV-VMS being connected under an independent LAN.

Maximum Bit Rate & Channels supported by GV-VMS (based on 64 ch)

Bit rate affects the data size. The higher the bit rate is, the bigger the data size will be; thus, the time required to transfer files to GV-Backup Center will also be longer. The chart below shows the maximum number of channels that can be assigned to one HDD in GV-VMS in order to transfer all files to GV-Backup Center within 5 minutes.

| Res. | Clip Time | FPS | Bit Rate / Ch | Data Size / Ch | Total Size | Round-the-Clock and Motion Detection | | Time required to transfer all files |
|---------|-----------|-----|---------------|----------------|------------|--------------------------------------|------------------------------|-------------------------------------|
| | | | | | | Max. Ch per HDD in GV-VMS | Recommended HDD requirements | |
| 1.3 MP | 5 min | 30 | 5.17 Mbps | 199 MB | 12736 MB | 22 Ch | 1 TB 7200RPM HDD x 3 (SATA3) | 02:30 min |
| 2.0 MP | 5 min | 30 | 6.94 Mbps | 261 MB | 16704 MB | 22 Ch | 1 TB 7200RPM HDD x 3 (SATA3) | 03:10 min |
| 3.0 MP | 5 min | 20 | 9.14 Mbps | 350 MB | 22400 MB | 13 Ch | 1 TB 7200RPM HDD x 5 (SATA3) | 03:58 min |
| 4.0 MP | 5 min | 15 | 11.74 Mbps | 443 MB | 28352 MB | 7 Ch | 1 TB 7200RPM HDD x 9 (SATA3) | 04:26 min |
| 5.0 MP | 5 min | 10 | 11.81 Mbps | 443 MB | 28352 MB | 7 Ch | 1 TB 7200RPM HDD x 9 (SATA3) | 04:30 min |
| 8.0 MP | 5 min | 25 | 12.98 Mbps | 487 MB | 31168 MB | 7 Ch | 1 TB 7200RPM HDD x 9 (SATA3) | 04:52 min |
| 12.0 MP | 5 min | 15 | 13.06 Mbps | 490 MB | 31360 MB | 7 Ch | 1 TB 7200RPM HDD x 9 (SATA3) | 04:49 min |

Note:

1. The results were obtained using SATA3 hard disks with an average write speed of 100 MB/s.
2. The results were obtained with video clip time set to 5 minutes. If the time required to transfer all files exceeds the clip time, file transferring to GV-Backup Center may not be able to keep up with recording.

Compatible GeoVision Software

| Product | Software Version |
|---------------------|------------------|
| GV-DVR / NVR | 8.5.5 or later |
| GV-Recording Server | 1.2.4 or later |
| GV-VMS | 16.10.3 or later |

Non-Compatible IP Devices

Except the following non-compatible IP Devices, the above mentioned GeoVision software, GeoVision IP cameras, Video Servers and Compact DVR all support GV-Backup Center.

| Product | |
|----------------------------------|-------------------------------|
| GV-Box IP Camera | GV-BX2600 |
| GV-Target Mini Fixed Dome | GV-EFD1100 Series |
| | GV-EFD2100 Series |
| | GV-EFD4700 Series |
| | GV-EFD2101 |
| | GV-EFD3101 |
| GV-Target Mini Fixed Rugged Dome | GV-EFD5101 |
| | GV-EDR1100 Series |
| | GV-EDR2100 Series |
| GV-Target Mini Fixed Rugged Dome | GV-EDR4700 Series |
| | GV-ADR Series / GV-TDR Series |
| GV-Target Box Camera | GV-EBX1100 Series |
| | GV-EBX2100 Series |
| GV-Eyeball Dome | GV-EBD Series |
| GV-Target Vandal Proof IP Dome | GV-EVD2100 |
| | GV-EVD3100 |
| | GV-EVD5100 |
| GV-Vandal Proof IP Dome | GV-AVD Series / GV-TVD Series |
| | GV-VD8700 |
| GV-Target Bullet Camera | GV-EBL2101 |
| | GV-EBL2111 |
| | GV-EBL3101 |
| GV-Speed IP Dome | GV-SD2322-IR |
| | GV-SD2722-IR |
| | GV-SD3732-IR |
| | GV-SD200-S |
| GV-Thermal IP Camera | GV-TM0100 |
| GV-Virtual Reality IP Camera | GV-VR360 |