GVD VMS Database Server, iGlance Server, Device Keeper

C5104-DBS, C5104-IGS, C6101-VLC

GVD VMS Database Server is the center of GVD VMS 4.0. It is designed for Cloud-and-Hybrid architecture. It allows the VMS to smartly manage large-scale projects that need to run a lot of AI and integrates numerous sub-systems, including workstations, NVRs, video walls, and 3rd-party systems.

Allowed by the Cluster and Redundant design of this server, "Failover" is the highlight. When you use a set (3 pcs) of VMS Database Servers, one can work as the "master" and the others as the "slaves". Normally, the slaves constantly sync data from the master. In case the master stops working, one slave will promptly take over the master while the other slave goes on syncing data from the new master. As soon as the broken *master* is back online, it changes over to a *slave*.

Another highlight of this product is an application called "iGlance Dashboard", powered by *Elasticsearch,* a real-time big data search and analytics engine built on *Apache Lucene*. The iGlance Dashboard can visualize every system detail with graphics and put system information in a nutshell very quickly. All system health, device status, device recording status, device recording days, common system tasks, etc., can be quantified through pies and charts easily.

GVD VMS Database Server can smartly manage a large-scale project with 100,000 channels. It is your best choice for all critical missions.

- 100,000 IP cameras support
- High-capacity and high-end system integration and communication
- Powerful iGlance Dashboard based on enterprise Elasticsearch engine
- Zero downtime with "cluster and redundant designs"

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Product Features

System integration & communication

With a new architecture allowed by GVD **VMS Database Servers**, GVD **VMS 4.0** is easy to grow, both vertically and horizontally. Vertically, the VMS can quickly swell with more workstations, video walls, NVRs, failover / archive servers, storage, IP cameras (up to 1000,000), and 3rd-party applications. Horizontally, more features can be plugged in, such as AI modules from GVD and 3rd-parties, including IBM, NEC, ITRI, SONY, etc.

100,000 IP cameras support

Based on the cluster and redundant designs, GVD **VMS 4.0** can easily expand by stacking up **VMS Database Servers**. The more database servers are thrown in, the more NVRs and IP cameras can be accumulated. A set (3 pieces) of **VMS Database Servers** supports 10,000 IP cameras and 1,000 NVRs. A total of up to 100,000 IP cameras are allowed. System scale-up is easier than usual.

iGlance Dashboard powered by *Elasticsearch*

As the configuration of all devices and components are centralized in the **VMS Database Servers**, an "*iGlance Dashboard*" is allowed to visualize the big data of system health and device statuses with simple graphs. Pies and bars let you draw conclusions quickly and provide clues that words can't. When dealing with massive data, graphics particularly show trends, gaps, and clusters.

Cluster & redundant designs

Unlike conventional **VMS**, GVD **VMS** has the **VMS Database Servers** based on "Cluster & Redundant design", which means 3 pieces of servers are used to deliver fault tolerance. When one piece fails, its work is auto shifted to its peer. Such designs can effectively prevent system overloads. So the system never goes down.
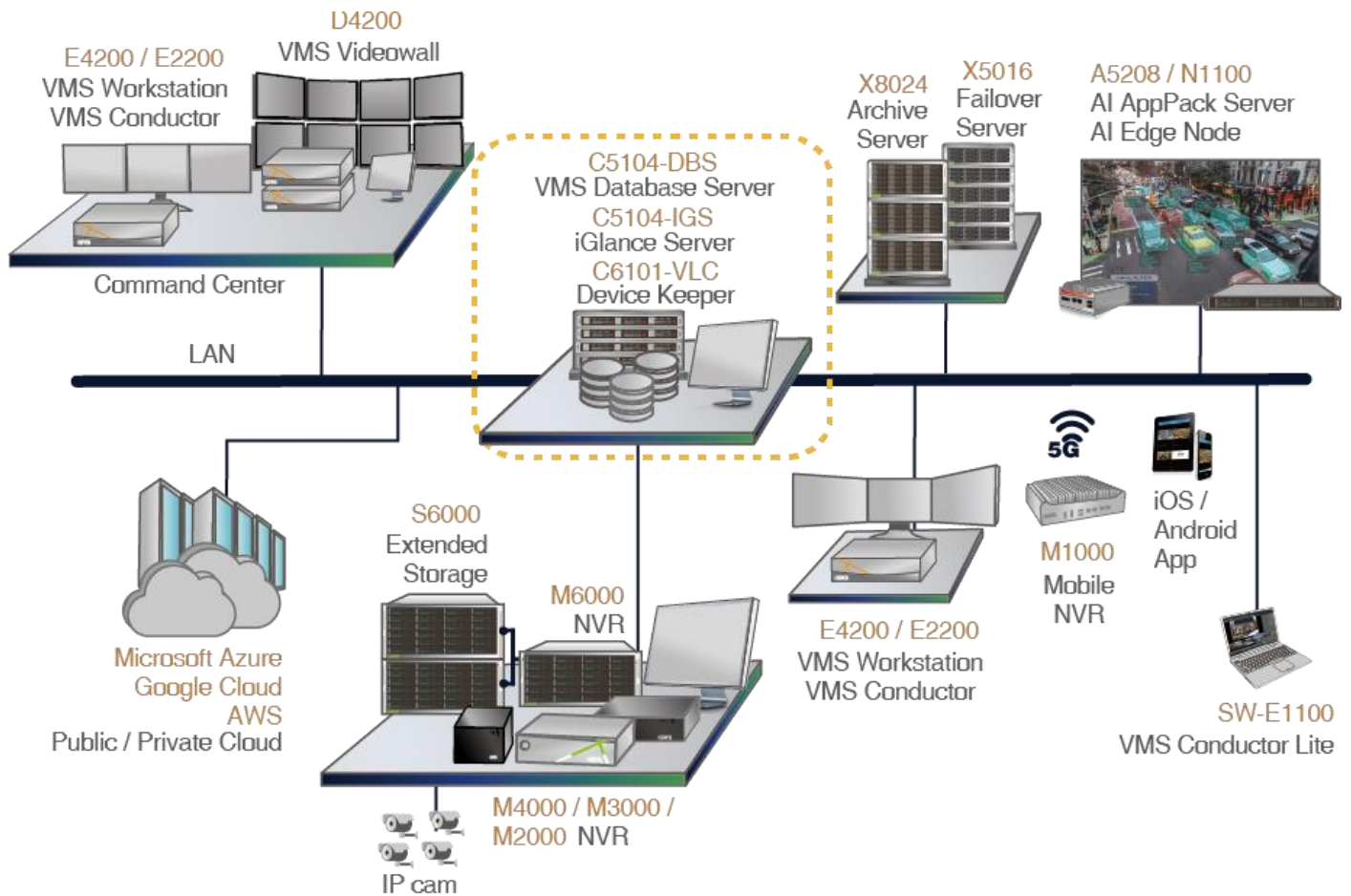
Deployment and upgrade automation

GVD **VMS** is based on **Ansible**, an Enterprise IT automation service that streamlines configuration management. GVD **VMS** has the software releases stored in the **VMS Database Servers** to allow the automation of system upgrades, including VMS Manager and NVR Managers.
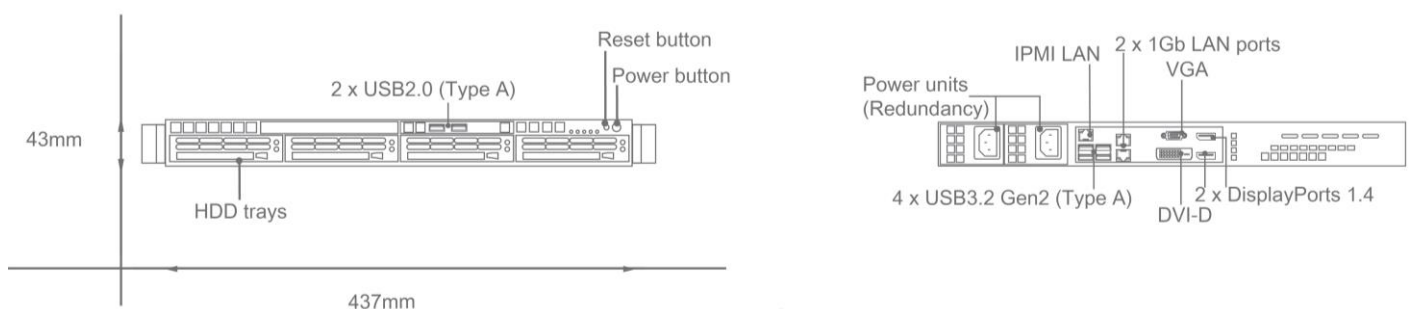
LDAP Support

GVD **VMS Database Servers** allow LDAP Single-Sign-on. All user profiles are centralized in the **VMS Database Servers**. A user only needs to log on to one workstation once to perform all tasks system-wide he has been permitted to.

System Architecture

- E4200 / E2200 — VMS Workstation / VMS Conductor
- D4200 — VMS Videowall
- Command Center
- LAN
- C5104-DBS — VMS Database Server
- C5104-IGS — iGlance Server
- C6101-VLC — Device Keeper
- X8024 — Archive Server
- X5016 — Failover Server
- A5208 / N1100 — AI AppPack Server / AI Edge Node
- Microsoft Azure / Google Cloud / AWS — Public / Private Cloud
- S6000 — Extended Storage
- M6000 — NVR
- E4200 / E2200 — VMS Workstation / VMS Conductor
- 5G
- M1000 — Mobile NVR
- iOS / Android App
- SW-E1100 — VMS Conductor Lite
- M4000 / M3000 / M2000 NVR
- IP cam

Hardware dimensions

- Reset button
- Power button
- 2 x USB2.0 (Type A)
- 43mm
- HDD trays
- 437mm

- IPMI LAN
- 2 x 1Gb LAN ports
- VGA
- Power units (Redundancy)
- 4 x USB3.2 Gen2 (Type A)
- DVI-D
- 2 x DisplayPorts 1.4

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Hardware Specifications

Product		C5104-DBS	C5104-IGS	C6101-VLC
Description		VMS Database Server	iGlance Server	Device Keeper
		Intel® 8 Core	Intel® 6 Core	Intel® Core™ i3, 4 Core
	Memory	32G		16G
	Operating System	Win Server 2019 on 2 x 240GB SSD (RAID1)	Windows® 10 IoT on 2 x 240GB SSD (RAID1)	
	Watchdog	Hardware & software watchdogs		
Storage	Interface	3.5" SATA		
	HDD trays (hot-swappable)	4 pcs		
	Pre-installed storage	2 x 1TB SSD		
	Capacity	4 x 10TB		
	RAID	RAID1		
Display	Output	1 x VGA, 1 x DVI-D, 2 x DisplayPort 1.4		
	Local display resolution	4096 x 2160 **4K** Monitor		
Interface	USB	Front: 2 x USB2.0; Rear: 4 x USB3.2 Gen2 (All Type A)		
	Audio outputs	N/A		
Network	LAN port	2 x 1Gb LAN		
Power	Voltage	100~240 Vac, 50-60Hz		
	Average consumption	190W		
	Power-supply redundancy	Yes, 1+1 400W redundant power supply		
Mechanic	Form factor	1U rackmount		
	Dimensions (W)x(H)x(D)	437 x 43 x 503 mm		
	Net weight (w/o storage)	12.65 kg		

Software Specifications

Software (VMS Manager)	C5104-DBS
Management No. of connected cameras per system	10,000
No. of connected NVRs per system	1,024
No. of users	No restriction
No. of connected video wall screens	40
No. of monitors	3
NVR management	Yes, supported via SW-E2200-CW03
Camera management	Yes, supported via SW-E2200-CW03
Alarm management	Yes
Device management and search	Yes
Vehicle management	Yes
Failover Server (X5016)	Supported
Archive Server (X6024)	Supported
Integration Gateway (C5001 Series)	Supported
Video Wall Decoder (D4200 Series)	Supported
LPR NVR (M4106-LPR)	Supported
POS NVR (M-Series NVR)	Supported
ATM NVR (M-Series NVR)	Supported
Keyboard with joystick	Yes, GVD K1000 for PTZ controls
Video controls Video codec	H.265, H.264+, H.264, MPEG4, M-JPEG, MxPEG
Audio codec	G.711, G.726, AAC
2-way audio	Yes
Display resolution	CIF ~ 20 megapixels
Display performance (AVS enabled)	1800@D1 (E4200); 1800 @D1 (D4200-CW02); 2100@D1 (D4200-CW04)
Streaming type	Unicast
Encryption	Yes, AES-128bits
Metadata	Yes
Adaptive Video Streams	Yes
HW acceleration (GPU decoding)	Yes (Intel, nVIDIA)
Video stream down sampling (resolution & FPS) option	Yes
Maintenance of image aspect ratio	Yes
Video buffering	Yes
Sanpshot	Yes
Digital zoom	Yes
ROI	Yes
VCA metadata overlays on-video	Yes
Uninterrupted live video from NVR/Failover Server	Yes
Uninterrupted video playback from cameras/NVRs/Failover/Archive Servers	Yes
Fisheye video display	1P, 2P, 1x1, 2x2, and original view
Display pattern	1, 4, 5, 6, 8, 9, 12, 13, 16, 18, 24, 25 (A 64-video pattern (max.) is supported via SW-E2200-CW03
View operation	ROI & ePTZ, software de-warp & ePTZ, digital zoom in/out, on-screen PTZ
Playback control	General playback (forward/backward/pause), jump to the next / previous frame, go to a certain date, speed controls (0.25x, 0.5x, 1x, 2x, 4x, 8x, 16x, 32x)

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Software Specifications

Software (VMS Manager)		C5104-DBS
	Video export	Yes, Download Manager (*.MKV, *.AVI and *.AVA support)
Video wall controls	Remote video pattern manipulation	Yes
	User's remote video playback controls	Yes
	User's remote control of video digital zoom	Yes
	User's remote control of panoramic fish-eye de-warp	Yes
	User's remote control of pushing video	Yes
	User's remote control of pushing GIS/Facility map to video wall	Yes
	Synchronous video controls (E4200 vs. D4200)	Yes
	Adaptive Video Streams	Yes
	Video stream down sampling (resolution & FPS) option	Yes
	Video wall control panel	Yes (Dispatch single/multiple videos, video patterns, touring, change pattern layout, change screen settings)
	Uninterrupted live video from NVR/Failover Server	Yes
	Uninterrupted video playback from cameras/NVRs/Failover/Archive Servers	Yes
Alarm management	Alarm video popup	Yes
	Alarm message popup	Yes
	Active alarm list (on one full screen)	Yes
	Active alarm list (on map)	Yes
	Alarm video instant playback	Yes
	CaseBuilder	Yes (by media "*notes*")
Playback	Independent playback in playback mode	Yes
	Synchronous playback mode	Yes, up to 16 channels via SW-E2200-CW03
	Event/alert list in recording	Yes
	Graphical timeline	Yes
	Adjust playback speed	Yes
	Looping	Yes, via SW-E2200-CW03
	Digital Zoom	Yes
	ROI	Yes
	Fisheye video de-warp	Yes
	VCA metadata overlays on-video	Yes
	Smart search	Search for missing objects, foreign objects, ATM/POS transaction data via SW-E2200-CW03
Map	CaseBuilder	Yes (by media "*notes*")
	HTML map	Yes, via SW-E2200-CW03
	Facility map	Yes
	GIS map	Yes
	Standard graphical maps	Yes
	Number of linked map layers	Yes
	Video preview and instant playback	Yes
	Device status (alert, video lost, etc.)	Yes
	Quick-find of a device on map	Yes
	Quick-find of an alert device on map	Yes
	Integrated PTZ controls	Yes
	Map navigator	Yes

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Software Specifications

Software (VMS Manager)		C5104-DBS
PTZ	PTZ controls	Mouse & GVD K1000 (A keyboard with a joystick)
	PTZ operation	Direction controls, zoom in/out, preset, patrol, to center position, auxiliary commands
Language	Languages	SW-E2200-CW03 supports 20+ languages. TheVMS Manager` supports English, Simplified Chinese, Traditional Chinese, Korean, and Japanese.

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