



ZKBio CVSecurity Server Recommendation

No	Version	Description	Modified By	Date	Remark
1	V1.0	First Draft	Jason.Xu/Hook.Fang	2022.7.21	
2	V2.0	Adjust the Configuration	ShangGuan/WML/Jrey.Xie	2024.7.5	



Contents

1. ZKBio CVSecurity Recommended Server Configuration	3
1.1. Small-scale Project	6
1.2. Medium-scale Projects	7
1.3. Medium to Large-scale Project	8
1.4. Large-scale Project	9
1.5. Extra Large-scale Project	12

1. ZKBio CVSecurity Recommended Server Configuration

Due to the varying number of customer access devices and operating environments in different scenarios, it is necessary to provide corresponding server configurations for each application scenario.

We have classified them into five categories: small-scale projects, medium-scale projects, medium to large-scale projects, large-scale projects, and extra large-scale projects.

Standardized Content:

① Push, Pull, and Best Protocols:

Push: Includes devices for Access Control Push, Attendance, Elevator Control Push, Offline/Online Consumption, Entrance, Facekiosk, and other modules.

Pull: Includes devices for Access Control Pull, Elevator Control Pull, Parking SDK, and other devices.

Best: Includes devices for Parking Best, and other devices.

② **Default Port Opening Instructions:** Due to the software usage environment, it is necessary to add certain server ports to the firewall exceptions (to be opened as needed according to the modules, functions, and http/https options chosen during installation). The port list is as follows:

Port Type	Default Port	Description
Software Web Server Port	8098	This is the software access port that needs to be open. The default is 8098, but it can be modified during installation.
ADMS port	8088	This is the communication port for device and software that needs to be open. The default is 8088, but it can be modified during installation.
Postgre database port	5442	This port needs to be open when using the default database. The default is 5442, and it is recommended to use the default port.
Redis Cache Port	6390	This is the Redis cache port that needs to be open. The default is 6390, and modification is not allowed.
SocketIO port	9091	This is the SocketIO port that needs to be open. The default is 9091, and modification is not allowed.
Parking SDK Websocket Port	26001	This port needs to be open when using the parking module. The default is 26001, and modification is not allowed.
Parking Websocket Port	7397	This port needs to be open when using the parking module. The default is 7397, and modification is not allowed.
ISSOnline Service Port	24008(http), 24308(https)	These ports need to be open when registering fingerprints or similar activities. There are separate ports for http and https, and modification is not allowed.

Lodop Print Control Port	18000(http), 8443(https)	These ports need to be open when using receipt/card printers. There are separate ports for http and https, and modification is not allowed.
BioPhoto extract service port	26110	This port needs to be open for the personnel biophoto extraction. The default is 26110, and modification is not allowed.
Fingerprint Service Port	38088	This port needs to be open for fingerprint login. The default is 38088, and modification is not allowed.
IVS Communication Service Port	58098(http), 58097(https)	These ports need to be open when using intelligent video services. There are separate ports for http and https, and modification is not allowed.

③ **Database:** PostgreSQL(recommended), Oracle11g/12c/18c/19c/21c, SQLServer2008/2012/2014/2016/2017/2019/2022

Special Reminder: Regardless of the project, it is recommended to use the built-in PostgreSQL database by default. When using MSSQL or Oracle databases, the database needs to be installed by the customer (the disk must use SSD) and deployed on a separate server (separate from the ZKBio CVSecurity software). Regular maintenance of the database is required, and it is recommended that customers with database maintenance capabilities use this setup;

④ **Server Operating System:** Windows 7/8/8.1/10/11, Windows Server 2008/2012/2016/2019/2022 (64-bit)

⑤ **Browser:** Firefox 115+/Chrome 109+/Edge

⑥ **Display Resolution:** Supports 1366x768 and above pixels, with a recommendation to use 1920x1080 and above pixels for optimal performance

⑦ When the total number of project devices exceeds 1000 pcs (excluding Smart Video Surveillance Module), it is recommended to use distributed deployment, meaning the ZKBio CVSecurity application software, database, ADMS services, etc., are deployed on different servers.

1.1. Small-scale Project

A small-scale project is generally defined as one with up to **50 Push devices, up to 20 Pull devices, and up to 64 channels of Smart Video Surveillance Module**. If any of these conditions are not met, a higher configuration is required.

Application Scenario	Communication Type	Device Quantity	Deployment Method Description	Recommended Server Configuration				
				Server Type	Memory	CPU	HDD	GPU
Small-scale Project	Push Pull Best	Push Devices: 50 pcs Pull Deices: 20 pcs Video Channels: 64 cameras	1.If MSSQL or Oracle database is used,an additional separate database server needs to be deployed.	ZKBio CVSecurity Server	8GB	Core i5 quad-core with a clock speed of 2.8 GHz or higher	100GB	/
				ZKBio CV Video Client (Supports simultaneous preview of 64 videos)	16GB	Core i7 quad-core with a clock speed of 3.0 GHz or higher	100GB	NVIDIA GTX750 (Only preview video devices are needed)
				Database Server (only required when using MSSQL and Oracle)	8GB	Core i5 quad-core with a clock speed of 2.8 GHz or higher	100GB	/

1.2. Medium-scale Projects

A media-scale project is generally defined as one with **50-200 Push devices, up to 50 Pull devices, and up to 128 channels of Smart Video Surveillance Module**. If any of these conditions are not met, a higher configuration is required.

Application Scenario	Communication Type	Device Quantity	Deployment Method Description	Recommended Server Configuration				
				Server Type	Memory	CPU	HDD	GPU
Media-scale project	Push Pull Best	Push Devices: 50~200 pcs Pull Devices: 50 pcs Video Channels: Within 128 cameras	1. When the number of devices exceeds 100, it is not recommended to use MSSQL 2. If using MS SQL or Oracle databases, an additional separate database server needs to be deployed.	ZKBio CVSecurity Server	16GB	Core i5 hexa-core with a clock speed of 3.0 GHz or higher	200GB (SSD)	/
				ZKBio CVSecurity Client (Supports simultaneous preview of 64 videos)	16GB	Core i7 quad-core with a clock speed of 3.0 GHz or higher	100GB	NVIDIA GTX750 (Only preview video devices are needed)
				Database Server(only required when using MSSQL and Oracle)	8GB	Core i5 hexa-core with a clock speed of 3.0 GHz or higher	200GB (SSD)	/

1.3. Medium to Large-scale Project

A medium to large-scale project is generally defined as one with **200 - 600 Push devices (including up to 50 Pull devices) and up to 256 channels of Smart Video Surveillance Module.**

Application Scenario	Communication Type	Device Quantity	Deployment Method Description	Recommended Server Configuration				
				Server Type	Memory	CPU	HDD	GPU
Medium to large-scale project	Push Pull Best	Push Devices: 200~600 pcs Pull Devices: 50 pcs Video Channels: Within 256 cameras	1.MSSQL is not recommended. 2.If using an Oracle database, an additional separate database server is required.	ZKBio CVSecurity Server	16GB	Core i7 octa-core with a clock speed of 3.2 GHz or higher	500GB (SSD)	/
				ZKBio CVSecurity Client (Supports simultaneous preview of 64 videos)	16GB	Core i7 quad-core with a clock speed of 3.0 GHz or higher	100GB	NVIDIA GTX750 (Only preview video devices are needed)
				Database Server(only required when using Oracle)	16GB	Core i5 hexa-core with a clock speed of 3.2 GHz or higher	500GB (SSD)	/

1.4. Large-scale Project

A large-scale project is generally defined as one with **600 - 3000 Push devices, and up to 1024 channels of Smart Video Surveillance Module** (Pull devices are not supported for large-scale project).

If the project has more than 600 but fewer than 1000 devices, single-server deployment is recommended. The recommended server configuration is:

Applicati on Scenario	Commun ication Type	Device Quantity	Deployment Method Description	Recommended Server Configuration				
				Server Type	Memory	CPU	HDD	GPU
Large- scale project	Push Best	Push Devices: 600-1000 pcs Video Channels: Within 256 cameras	1. MSSQL is not recommended. 2. If using an Oracle database, an additional separate database server is required.	ZKBio CVSecurity Server	32GB	Core i7 octa-core with a clock speed of 3.2 GHz or higher	1TB (SSD)	/
				ZKBio CVSecurity Client (Supports simultaneous preview of 64 videos)	16GB	Core i7 quad-core with a clock speed of 3.0 GHz or higher	100GB	NVIDIA GTX750 (Only preview video devices are needed)
				Database Server(only required when using Oracle)	16GB	Core i5 hexa-core with a clock speed of 3.2 GHz or higher	1TB (SSD)	/

If the project has more than **1000 but less than 3000 devices**, select Solution 2: **Distributed Deployment Scheme**. However, you need to contact technical support for detailed deployment instructions. The recommended server configuration is as follows:

Application Scenario	Communication Type	Deployment Method Description	Deployment Method Description		Recommended Server Configuration				
			Video Surveillance	Device	Server Type	Memory	CPU	HDD	GPU
Large-scale project	Push Best	1.MSSQL is not recommended. 2.It is advisable to use a distributed deployment.	Within 1024 channels	1000~3000	ZKBio CVSecurity Application Server	16GB	Intel® Xeon® Silver 4214R CPU @ 2.40 GHz Octa-core	300GB (SSD)	/
				-	ZKBio CVSecurity Client Server (Supports simultaneous preview of 64 videos)	16GB	Core i7 quad-core with a clock speed of 3.0 GHz or higher	100GB	NVIDIA GTX750 (Only preview video devices are needed)
				1000~1500	Database Server	10GB	Intel(R) Xeon(R) Silver 4214R CPU @2.40GHz Hexa-core	350GB (SSD)	/
				1500~2100		12GB	Intel(R) Xeon(R) Silver 4214R CPU @2.40GHz Hexa-core	350GB (SSD)	/
				2100~2500		16GB	Intel(R) Xeon(R) Silver 4214R CPU @2.40GHz Octa-core	350GB (SSD)	/
				2500~3000		32GB	Intel(R) Xeon(R) Silver 4214R CPU @2.40GHz Octa-core	350GB (SSD)	/

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				One ADMS server is used for every 600 to 800 devices. For every additional 750 devices, an extra ADMS server is required.	ADMS Device Communication Server	8GB	Intel(R) Xeon(R) Silver 4214R CPU @2.40GHz Hexa-core	100GB	/			
				-	Nacos Server	4GB	Intel(R) Xeon(R) Silver 4214R CPU @2.40GHz Dual-core	100GB (SSD)	/			
				1000~1500	Redis Cache Storage Server	8GB	Intel(R) Xeon(R) Silver 4214R CPU @2.40GHz Quad-core	150GB (SSD)	/			
				1500~2100		12GB	Intel(R) Xeon(R) Silver 4214R CPU @2.40GHz Quad-core	150GB (SSD)	/			
				2100~3000		16GB	Intel(R) Xeon(R) Silver 4214R CPU @2.40GHz Hexa-core	150GB (SSD)	/			
				1000-1200	Nginx Server	Deploy only one ADMS server, no Nginx server required						
				1200~3000		8GB	Intel(R) Xeon(R) Silver 4214R CPU @2.40GHz Quad-core	100GB (SSD)	/			



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				-	File Server (NAS storage or other file server provided by the customer)	8GB	Intel(R) Xeon(R) Silver 4214R CPU @2.40GHz Dual-core	300GB (SSD)	/
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1.5. Extra Large-scale Project

An extra-large project is generally defined as one with more than 3000 Push devices and more than 1024 channels of Smart Video Surveillance Module (if encountering such a project, please consult the Marketing/Solutions Department for a specific plan).