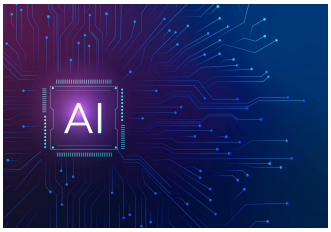
PROVMS

DATASHEET

Features

Scalable Design, Easy to Grow

With distributed deployment, you can easily expand the supported channels to 20,000 and central storage capacity to 4 PB. The multi-site function allows you to incorporate multiple platforms into one, and conveniently show their information on one PC client. You can access live and recorded videos, real-time and historical events, and more.



AI-Powered Applications, Proactive Security

PROVMS integrates various AI capabilities that devices have, such as face recognition, automatic number plate recognition, and video metadata. You will be notified immediately when the target you are interested in appears, allowing you or security personnel to take necessary security measures.

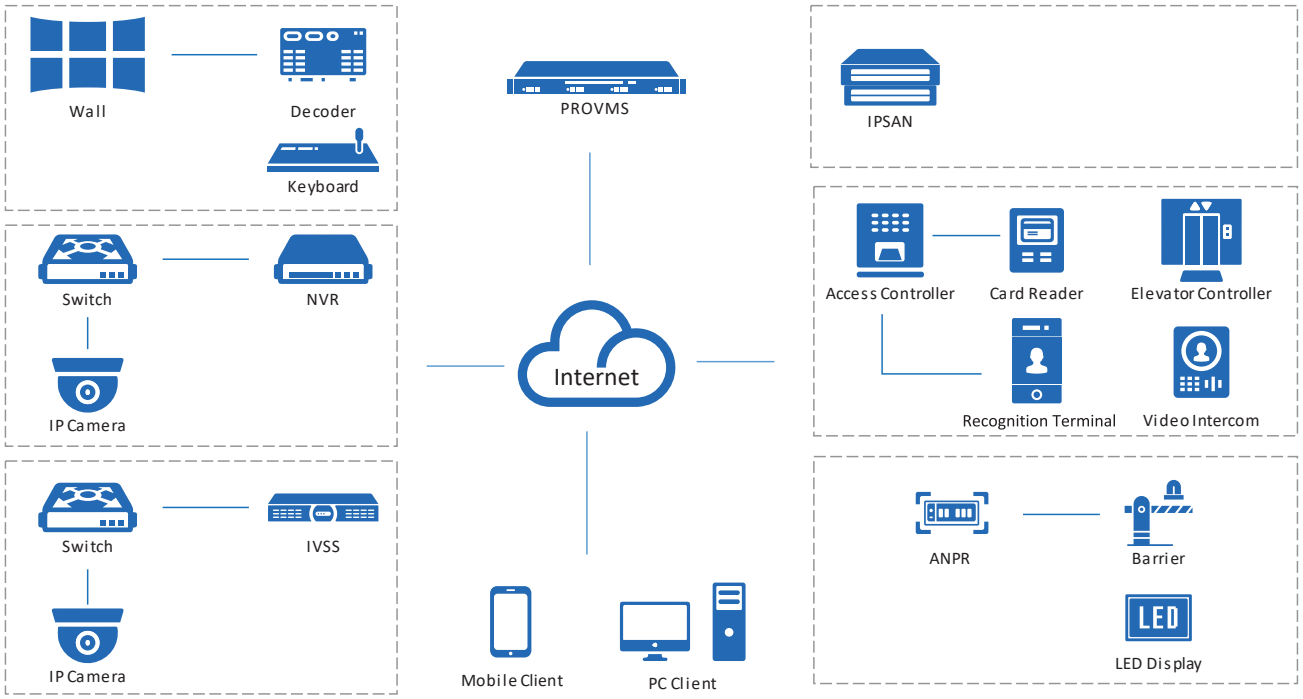
Highly Available Technology, More Stable

With hot standby and N+M redundancy, PROVMS ensures that your business will not be interrupted by failed servers.

Customized Services, Enhanced Competitiveness

- Allows integration of other systems and devices via API, SDK, or ONVIF.
- Offers API and SDK for further development.
- Meets customers' personalized needs and assists them in formulating their market competitive advantage.

System Architecture



Main Functions

Monitoring Center

Live View

With its easy to use live view, you can both customize and control how you view videos in real time. The layout can also be configured to display videos in different sizes, enabling you to give priority to important areas by placing then in larger windows. You can also remotely control certain devices to perform various actions such as talking to people through the camera, and unlocking the barrier of a turnstile to grant access to people. If an emergency occurs, manual recording is just a click away, so that you can quickly save that particular part of the video for evidence.

Playback

The playback function allows you to play recorded videos stored on the server and devices in multiple windows. To help you efficiently wade through tons of videos, you can play them 64X faster than the normal speed, skipping parts that you are not interested in, or you can slow them down to 1/64X, to focus on important sections. To control the data in the videos, you can add tags to mark relevant content, and you can even lock them to prevent them from being overwritten when the disk space is full. The filter function can also be very helpful when you only need to deal with a specific type of video, or a type of target that appeared in one or more areas.

Video Wall

Video wall is used to display videos on a large screen that consists of many smaller screens. Highly customizable, you can not only configure the layout of the video wall, but you can also display recorded videos and real-time videos to zero in on important details in the video. With the task function, you can schedule videos from different channels to be displayed on the video wall at specified times or in a loop.

Map

The map is a very useful function that allows you to keep track of devices and events through their location information. With it, you can mark a device and immediately know the location of an event when the device triggers an alarm and flashes red on the map. You can also add submaps to different areas. For example, a plan view of a public square can be added to a map to reveal the exact location of people who are inside the public square.

Group Talk

The real-time location of MPT devices are shown on the map, making it easy for dispatchers to effectively send officers and resources to address issues such as a burglar or duress alarm going off in a building. Dispatchers can start a group talk and engage in a real-time conversation with the officers who were assigned the task to efficiently guide them through the process.

AR

Empowered by AI overlay and effortless target tracking, the AR function helps elevate your monitoring capabilities by not only providing panoramic view, but simplifying the task of tagging targets on the video image based on our user-friendly tag templates. You can experience unmatched convenience of efficiently categorizing surveillance targets, including critical locations like hospitals and road junctions, and also customize your preferences, such as marking tags as favorites or prioritizing them, to take control of your monitoring system.

DeepXplore

Powered by AI technology, you can easily search for targets, look for records on them and even generate tracks on their movement to observe their whereabouts through setting simple search conditions. To gain an overview on the target, you can organize information on them into a case and generate a report.

Event Management

You can monitor and process over 200 types of alarms right from the event center, while it continuously generates statistics. To give you a clear picture of what is happening in your area, the alarm center also displays a variety of useful information such as the number of alarms that were processed, and the type of alarms that are triggered most frequently. Highly flexible, you also have a selection of predefined alarm types available to you, and the option to not only create your own alarm, but to also manually trigger it to take snapshots and send emails for important events.

Maintenance Center

By just visiting one page, you can stay up to date with information on alerts, devices, servers and more to instantly recognize issues such as offline devices and abnormal servers. In the maintenance center, switches can also be conveniently configured and details, such as their network topology, can also be viewed. Scheduled reports are also sent based on the information collected to give you a full picture of how your system is running. Updating is also a breeze, as you can easily update multiple devices in batches when new versions are available.

Access Management

Access Control

Doors and lifts in different zones can all be effectively controlled for added security. A zone-based management model is used, which maintains maps for each zone to make it easy for you to locate access points. Through the use of access rules, you can quickly grant and deny access to people with great efficiency, strengthening the security of each zone. From the access panel, you can also view and control the channels of doors and lifts at the same time across different zones to manage access.

Video Intercom

All video intercom devices can be managed directly through one easy-to-use interface that offers two-way communication and remote access control. Through the interface, you can secure access to your premises, and receive calls and emergency reports directly from people on-site. Building management is also very convenient, as you can send group notices to all the indoor monitors, keeping people informed of important events, such as scheduled power outages.

Visitor

PROVMS offers a complete process to manage visitors, including appointment, registration, access permission authorization, and ending visit with all permissions canceled. A complete, detailed record of all visits is available for your review at any time.

Intelligent Analysis

To help build your profits and strengthen your services, the platform provides invaluable information on people on your premises through performing a variety of intelligent analysis and generating heat maps. Through it, you can know the number of people in an area at any given time, where they frequent the most, and precisely when the highest peaks in numbers occurs.

Parking Lot Management

From just one platform, you can remotely manage all the devices in your parking lots, such as parking space detectors and ANPR devices, to guide vehicles in an orderly fashion. The visualization function makes it easier for you to drag and drop devices on the visual map of your parking lots. The platform also offers a vehicle search system for vehicle owners to use when they are leaving, and the fuzzy search function allows you to quickly and accurately locate vehicles even with limited information, making it easier than ever to find what you're looking for. The platform supports scenes without barriers to ensure smooth navigation for drivers, and it helps keep your parking occupancy information up-to-date with the function of resetting available parking spaces. Insightful information is also provided in the form of statistics, which supports automatic export of parking lot reports and improved statistics of entry and exit data, on an easy-to-use dashboard, keeping you up to date on key activities taking place in your parking lots to help you effectively manage them.

Intelligent Inspection

Both your properties and equipment are effectively monitored through our user friendly platform. The settings can even be customized to meet your particular needs for item inspection. Inspection plans can also be scheduled to capture images and monitor temperatures with HD cameras and temperature imaging technology, to help you quickly identify equipment failures and safety hazards when detected. This type of intelligent inspection greatly improves upon manual methods, increasing the accuracy and efficiency of inspection, while reducing labor cost.

Synthesis

PROVMS is friendly with other systems in your infrastructure. By developing bridges, linkage actions can be flexibly configured on PROVMS based on the events that are triggered on other platforms. Access control records can also be synchronized with the databases of other platforms. For added convenience, the devices, people, and vehicle information on third-party platforms can be seamlessly synchronized with PROVMS to aid in opening and closing doors, and performing other functions.

System Requirements①

	Server		PC Client	
	Recommended	**Minimum**	**Recommended**	**Minimum**
CPU	Intel Xeon Silver 4114 @2.2 GHz 10 Core Processor	Intel Xeon E-2224 @3.4 GHz, 8M cache	Intel® Core i7-11700 @2.50 GHz	Intel® Core i5-9500 @3.00 GHz
Memory	16 GB	8 GB	16 GB	
System Disk	1TB 7200 RPM SATA 6 Gbps 512n 3.5 in Hot-plug Hard Drive	1 TB 7200 RPM SATA Entry 3.5 in Cabled Hard Drive	-	
Storage Disk	7200 RPM Enterprise Class HDD 1 TB, 500 GB free space		200 GB free space for Client	100 GB free space for Client
Graphics Card	-		NVIDIA® GeForce® RTX 3060	Intel® UHD Graphics 630
Ethernet Port	4 Ports@1000 Mbps	2 Ports@1000 Mbps	1000 Mbps	
Operating System	Microsoft® Windows Server 2019 Standard (64-bit) Microsoft® Windows Server 2022 Standard (64-bit) Microsoft® Windows 10 20H2 Pro (64-bit) Microsoft® Windows 11 21H2 Pro (64-bit) VMware®ESXi™ 7.x Microsoft® Hyper-V with Windows Server 2019		Microsoft® Windows 10 20H2 Pro (32-bit) Microsoft® Windows 10 20H2 Pro (64-bit) Microsoft® Windows 11 21H2 Pro (64-bit) Microsoft® Windows Server 2019 Standard (64-bit) Microsoft® Windows Server 2022 Standard (64-bit) VMware®ESXi™ 7.x Microsoft® Hyper-V with Windows Server 2019	
Languages	Arabic, Bulgarian, Czech, Danish, English (United States), Finnish, French, German, Hebrew, Hungarian, Italian, Japanese, Korean, Macedonian, Polish, Brazilian Portuguese, Russian, Simplified Chinese, Spanish, Thai, Traditional Chinese, Turkish, Ukrainian, Vietnamese.			

① We recommend that you install an operating system on a physical server and directly deploy the platform on the server to achieve optimal and reliable performance. If you have to deploy the platform on a virtual server, please see the deployment manual for more instructions.
② The platform supports using a maximum of 2 network cards at the same time. You can either use 1 network card for accessing devices on a local area network, and 1 network card for services on the Internet; or use both network cards for accessing devices on a local area network, and then map one of them to the Internet.

Performance Specification

Organization, Role and User	
Organizations	10 levels; 999 organizations in total
Roles (User Permission)	500
Users	200 online users and 2,500 total users
Roles per User	32
Users for VDP Mobile App	500 online users and 5,000 total users
User Groups	20
Users per User Group	500

Recording Plan	
General Recording Plans	3,000
Motion Detection Recording Plans	3,000
Video Retrieval Plans	3,000
File Retrieval Plans	3,000

Event	
Event Sources for Event Rules	3,000
Combined Event Rules	100
Combined Events	1,000
Generic Event Rules	50

Map	
Hierarchies	8
Raster Maps	256
Maximum Size of Raster Map	15 MB
Resources on GIS Map	300 (after merging) 2,000 (before merging)
Resources per Raster Map	300 (after merging) 2,000 (before merging)

Person and Vehicle Management	
Person and Vehicle Groups	999
Group Levels	10
Total Persons	300,000
Persons on the Platform	300,000
Persons from Third-party Systems	30,000
Person Groups that a Person can Belong to	5
Cards	600,000
Faces	300,000
Fingerprints	600,000
Vehicles	50,000

Face and Vehicle Watch Lists①	
Total Faces	300,000
Face Watch Lists	50
Faces per Face Watch List	50,000
Vehicle Watch Lists	32
Vehicles per Vehicle Watch List	50,000

Access Control	
Zones	256
Access Rules (Doors and Lifts)	500
Persons for Access Rules (Doors and Lifts)	100,000
Persons for Door Access Rules	100,000 (1 password, 2 face images, 3 fingerprints, and 5 cards for each person)
Door Access Rules	500

Persons for Lift Access Rules	100,000
Lift Access Rules	300
Global Anti-passback Rules	16
Global Interlock Rules	16
Public Passwords	1,500

Visitor

Appointments in Progress	50,000

Video Intercom

Rooms	5,000
Persons per Room	10
VDP Accounts per Room	5

Intelligent Analysis

People Counting Groups	30
People Counting Rules per Group	20

Parking Lot Management

Vehicles	50,000
Vehicle Groups	500
Vehicle Groups per Parking Lot	32
Main Parking Lots	16
Sub-Parking Lots Under a Main Parking Lot	16
Entrances	128
Exits	128
Total Entrances and Exits	128
Entrance/Exit Points	128
Total Reserved Parking Spaces	10,000
Total Reserved Parking Space Groups	3,000
Parking Spaces per Reserved Parking Space Group	1,000
License Plates per Reserved Parking Space Group	1,000
Reserved Parking Space Groups per Parking Lot	3,000
License Plates per Reserved Parking Space	10,000
Parking Space Detectors per Parking Lot	500
Parking Spaces per Parking Lot	1,500
Parking Space Available Displays per Parking Lot	30
Image Size per Layer	15 MB

Resolution per Layer	8100 × 8100
Total Layers	128
Layers per Parking Lot	16
Resources per Layer (parking spaces not included)	600
Parking Spaces per Layer	1,000
Vehicle Search Rules	32
Rules of Sending Scheduled Reports	32

Synthesis

Event Synchronization Projects	5
Incoming Triggered Event Types per Event Synchronization Project	300
System Integration Projects	5
Event Types per System Integration Project	300

Group Talk

Groups	30
Users per Group	100

AR

Tag Templates	50
Tags per AR Channel	50
Linked Channels per Tag	16

Notification Center

Messages	1,000

Quick Commands

Quick Commands per User	20
Commands per Quick Command	20

Intelligent Inspection (plug-in)

Inspection Organizations	999
Levels of Inspection Organizations	10
Inspection Objects	10,000
Inspection Points	10,000
Inspection Points per Organization	1,000
Inspection Plans	1,000
Inspection Points per Inspection Plan	100
Execution Time Points per Inspection Plan	24

Retail (plug-in)	
Persons	50,000
Total Areas	100
Total Stores	500
Floors Supported by a Single Store	B2–F8 (10 floors)
People Counting Regions Supported by All Stores	1,000
People Counting Regions Supported by a Single Store	10
Rules of Sending Scheduled Reports	32

Education (plug-in)	
Total Attendance Groups	1,000
People Supported by All Attendance Groups	50,000
People Supported by a Single Attendance Group	2,000
Total Classrooms	1,000
Face Recognition Channels Linked to a Single Classroom	5
Total Courses	5,000
Students per Classroom	10,000
Students Taking Classes at the Same Time	Standalone: 4,000 Distributed: 40,000

Data Storage	
Event Records	20,000,000
Alert Records	20,000,000
Face Recognition Records	20,000,000
ANPR Records	20,000,000
Metadata Records	20,000,000
Access Records	20,000,000
Video Intercom Records	20,000,000
Historical Count Records	20,000,000
In Area Statistical Records	20,000,000
Heat Map Records	5,000,000
Visitor Records	20,000,000
Entrance Records	20,000,000
Exit Records	20,000,000
People Entering and Exiting Records	5,000,000
Parking Records	20,000,000
Forced Exit Records	20,000,000
MPT Records	20,000,000
Operator Logs	20,000,000

Data Storage	
MPT Records	20,000,000
POS Records	20,000,000
Operator Logs	20,000,000
Plug-in Logs	20,000,000
Service Logs	20,000,000

Data Storage-Independent Data Deployment	
Video Metadata Records	30,000,000
Event Records	30,000,000
Face Recognition Records	30,000,000
ANPR Records	30,000,000

Data Storage-Intelligent Inspection Plug-in	
Inspection Records	20,000,000
Inspection Point Records	20,000,000

Data Storage-Retail Plug-in	
Retail Accurate People Flow	5,000,000
Retail General People Flow	5,000,000
Retail Queue Analysis	5,000,000
Retail People Flow Analysis	5,000,000
Analysis of Heat in Region	5,000,000
General Customer Portrait	5,000,000
Accurate Customer Portrait	5,000,000
Entering and Passing In Front of the Store	5,000,000
Passing In Front of the Store	5,000,000
People Stayed in the Store	5,000,000
Exit People	5,000,000

Data Storage-Education Plug-in	
Attendance Records	20,000,000
Face Recognition Records	20,000,000

Server Specification

The following specifications are obtained in servers with recommended system requirements.

Parameter		Single Server	Multiple Servers
Sub Servers per System	Sub Servers	-	10 servers
Total Devices	Devices②	2,000 devices	20,000 devices
	Auto-registered Devices	1,000 devices	10,000 devices
Video Devices and Channels	Video Devices and Channels③	1,000 devices; 2,000 channels	10,000 devices; 20,000 channels
	Devices Added by Hikvision Protocol	500 devices; 2,000 channels	5,000 devices; 20,000 channels
	P2P Devices	32 devices	
	Devices Added by ONVIF Protocol	1,000 devices; 2,000 channels	10,000 devices; 20,000 channels
	ANPR Channels	500 channels	5,000 channels
	Face Recognition Devices and Channels	100 devices; 500 channels	1,000 devices; 5,000 channels
	Video Metadata Channels	500 channels	5,000 channels
	MPT Devices	100 devices	300 devices
	EEC Devices	64 devices	
	Switches	64 devices	200 devices
	MDVR/MNVR	100 devices; 1,000 channels	1,000 devices; 10,000 channels
	Devices Accessed via RTSP	1,000 devices; 2,000 channels	10,000 devices; 20,000 channels
Access Control Devices	Access Control Devices and Lift Control Devices	500 devices; 1,000 channels	1,500 devices, 3,000 channels
	Total Access Control Devices	500 devices; 1,000 doors	1,500 devices, 3,000 doors
	Access Control Devices on the DSS Platform	500 devices; 1,000 doors	1,500 devices, 3,000 doors
	Access Control Devices from Third-party Systems	500 devices; 1,000 doors	1,500 devices, 3,000 doors
	Lift Control Devices	500 devices; 1,000 channels	1,500 devices, 3,000 channels
VDP Devices	Video Intercom Devices	2,000 devices	
Alarm Devices	Alarm Controllers	100 devices; 1,000 zones	500 devices; 5,000 zones
	Emergency Phone Towers	1,000 devices; 2,000 channels	10,000 devices; 20,000 channels
	EAS Alarm Channels	2,000 channels	20,000 channels
Security Screening Devices	Security Screening Machines	20 devices	200 devices
	Walk-through Metal Detectors	60 devices	600 devices
Parking Lot Devices	Parking Space Detectors	500 devices; 1,500 parking spaces	2,000 devices; 6,000 parking spaces
	Parking Space Available Displays	150 displays	600 displays
Network Devices	Switches	200 devices	500 devices
Intelligent Analysis	People Counting Channels	100 channels	300 channels
	Heat Map Channels	100 channels	300 channels
IP Speaker	IP Speakers (ONVIF)	1,000 devices	10,000 devices
Multi-site	Sites	100 sites	
	Total Devices	10,000 devices; 20,000 channels	

Others	POS Channels	100 channels	300 channels
Media Transmission Server	Total Incoming Bandwidth	600 Mbps	6,000 Mbps
	Incoming Video Bandwidth	600 Mbps	6,000 Mbps
	Incoming Picture Bandwidth	200 Mbps	2,000 Mbps
	Total Outgoing Bandwidth	600 Mbps	6,000 Mbps
	Outgoing Video Bandwidth	600 Mbps	6,000 Mbps
	Outgoing Picture Bandwidth	200 Mbps	2,000 Mbps
	Total Storage Bandwidth	600 Mbps	6,000 Mbps
	Video Storage Bandwidth	600 Mbps	6,000 Mbps
	Picture Storage Bandwidth	200 Mbps	2,000 Mbps
	Prerecording Bandwidth for Alarm Recordings	400 Mbps	4,000 Mbps
Central Storage	Central Storage Position	Local Server and IP SAN	
	Maximum Capacity per Storage Server	400 TB	4 PB
Event④	Total Events⑤	300 per second	600 per second
	Storage of Events or Alarms without Pictures⑥	300 per second	600 per second
	Alarms with Snapshots (Stored on Devices)	300 per second	600 per second
	Access Control Events	300 per second	600 per second
	Combined Events	100 per second	

① A face can belong to multiple face database. All the devices together cannot contain more than 10 million faces when the number of faces in the watch lists are multiplied by the number of devices. For example, if a face watch list with 200,000 faces is sent to 40 devices, you can only send another face watch list with 100,000 faces to 20 devices. Or, you can send a list with 50,000 faces to 20 devices and another list with 100,000 faces to 10 devices.

② The maximum number of devices, including IPC, NVR, and ITC, cannot exceed 2,000 for a single server, and 20,000 for multiple servers.

③ When adding video channels and video devices, such as IPC, NVR and ITC, to the platform, you cannot add more than 1,000 devices, 2,000 channels for a single server, and 10,000 devices, 20,000 channels for multiple servers.

④ These values represent the maximum number of events that can be triggered at the same time. The numbers are measured based on the peak concurrency tests that were carried out 3 times a day. Each test lasted 20 minutes, with 30% of the peak concurrency being applied to the remaining day.

⑤ The maximum number of events that can be triggered at the same time largely depends on the concurrent write capability of the database.

⑥ For events with snapshots, you must take into account the ability for disks and servers to concurrently write images at the same time. For servers it is 200 Mbps.