CyberCity

Better City . Better Life

V1.3.0

■ Introduction

CyberCity is a powerful video management software developed to handle emergencies and traffic events in towns and cities through its cutting-edge functions. Its intelligent analysis capability enables it to quickly and accurately recognize people, vehicles, and other targets. Other functions include video surveillance, emergency processing, arming, video analysis and more. It also has modules for vehicle violations, traffic flow and road events. Whether you work in traffic management or emergency processing, CyberCity is a great solution. If your needs change in the future, you can easily scale, upgrade and add more functions to it to meet your expanding needs.

■ Features

Scalable Design, Easy to Grow

With distributed deployment, you can easily expand the supported channels to 40,000 and central storage capacity to 12 PB. The platform can be connected to the cloud database to store up to 2 billion pieces of data. The cascading function allows you to view on your local computer the live and recorded videos of various CyberCity platforms in different levels.

Closed-Loop Emergency Processing

Emergencies are processed in a closed-loop. After an emergency is received, officers are dispatched to handle it. Once it has been processed, it is archived on the platform.

Multiple Traffic Management Services and Closed-Loop Vehicle Violation Processing

Services for vehicle violations, traffic flow, road events, and more are offered for traffic management. Also, violations are processed in a closed-loop. After a violation is received, officers can search for and handle it.

Highly Available Technology, More Stable

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

Customized Services, Enhanced Competitiveness

We offer services for you to build CyberCity into your own platform, allowing it to fully suit your needs and give you a competitive edge in the market.

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■ Main Functions

City Watchtower

This module allows you to view the status of the system, including whether users and devices are online and offline. It also displays information on event alarms, arming alarms, passed vehicles, vehicle violations and road events, informing you of their total amounts, running trends and the top ranking items in each set. You can view the information in line charts, bar charts and more. Traffic flow at intersections and road sections is also clearly displayed, and road conditions are marked in different colors.

City Video 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 them in larger windows. You can also remotely control certain devices to perform various actions such as talking to people through the camera. 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. Panoramic spliced images can also be saved and quickly retrieved

◆ *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 function allows you to link video channels, alarm channels, and geographical locations on the map. This makes it convenient for you to quickly view device videos on the map and cancel alarms. When an alarm is reported, the location of the alarm is directly displayed the map.

◆ *AR*

Using panoramic videos, the system provides you with an immersive experience, offering you control through functions such as marking and AI technology. You can modify the system name, configure tag templates, and tag videos to make it fast and easy for you to access them. Also, when alarms are triggered, the tags flash. Various services can be subscribed for to view people and vehicles that passed, person and vehicle arming alarms, and intelligent alarms. The total number of alarms is also shown for person and vehicle arming alarms, and intelligent alarms.

City Data Intelligence Center

◆ *Event Management*

You can monitor and process over 100 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 link alarm channels.

◆ *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. You can also arm target persons and vehicles in seconds.

◆ *Video Analysis*

This module helps you efficiently find targets by detecting faces, humans, motor vehicles, and non-motor vehicles in live videos and recorded videos stored on your computer and on the server.

◆ *Resource Files*

The platform retrieves audios, videos, and image files from MPTs and EECs, which can be used as evidence files for unified management and viewing. Flagged videos can also be retrieved.

◆ *Dashboard*

The dashboard displays statistics on snapshots, alarms, violations, and emergencies. You can view real-time data, or view data collected on a daily, weekly, or monthly basis. Through the use of bar charts, pie charts and line charts, the dashboard allows you to quickly grasp the security situation of the area being monitored.

City Emergency Processing Center

◆ *Emergency Processing*

The entire emergency cycle can be managed from recording the emergency, to dispatching resources and processing and archiving the emergency. When the platform receives an emergency and officers have been dispatched, they can log in to CyberCity Emergency Processor (CC Agile) to process the emergency and log evidence in the platform for archiving. They can also view information on previous emergencies on the platform.

◆ *Arming*

With its advanced AI capabilities, the platform efficiently locates target persons in crowds and target vehicles in traffic. It also sends alarm notifications to allow personnel to quickly and efficiently respond to emergencies. The police vehicle arming function supports arming person and vehicle databases. Arming is also seamless, as even police vehicles that are not connected to the platform can be armed when arming database information is sent to them.

City Traffic Management Center

◆ *Traffic Flow*

With its powerful computing capability, the platform collects traffic data at intersections and road sections to help you predict traffic conditions.

◆ *Road Event*

The platform monitors and detects abnormal events on roads, such as traffic jams and flames, so that relevant departments can quickly respond to emergencies to avoid traffic congestion.

◆ *Vehicle Violations*

Cameras detect and capture snapshots in real time of vehicles that violate traffic rules such as speeding, running a red light and illegal lane change. Through CyberCity, you can easily give penalties for violations and use the snapshots as evidence. This effectively helps to reduce the rate at which vehicle violations occur and raises people's awareness of traffic safety.

Maintenance Center

This module monitors the status of devices, channels, and servers. It also reports on abnormal channels and devices, and displays information on the server's CPU, memory, network, storage, the status of its running services and more.

CC Agile (MPT 220) Main Functions

Police officers can follow emergencies on CC Agile (MPT 220).
1. When an emergency is discovered during a patrol, police officers can log in to CC Agile to record and process the emergency.
2. After a dispatcher sends an emergency, police officers can receive, view, and process the emergency on CC Agile.
3. Police officers can communicate through the group chat to get the latest updates on the emergency in real time, and collaborate to process the case.
4. Videos, photos, and other files can be uploaded to the platform to be archived.
5. Police officers can search for people by face snapshots or ID and vehicles by license plate numbers or vehicle snapshots.
6. When CC Agile is logged in to, the system automatically checks for the most recent update package on CyberCity. If it detects CC Agile is using an earlier version, it will offer to update it to the most recent version.

■ CC Agile (MPT 320) Main Functions

Police officers can follow emergencies on CC Agile (MPT 320).

1. When an emergency is discovered during a patrol, police officers can log in to CC Agile to record and process the emergency.
2. After a dispatcher sends an emergency, police officers can receive, view, and process the emergency on CC Agile.
3. Police officers can communicate through the group chat to get the latest updates on the emergency in real time, and collaborate to process the case.
4. Videos, photos, and other files can be uploaded to the platform to be archived.
5. Police officers can search for people by face snapshots or ID and vehicles by license plate numbers or vehicle snapshots.
6. Police officers can view live videos, take snapshots, record videos, add channels to favorites, and more.
7. Police offers can search for recorded videos that were saved on the device or platform, and play them.
8. Police officers can subscribe for messages to receive, view, manage and search for them.
9. While a live video is playing, police officers can save the channel to favorites to make it easy for them to quickly locate the live video in the future.
10. When CC Agile is logged in to, the system automatically checks for the most recent update package on CyberCity. If it detects CC Agile is using an earlier version, it will offer to update it to the most recent version.

■ CC Agile (Mobile Phone) Main Functions

CC Agile (Mobile Phone) is a monitoring software for professional surveillance.

1. View live videos, take snapshots, record videos, add channels to favorites and more.
2. Search for recorded videos that were saved on the device or platform, and play them.
3. Search for people by face snapshots or ID, and vehicles by license plate numbers or vehicle snapshots.
4. Subscribe for messages to receive, view, manage and search for them.
5. While a live video is playing, you can save the channel to favorites to make it easy for you to quickly locate the live video in the future.
6. Quickly view the running status of the CyberCity Platform, including the server, channels, and devices linked to it. You can also locate faults, view their sources and types, and fix them in real time.
7. Install CC Agile (Mobile Phone) by scanning the QR code.

■ System Requirements

Server Type	Main Server	Sub Server	PC
	Recommended	**Recommended**	**Recommended**
CPU	Up to two 8-core Intel Xeon 4309y processors	One 8-core Intel Xeon 4310 processor	Intel® Core™ i5-6500 CPU @3.20 GHz
Memory Module	16 GB × 4	16 GB × 1	16 GB
HDD	Two 3.5-inch SATA 2 TB enterprise-level system disks	One 3.5-inch SATA 2 TB enterprise-level system disks	-
SSD	Two 2.5-inch SATA 480 GB data center-level SSDs	-	-
Graphics Card	-	-	GeForce GTX 1050 (Integrated Graphics)
Ethernet Port	8 ports@1,000 Mbps	6 ports@1,000 Mbps	1,000 Mbps
Operating System	-	-	Microsoft® Windows 7 (64-bit) Microsoft® Windows 10 20H2(64-bit) Microsoft® Windows 10 20H2(64-bit) (Virtue machine)
Languages	English (United States)	English (United States)	English, Arabic, French, Portuguese, Russian, Simplified Chinese, Spanish

■ Performance Specification

The following specifications are obtained in a server with recommended system requirements.

Organization, Role and User	
Organizations	10 levels; 999 organizations in total
Roles (User Permission)	100
Users	1500 online users and 10,000 total users
Roles per User	32

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

Event	
Event Rules	3,000

Map	
Size of Offline GIS Map Package	500 MB
Number of Resources on GIS Map	300

Backup and Restore

Maximum Number of Records for Automatic Backup	10

Person and Vehicle Information

Person Lists	50
Total Faces	500,000 (All the images combined can be up to 35 GB.)
Number of Persons for Each Person List in the General Arming Database	50,000
Vehicle Lists	Unlimited
Total Vehicles	500,000
Vehicles per Vehicle List in the General Arming Database	50,000
Number of Faces in a Person Database that is in the Police Vehicle Arming Database	30,000
Max Number of Vehicles to be Imported to Police Vehicle Arming Database at a Time	30,000
Number of Vehicles in a Vehicle Database that is in the Police Vehicle Arming Database	3,0000

Traffic Management

Detection Points	256
Maximum ANPR Devices Linked to Each Detection Point	16
Detection Areas	100
Driving Areas	100
Maximum ANPR Devices Linked to Each Driving Area	100
Traffic Restriction Rules	100
Intersections	200
Road Sections	100

Emergency

Areas	100

Cascade

Sites	20

AR Tag Template

Total Number	50

AR Tag	
Total Number	50
Number of Channels Associated with a Single Tag	15
Number of Video Channels Associated with a Single Tag	5
Number of Recording Channels Associated with a Single Tag	5
Number of Images Associated with a Single Tag	5
Total Number	50

Data Storage	Internal Database	Independent Database	Cloud Database
Event Records	100,000,000	300,000,000	-
Face Recognition Records	100,000,000	300,000,000	500,000,000/2,000,000,000
Video Metadata Records	100,000,000	300,000,000	500,000,000/2,000,000,000
Passing Vehicle Records	100,000,000	300,000,000	500,000,000/2,000,000,000
Vehicle Violation Records	100,000,000	300,000,000	500,000,000/2,000,000,000
Resource File Records	100,000,000	300,000,000	-
Arming Records	100,000,000	300,000,000	500,000,000/2,000,000,000
Emergency Records	5,000,000	5,000,000	5,000,000
Logs Records	5,000,000	5,000,000	5,000,000
GPS Records	100,000,000	300,000,000	-
Traffic Flow Records	100,000,000	300,000,000	-
Road Event Records	100,000,000	300,000,000	-

Daily Data Storage	Internal Database	Independent Database	Cloud Database
Daily Data Storage	5,000,000	5,000,000	10,000,000

■ Server Specification

Parameter		Single Server	Multiple Servers
Number of sub servers per system	Sub Servers	-	20 servers
Total Devices	Devices	2,000 devices	40,000 devices
	Auto-Registered Devices	1,000 device	20,000 devices
Video Devices and Channels①	Video Devices and Channels	1,000 devices; 2,000 channels	20,000 devices; 40,000 channels
	Add Devices by ONVIF	1,000 devices; 2,000 channels	20,000 devices; 40,000 channels
	Face Recognition Devices and Channels	500 channels	10,000 channels
	MPT Devices	1,000 devices	20,000 devices
	EEC Devices	64 devices	
ANPR Channels	ANPR Channels	500 channels	10,000 channels
Emergency Devices	Emergency Phone Towers	1,000 devices	20,000 devices
Media Transmission Server	Video Input per Server	600 Mbps	12,000 Mbps
	Video Output per Server	600 Mbps	12,000 Mbps
Playback, Storage and Download	Storage Bandwidth per Server	600 Mbps	12,000 Mbps
	Maximum Capacity per Storage Server (IPSAN)	600 TB	12 PB
Picture	Picture Input Bandwidth	320 Mbps	6400 Mbps (20 Servers)
	Picture Output Bandwidth	320 Mbps	6400 Mbps (20 Servers)
Event	Total Events②	400 per second	750 per second
	Storage of Events or Alarms with Pictures③	75 per second (500 KB per picture)	750 per second (500 KB per picture)
	Events without Pictures	400 per second	750 per second

① Total number of video devices and channels indicates that the number of video devices and channels connected to the platform, such as IPC, EEC, and IVSS, cannot exceed the parameter.

② Total event concurrency: The ability to write all events to system records concurrently.

③ For events that took place at the same time and have pictures, picture write concurrency should also be taken into consideration. The picture write concurrency of an individual server is up to 280 Mbps, so the concurrency of events with pictures is limited by the picture write capacity.