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USC Security Platform

Reliable with database redundancy
Video storage
Meta data storage
Access system integration
Deep learning
Map with hierarchy
Device manager N+M

Map	Deep learning	Unified resource	Stream based storage
Video integration	Rule engine	Access system integration	Video encryption

USC security is equipped with advanced IT technology, based on HTML5 native video technology, it is easy to access the system with any PC and any latest browser. Simple User interface with simple icon enhance user experience. Based on micro service framework, database support real time streaming replication. The system support 2 replication database. The system can auto detect and select main database. By leveraging node hot standby, the system support device management redundancy. The system has a unified device management framework, it is easy to display data in a single pane of glass. The system support deep-learning based video analysis. The system use stream-based video storage technology, also can record metadata stream. The system extends beyond video surveillance and integrates with access control systems. Support iSCSI and RADOS (Ceph) block storage, thereby improving storage fault tolerance.
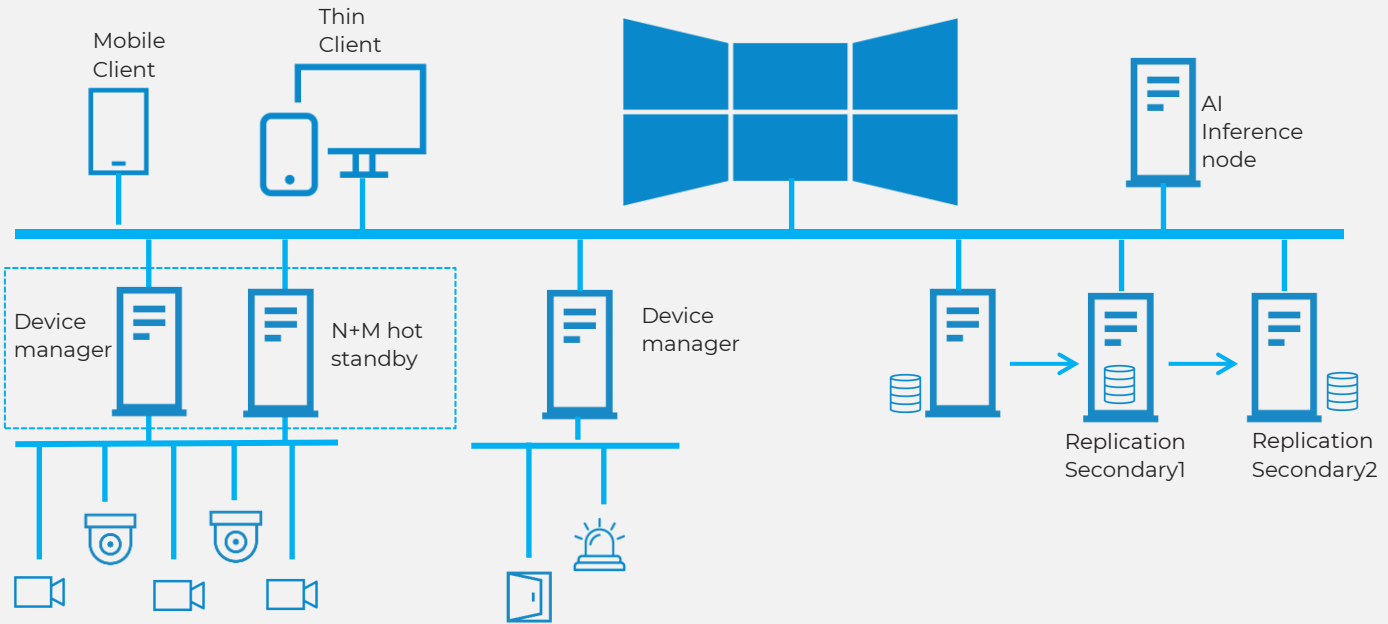
High availability

The system leverage database streaming replication, data keep synchronization with main database, by using 2 redundancy working node, then reach high availability with low cost.

The working node support hot standby mode, and one working node can serve multi working node, if one working node fails, the standby node will automatically and seamlessly take over the devices.

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System architecture

Mobile Client

Thin Client

AI Inference node

Device manager

N+M hot standby

Device manager

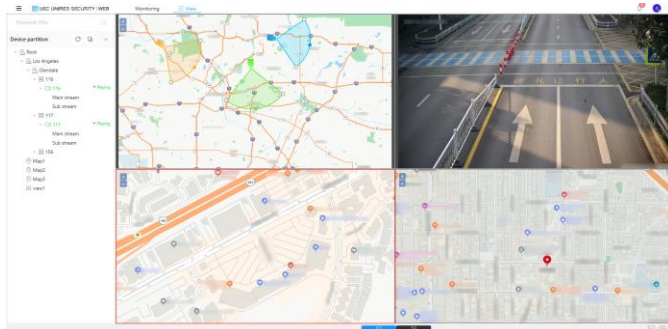Replication Secondary1

Replication Secondary2

Unified resource

The system abstract multi resource to one single pane of glass which include partition/views/map/camera/door etc. user can view and operate effectively. The system also has logic partition, then it is easy to define customized partition.
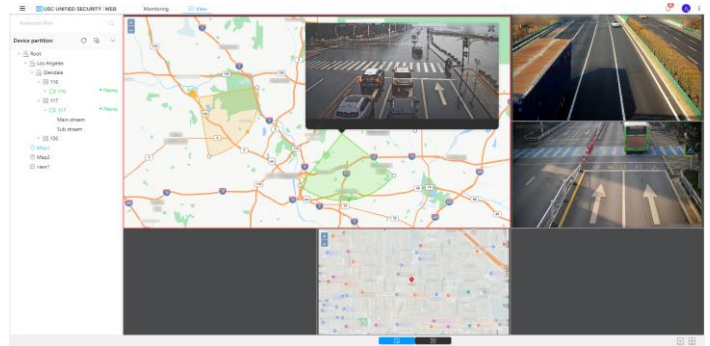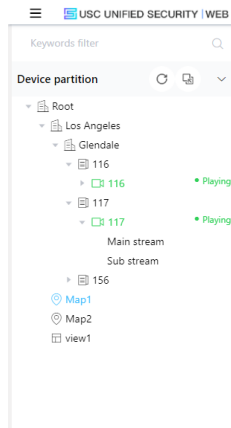
Map

The system support offline map and online GIS map. Offline map support jpg and tile format. Support Google & GAODE online GIS map.
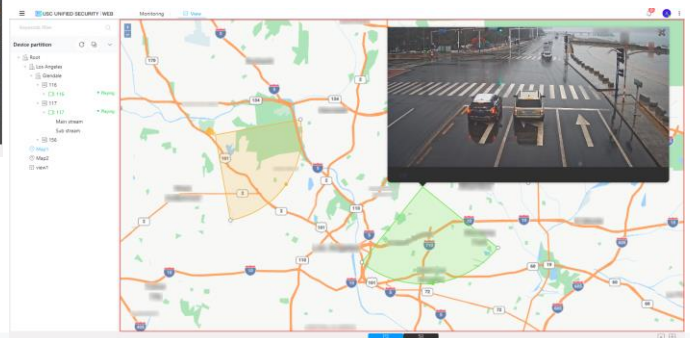

All the map added to system can have links to other maps. User can easily link them by drag and drop. User can quick navigation between buildings and floors and visual overview of installations in every size.

Video analysis

The system base on deep learning technology, support CPU and NVIDIA GPU inference， support perimeter analysis and real time abnormal event detection, and store meta data to stream based video database.
Operators can review hours of video in minutes and refine search results through filters as well as class and color etc. With 24/7 detection, the system enhances monitoring accuracy, increases operation efficiency.
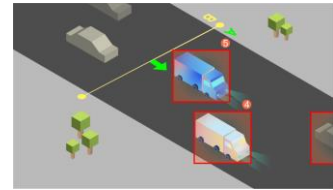
Vehicle counting

Crossing a line

Loitering

Person counting

PPE

Moving in an area

Stopped vehicle

Face recognition

Smoke fire detection

Video analysis, powerful meta data search

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Highlight Features

High availability
The system leverages micro service framework. database support real time streaming replication, and data keep synchronization with main database. USC helps address high level security requirements and ensure compliance with strict industry regulations.

CPU and NVIDIA GPU deep learning inference
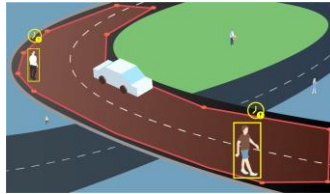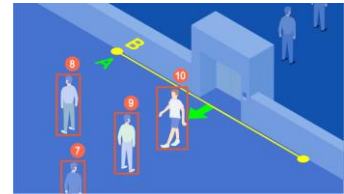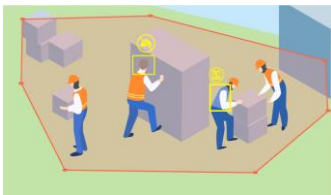The system leverage Intel OpenVINO and NVIDIA GPU technology, user can define rule for the analysis. Operators can review hours of video in minutes and refine search results through filters as well as class and color etc. and then enhances monitoring accuracy, increases operation efficiency.

Compatibility with most browser
Based on HTML5 technology, web client support Chrome/Edge etc. browser, support video and audio live view and playback, and support GPU H264/H265 video decoding. Can reach new heights in video management with actionable insights to save time.

Stream based storage N+M mode
The system design a stream-base video storage database, recording retention will reuse block and don't delete files, this help reduce Hard drive and file system work loading, and increase hard drive life. Working node can set as standby mode, if one working node fails, the standby node will automatically and seamlessly take over the devices.

Meta data storage and search
Video database can store deep learning meta results, user also can define rules to search metadata, this help user investigate after event happen.

iSCSI and RADOS (Ceph) block storage
Built-in standard iSCSI protocol, no need to manually map hard disks, integrated RADOS, direct read and write Ceph block storage devices, seamless storage migration in N+M mode, greatly reducing the time for failover migration.

Hierarchical map
Platform support Google GAODE GIS map. User can change the map URL, make it easy to leverage existing map infrastructure.

Support most NVR/IPC/VMS integration
Platform has a powerful device integration framework Support most NVR/IPC manufacturer's device SDK such as Hikvision DAHUA UNVIEW Tiandy with live view/playback/PTZ. Support most VMS integration such as ISC DSS and IVS with live view and playback and PTZ.

ONVIF Profile S/Profile G /Profile T
Combine ONVIF Profile S/T/G to one powerful device driver, so it is easy to integrate to most IP Camera and NVR/DVR。

Rule engine
Users able to customize the system with an automation Rule Engine and increase operational efficiency by minimizing the need for manual intervention.

Unified resource
The system abstract multi resource to one single pane of glass which include partition/views/map/ camera/door etc. user can view and operate effectively.

Access control system integration
Seamless Integration with ZKBioSecurity and Honeywell Pro-Watch. The system provides mappings between door access points and cameras. Central management make it easy to reduce time and cost.

Audio intercom
Platform leverage HTML5 technology, allow user intercom with camera in browser.

Cross CPU and OS platform support
The system support Linux OS (CentOS /RockyLinux /Ubuntu Debian/SUSE/Redhat)and Windows OS(Windows 7/8/10/11，Windows Server 2012/2016/2019).

Video Stream encryption
Reinforce your system's resilience to cyber security threats by using HTTPS video stream encryption.

System specifications

	Functions	PROFESSIONAL	ENTERPRISE	CORPORATE
SYSTEM	OS	Linux(CentOS /RockyLinux /Ubuntu Debian/SUSE/Redhat) Windows (Windows 7/8/10/11, Windows Server 2012/2016/2019)	Linux(CentOS /RockyLinux /Ubuntu Debian/SUSE/Redhat) Windows (Windows 7/8/10/11, Windows Server 2012/2016/2019)	Linux(CentOS /RockyLinux /Ubuntu/Debian/SUSE/Redhat) Windows (Windows 7/8/10/11, Windows Server 2012/2016/2019)
	CPU	Intel/ARMv8	Intel/ARMv8	Intel/ARMv8
	Browser	Chrome Edge Safari Firefox	Chrome Edge Safari Firefox	Chrome Edge Safari Firefox
	Browser OS	Windows Linux macOS	Windows Linux macOS	Windows Linux macOS
	Database failover	×	×	√
	Device manager N+M standby	×	√	√
	API integration	√	√	√
BASIC	Device partition	√	√	√
	Logic partition	√	√	√
	Map	√	√	√
	Group	√	√	√
	Time template	√	√	√
	Recording template	√	√	√
	Server-side motion detection	√	√	√
	Storage setting	√	√	√
	User management	√	√	√
	View management	√	√	√
OPERATION	Live view	√	√	√
	Playback video	√	√	√
	Analysis search	×	√	√
	Video intercom	√	√	√
DEVICE INTEGRATION	RTSP RTMP	√	√	√
	ONVIF Profile S G	√	√	√
	HIK SDK	×	√	√
	DH SDK	×	√	√
	UNV SDK	×	√	√
	HW IVS	×	√	√
	TIANDY SDK	×	√	√
	DH DSS	×	×	√
	HIK ISC/INFOVISION	×	×	√
	ZK6000	×	√	√
	Honeywell Pro-Watch	×	×	√
ANALYSIS	Video analysis rule configuration	×	√	√
	Video analysis alarm monitoring	×	√	√
	Metadata storage	×	√	√
GB	GB28181 Service	×	√	√
	GB35114 Service	×	×	√

Ordering information

Part number		Description
Base license	USC-BAS	Include basic user management, device partition, logic partition, group, role, map and view etc.
Video channel license	USC-CAM-10	10 channel license
	USC-CAM-50	50 channel license
	USC-CAM-200	200 channel license
	USC-CAM-500	500 channel license
	USC-DSDK	Device SDK integration license, include HIKSDK/DHSDK/UNVSDK/TIANDYSDK/HWIVS
	USC-PSDK	Platform integration license, include HIK ISC/INFOVISION/DHDSS
Access control integration license	USC-ACC-10	10 reader license
	USC-ZK6	ZKBioSecurity integration license
	USC-PWT	Honeywell Pro-Watch integration license
GB integration license	USC-GB28181	GB28181 service license
	USC-GB35114	GB35114 service license
Video analysis license	USC-MIAA-1	1 Channel Moving in an area license
	USC-CRAL-1	1 Channel Crossing a line license
	USC-LOIT-1	1 Channel Loitering license
	USC-STVE-1	1 Channel Stopped vehicle license
	USC-VECT-1	1 Channel Vehicle counting license
	USC-PECT-1	1 Channel Person counting license
	USC-PPE-1	1 Channel PPE license

Hardware recommendations

USC Browser Client	
CPU	Intel Core i3 (3.2 GHz or higher)
Hard drives	Minimum 500 GB, SSD recommended, 7200RPM or higher
RAM	Minimum 8GB
Network	1 Gigabit/s network interface card
Display resolution	Minimum: 1280 x 1024 Maximum: 3840 x 2160
Graphic card	Integration or Standalone
Operating System	Windows 10 Professional or Enterprise (64-bit) Windows 11 Professional or Enterprise (64-bit)

USC service	
CPU	Intel Xeon (4 core or higher)
Hard drives	Minimum 500 GB, SSD recommended, 7200RPM or higher Refer this link for calculate recording size: https://linkingvision.cn/download/application/storcalc/record.html
RAM	Minimum 8GB More camera channel need more memory: 1~200 Channels, 16G memory 200~1000 Channels, 32G memory(10 core CPU or higher recommended) 1000~2000 Channels, 64G memory(10 core CPU or higher recommended)
Network	1 Gigabit/s network interface card
Graphic card	NVIDIA RTX A2000 NVIDIA RTX A4000 SFF or other NVIDIA graphic card
Operating System	Linux OS (CentOS /RockyLinux /Ubuntu Debian/SUSE/Redhat)and Windows OS(Windows 7/8/10/11, Windows Server 2012/2016/2019). 64-bit