NUUO Central Management System (NCS)
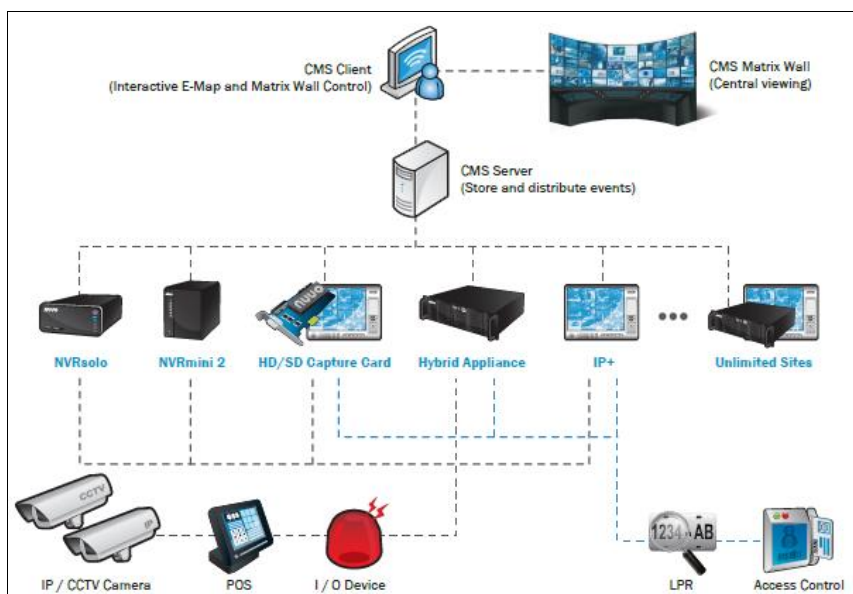
This seamless management of digital video, audio and data is a powerful solution for large scale installations

NUUO NVR-based Central Management System (NCS) is a powerful system designed for large-scale and high level enterprise projects. NCS can manage NUUO Mainconsole family product lines including NDVR Hybrid, NVR, DVR, NVRsolo and NVRmini2. NUUO NCS supports unlimited numbers of cameras, I/O devices, POS, LPR, access control, servers and users. The controls and operation of NUUO NCS is clear cut and map centric. It has the most powerful alarm management system among all NUUO Mainconsole family and can control unlimited matrices or viewing consoles in the centralized control room. NCS Matrix offers a video wall for users to get video and manage alarm efficiently and instantly.

Key Features

- ◆ Authentic client-server architecture
- ◆ Centralized video management by matrix wall
- ◆ Advanced instant alarm management
- ◆ Supports unlimited cameras, I/O devices, POS, LPR and access control
- ◆ Supports multiple layers of E-map
- ◆ Instant live view and playback
- ◆ User privilege and user group
- ◆ Supports multiple display matrices for remote live view with PTZ, joystick, and CCTV keyboard control
- ◆ Support View tour, camera tour, grid tour, and alarm tour
- ◆ Support Windows Active Directory
- ◆ Supports two-way audio
- ◆ Alarm status, data mining and reporting function
- ◆ Remote backup
- ◆ Embedded remote control and access to any NUUO Mainconsole family recording server (NVR/DVR/NDVR Hybrid, Hybrid appliance, NVRsolo, and NVRmini2).
- ◆ Backup alarm recording in clients
- ◆ Matrix view profile (Device groups)
- ◆ Support IVS event
- ◆ Support Fisheye de-warp

System Architecture:

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System Overview

Component	Description
Overview	Access and control unlimited cameras, I/O devices, POS, LPR and access control from any NUUO Mainconsole family recording server (NVR/DVR/NDVR Hybrid, Hybrid appliance, NVRsolo, and NVRmini2). Stable architecture protects alarm data
Client –Server Architecture	Unlimited clients and multi-monitor support. Clients are supported with popup live window and instant playback, remote playback, embedded remote playback application and smart search in playback for special events.
E-Map	Tree structured map layout supporting unlimited map layers. Supports intuitive GUI indicators of cameras, I/O devices, POS, LPR, access control and server locations.
Alarm management	Real-time alarm management supporting up to 45 alarm types, 6 video analytic events, alarm statuses, priorities and independent alarm coverage, data mining tools and much more.
Central Management & Remote Desktop	Assign different levels of privileges to manage access on servers, cameras, alarms, logs and much more according to each user account and user group. A Built-in "remote desktop configure" can remotely configure any NUUO NVR/DVR/NDVR.
Display Matrix Video Wall	Unlimited video matrices supporting up to 64 channels of video display per monitor.

Technical Details

NCS Alarm Server:

- **Ultimate recording servers:** Centralized management station supports unlimited number of NUUO Mainconsole family recording server (NVR/DVR/NDVR Hybrid, Hybrid appliance, NVRsolo, and NVRmini2).
- **Client/Server architecture:** NCS client features popup live window and instant playback, remote playback, embedded remote playback application and smart search in playback for special events.
- **SQL database:** Uses SQL Server 2005 Express to store all alarm logs.
- **Instant alarm notification:** Real-time alarm management supporting up to 45 alarm types, 6 video analytic events, alarm priorities and independent alarm coverage, data mining tool and much more.
- **User management:** Assign different levels of privilege to access server, camera, I/O device, POS, alarm, log and much more to each user account and user group.
- **Windows® Active Directory:** Synchronized with Windows® Active Directory server to manage user privilege and control of camera action.
- **3rd Party Integration**: Support 3rd party software, including license plate recognition, access control and so on, through Mainconsole. Users can manage metadata by recording real time information in databases which can describe alarms that link to video and audio. The system provides smart search tool to retrieve information and recorded video.
- **Smart time zones:** Central Server is designed to manage servers across different time zones. It features Coordinated Universal Time (CUT) and can translate local time at the recording server site into the time zone of the central management station.
- **License Management:** To register and validate your licenses, the system offers easy-to-use online activation via the Internet.
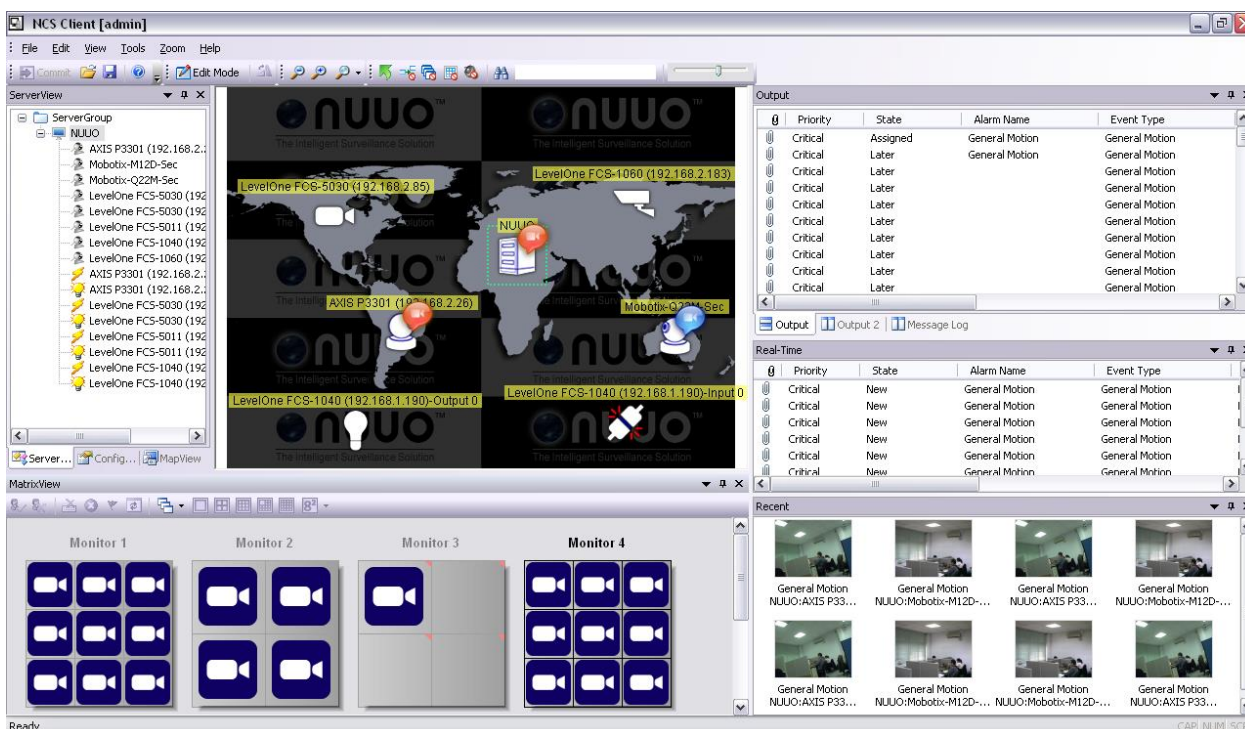
NCS Client

Operator Mode:

- **Multi-Monitor scenarios:**
  Monitor 1– E-Map/Navigation panel

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Monitor 2 – Alarm panel, event list, remote playback
Monitor 3-N – Live video display matrix

■ **Map centric intuitive operation:** All NCS functions are accessible directly from the E-map.
■ **Keyboard and joystick support:** Control device function and operate view by Keyboard and Joystick via NCS Client
■ **Automatic restart and login:** NCS Alarm Server/Client/Matrix can restart and login automatically when abnormally shut down.
■ **Automatic reconnection:** SQL Server, NCS Server / Client / Matrix will restore connection when disconnected.
■ **Automatic device synchronization:** Automatically synchronize for all of the IP cameras, I/O device, POS, LPR and access control systems in the servers.
■ **System log:** The log viewer tool enables users to search and export a list of system events.
■ **Two-way audio:** listen and record audio from camera's microphone.

E-Map:

■ **Hierarchical map tree:** Tree structured map layout supporting unlimited map layers.
■ **Custom Map Indicators:** Recording servers, cameras, I/O devices, POS, LPR and access control systems each have unique indicators. Operator can place them anywhere on the E-map or import self-designed indicator icons.
■ **Instant Alarm Notification:** Real-time alarm management supporting up to 45 alarm types, 6 video analytic events, alarm priorities and independent alarm coverage, data mining tools and much more.
■ **Intuitive Map Operations:** All NCS functions are accessible directly from the E-map.   The security operator can open live video windows, instant playback windows, do remote backup, query alarms, trigger digital output devices, check system status, search for other system transaction data and more.
■ **User-friendly E-Map tool:** Users can edit maps and servers easily, as well as make use of the navigation tool to zoom in and out of the map view, drag and drop the cameras and much more.
■ **Multiple image formats:** Import any image in BMP, GIF, JPEG, PNG, or TIFF formats.
■ **Access privilege:** Admin can define which maps are accessible for different User Group.

Alarm Management:

■ **Powerful Alarm Management:** Real-time alarm management supporting up to 45 alarm types, 6 video analytic alarms, advance IVS alarms, alarm priorities and independent alarm coverage, data mining tools, alarm notes and much more.

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- **Alarm Priority:** Assign alarm priorities (critical, high, normal, low) and define alarm groups for each alarm to increase the operation efficiency and data mining.
- **Alarm Coverage:** Operators can configure each alarm to be active at specific times or time intervals.
- **Alarm Management Guide:** Attach an alarm management guide to each of the alarms so the operator knows how to respond to different alarms.
- **Alarm Notifications:** The NCS client can play sounds, popup live video windows, activate alarm matrices, and send email alarms and SMS messages at the moment of an event trigger.
- **Print Alarm:** Clients can print out a detailed alarm report with snapshots, alarm guides and a timestamp included.
- **Powerful Data Mining:** Users can quickly search alarm history by alarm name, operator name, alarm status, alarm priority, time interval, source device, alarm type and keyword search of alarm note.
- **Export Alarm List:** Users can export alarm history to Excel tables.
- **Alarm Backup:** Alarm info can be scheduled for automatic or manual backup.
- **Recording on Client:** Alarm related video can be automatically recorded on client storage for later reference.

NCS Video Matrix Wall:

- **Live Matrix:** NCS Matrix stream and display live video from any NUUO recording server (NVR/DVR/Hybrid/NVRmini) as commanded by NCS client.
- **Multi-channel Live View:** Each matrix computer can display up to 64 channels of live video per monitor and supports multiple monitor display.
- **Display Layout:** Supports 9 display layouts for standard screens (1/4/9/12+1/16/25/36/49/64) and 5 for 16:9 or 16:10 wide screens (1+3/2+4/1+8/12/48)
- **Video Tour:** Automatically display views, cameras and alarm videos at a specified interval.
- **PTZ Control:** Full functional PTZ control panel on the NCS client can be used to pan, tile and zoom the cameras displaying on NCS matrix with user privilege hierarchy.
- **Alarm Matrix:** Matrix can popup alarmed cameras instantly upon an unusual event on any matrix monitor specified.
- **Matrix View Groups:** Each user/user group can be assigned to a different matrix view groups with specific camera viewing privilege.
- **Transcoding**: Live display at different frame rate and resolution
- **Fish eye Lens support:** Four unique viewing modes of Fish eye lens supported under Matrix.

Extension:

Remote Desktop

- **Build-in Remote Desktop:** Embedded remote desktop tool that can be used to configure any NUUO recording server (NVR/DVR/Hybrid) directly from the central management station.

Remote Playback System

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- **Multi-channel Remote Playback:** Remote playback of 16 channels recording from any one of the NUUO servers (NVR, DVR, NDVR and NVRmini).
- **Layout:** Playback in full screen, single channel, 4, 9 and 16 channel simultaneously.
- **Export video:** Take a snapshot of the recording in JPEG format or export a section of the video in "AVI" and "ASF" format with digital watermark.
- **Smart Search:** Search for 5 different special events (general motion, missing object, foreign object, camera occlusion and signal lost) in recorded files with date, time and log file.

Note:

*Users should access to NUUO MainConsole to get recorded video if camera sequence of MainConsole is changed. NCS Client can't get recorded video from MainConsole directly if camera sequence is changed.
*Users should synchronize or reload configuration of recording servers (MainConsole or NAS NVRmini) after configuration of recording server is changed.

Function	Description
Key features	
Client Server Architecture	One CMS server could be connected by several CMS clients
Supported Devices	Support all NUUO based site, as well as all I/O devices, POS, LPR and access control systems and IP camera brands supported by Main Console v4.1, NVRmini2 v1.6.1 and NVRsolo 1.0
Unlimited Server Solution	Unlimited access of cameras and DVR/NVR/NVRmini/NVRsolo sites
Multiple Matrix System	Unlimited matrix consoles connectable through network
Live Viewing	Up to 64 concurrent camera viewing for each matrix console
Full Alarm Management	Acknowledge or manage alarm log in the most efficient way.
Triple Monitor Scenario	
Default Monitor #1	Navigation Panel / Map Section
Default Monitor #2	Live Matrix System
Default Monitor #3	Alarm List / Message List / Remote Playback
CMS Server	
Alarm Database	SQL Server 2005 Express as database to store all alarms
Central Server	Store the site map data by hierarchical structures
	Directly connect to surveillance server to get alarm notifications
	Provide TCP service for CMS client access through network
	Registers different time zones into UTC format
Supported Notification	Send E-mail / SMS message
E-Map	
Map Tree Hierarchy	Unlimited level of display site map
Maps Formats	Supported image format: BMP, GIF, JPEG, PNG, and TIFF
Define Surveillance Servers	New / Edit / Delete / Disable and Enable
Define Cameras	New / Edit / Delete / Disable and Enable
Navigation Tools	Use to use zoom in, zoom out and drag operation
Indicators on Maps	Indicators for maps, servers, cameras, I/O devices , POS, LPR and access control systems Indicator icons support image format with alpha channel (TIFF) Display camera coverage Easy to find device on Map and Matrix View
Instant Status Notification	shows corresponding icon nearby device icons to automatically notify users of the events

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Function	Description
Intuitive Operation on Maps	Open Last Alarm Open Live Video Window Open Instant Playback Window Backup Recorded Video View Server Status Report Search , POS, LPR and access control systems transaction data
Live Popup Window	Live popup window to use audio/talk functions and show live video with PTZ control panel Set stream profile to change video quality Snapshot and transaction overlay Support IVS display options Support Fish eye view
Playback Popup Window	Remote playback popup window to replay recorded video and audio Export to AVI/ASF file and snapshot with digital watermark
Alarm Management	
Supported Alarm Type	Video Signal Abnormal Digital Input Trigger (Normal / Emergency) 3rd Party Transaction Alarm Trigger Network Abnormal DVR / NVR Abnormal Motion / Missing / Foreign / Focus / Blocked / IVS event Low Disk Space CPU temperature High / Fan Speed Low
Action when Alarm	Instant notifications on map and event list Go to specific map layer Play sounds Automatically show live video on popup window Automatically show live video on live matrix system Send SMS Send Email
Alarm Viewing	Filter tools to survey existing alarm history
Alarm Detail Popup	Show / Print a specific alarm with image preview
Advanced Alarm Search	Access required alarm logs in the most efficient way
Matrix System	
Live Viewing	Up to 64 concurrent camera viewing
Grid Type	Standard: 1, 4, 9, 12+1, 16, 25, 36, 49, 64 Wide Screen: 1+3, 2+4, 3+8, 12, 48
Video Tour	Flexible auto scan mechanism and full screen viewing View tour Camera tour Grid tour Alarm tour in simple and salvo mode Exclude Alarm View in View Tour
Automatically Popup	Show the live video associated with alarms
PTZ Panel	Floating PTZ panel to manipulate cameras on the matrix system
Keyboard and Joystick Support	Control PTZ camera by Keyboard and Joystick via NCS Client
Remote Playback System	
Remote Playback	Up to 16 concurrent camera viewing
Grid Type	1, 4, 9, 16
Export Function	Save as image and video, as well as printing
Smart Search	Fast search based on the specific event Include General motion, Missing object, Foreign object, Lose focus and Camera occlusion

Function	Description
Miscellaneous	
UserGroup Authority	Alarm Management View Alarm Image View Live Video View Recorded Video PTZ Control with User Privilege Hierarchy Control Digital Output Remote Desktop View and Search , POS, LPR and Access Control Systems Transaction Audio / Talk Access Devices include maps Edit matrix privilege for non-admin users
User Authority	User/Password Phone Number Email / Phone number UserGroup Coverage Matrix View Groups
Built-in Remote Desktop	CMS is capable of controlling NUUO servers through the remote desktop protocol.

Supporting NVR/DVR Device		
NVR	**SW v3.5.0**	SCB-IP+ series
DVR	**SW v3.5.0**	SCB-G3-1000 series, SCB-G3-3000 series, SCB-6000 series, SCB-7000 series, SCB-7100 series
NVR-mini	**FW v2.6.3**	NV-2020, NV-2040, NV-4080S, NV-4160S
NVR-mini2	**FW v1.0**	NE-2020, NE-2040
NVRsolo	**FW v1.0**	NS-1040

NVR Supporting Cameras				
IP Camera Brand(s) Supported	ACTi	ADT	Airlive	Alphatech
	AMTK	Arecont	ARM	Asoni
	ATLANTIS	AXIS	BASLER	Beward
	Bolide	BOSCH	Brickcom	Bullwark
	CAMTRON	Centrix	CISCO	CNB
	COP	CORUM	CTCunion	CryptoTelecom
	Dallmeier	Dahua	DIGIMERGE	D-Link
	DYNACOLOR	Eneo	Ernitec	Etrovision
	EverFocus	EYEVIEW	FINE	Forenix
	GE	Grandstream	Grundig	Guardeon
	Guardliner	HIKVISION	HiTRON	Histream
	Honeywell	iCANTEK	IQinVision	Jetstor
	JVC	LevelOne	LG	LILIN
	Linksys	LOREX	Lumenera	Messoa
	MegaIP	Micronet	MOBOTIX	Moxa
	NetworkCamera	NTIC	Onvif	Panasonic
	PELCO	Pixord	PLANET	PROBE
	Rover	SAE	Samsung	SANTEC
	SANYO	Seorim	SHANY	Sony
	StarDot	Sunell	Techson	Telview
	Tiandy	TOSHIBA	TP-Link	TRUEN
	UDP	USAG	vForge	Videosec
	Vision Hi tech	VIVOTEK	Y-cam	Yudor
	Zavio	3Svision		
Format	H.264, MPEG4, MJPEG, MxPEG			

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Function	Description				
Supported Languages					
Chinese (Simplified)	Chinese (Traditional)	Danish	English	Farsi	Finnish
French	German	Hebrew	Hungarian	Italian	Japanese
Korean	Portuguese (Brazil)	Portuguese (Portugal)	Russian	Serbian	Spanish
Thai					

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