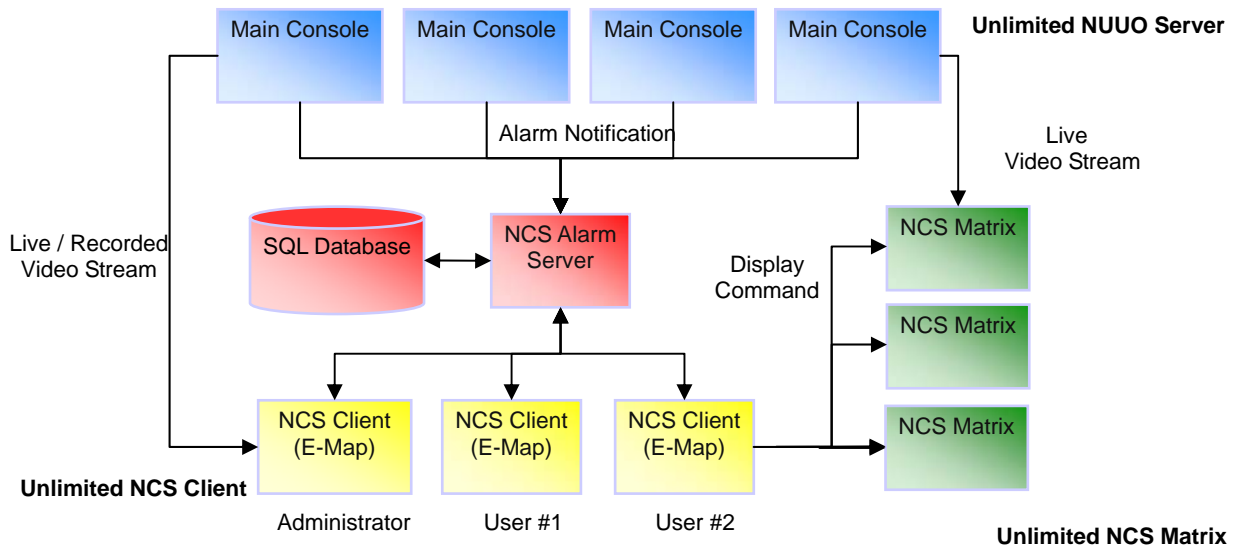


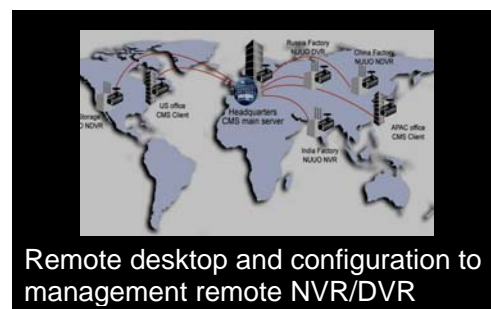
Unlimited Servers Solution NUUO Central Management System (CMS)

2008.12.26 v1.2.0

Software Block Diagram



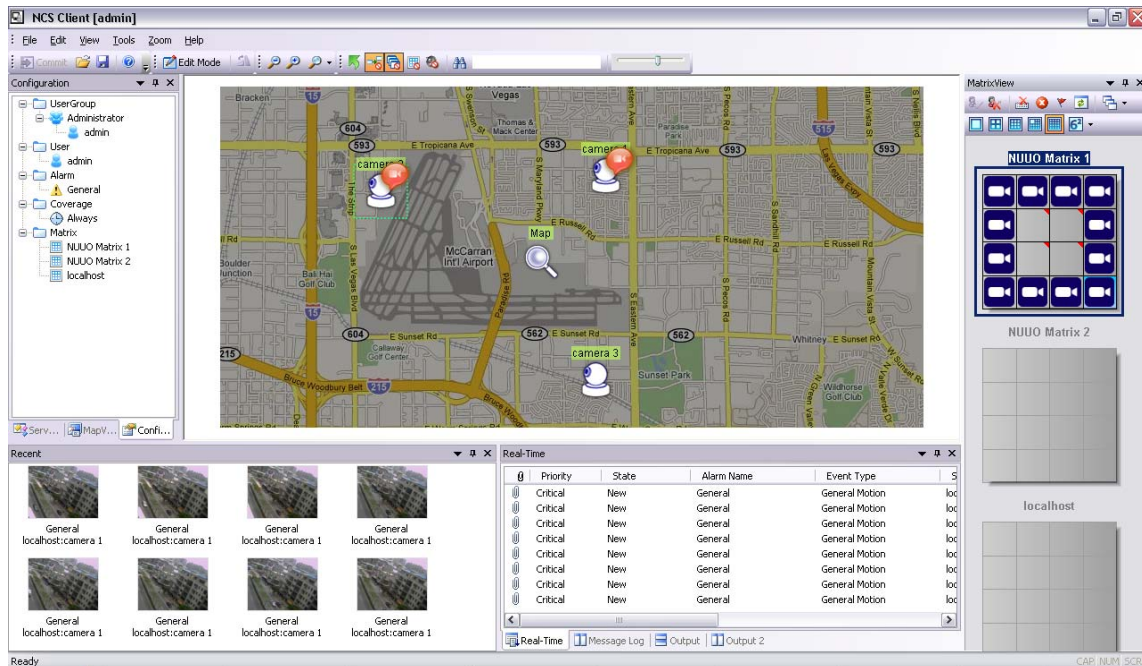
Software Key Features



Specifications

Key Features

- **High Compatibility** Supports all NUUO NVR/DVR based site, as well as all IP camera brands supported by Main Console (ACTi, Arecont, Atlantis, Axis, D-Link, EtoVision, HiTRON, FINE, IQeye, JVC, LevelOne, Lumenera, Mobotix, Panasonic, Pixord, Planet, PROBE, Sumsung, Sony, Toshiba, VIVOTEK, Zavio).
- **Unlimited Server Solution** There is no limitation for the number of camera and DVR/NVR sites.
- **Unlimited Matrix Consoles** Each matrix can displays up to 64 concurrent live camera viewing and no limitation for number of NCS matrix console.
- **Powerful Alarm Management** Intuitive E-Map GUI indicates all devices and real-time alarm altering information. Administrator can take advantage of full alarm management to acknowledge or update alarms status in the most efficient way.
- **Remote Configuration** Enables administrator to manage remote DVR/NVR servers.



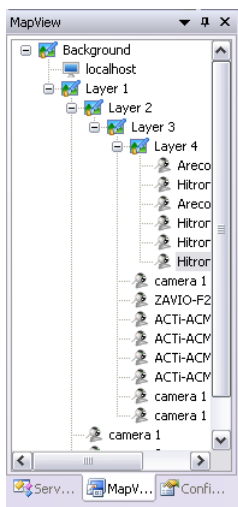
Display Mode

- Support Single, Dual, Triple and Multiple Monitors display.
- **Triple Monitor Scenario** One monitor displays E-Map/Navigation Panel, another monitor shows Live Matrix System while the last monitor indicates Alarm List / Message List / Remote Playback.

Central Server

- **Client/Server architecture** enables CMS server to be connected by CMS clients.
- Use SQL Server 2005 Express to store all alarm logs.
- Central Server connects to local surveillance server directly to get alarm notifications and provides TCP service for CMS client to access through network.
- Support real time notification such as email and SMS message.
- Use easily across time zones: Central Server transfers different time zones into UTC, Coordinated Universal Time, and present administrator's local time in the central system.

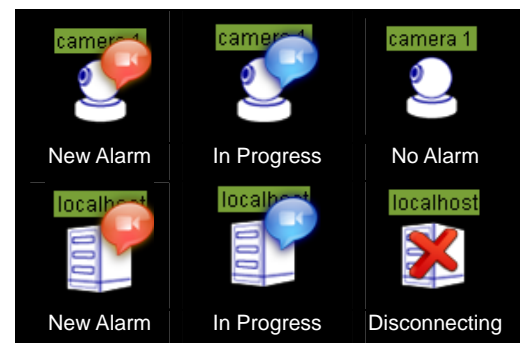
E-Map

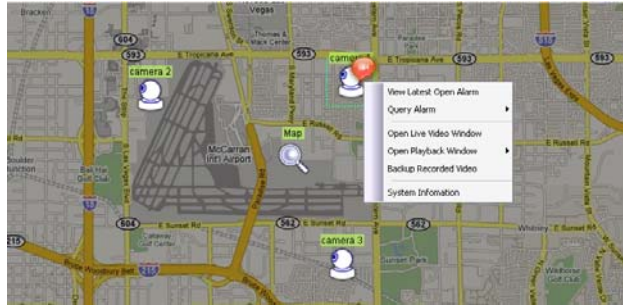


- E-Map supports image format including BMP, GIF, JPEG, PNG, and TIFF.
- User can edit maps and servers easily; by synchronizing each server, user can access to connected devices.
- Make use of navigation tool to zoom in, zoom out, rotate and drag operation on maps.
- **Hierarchical map tree** User can edit unlimited multi-level site maps which can track back to incident's location efficiently.
- **Mobile Map Indicators** Surveillance servers, cameras and I/O

devices indicators can be dragged freely to the map and distinguished by different image.

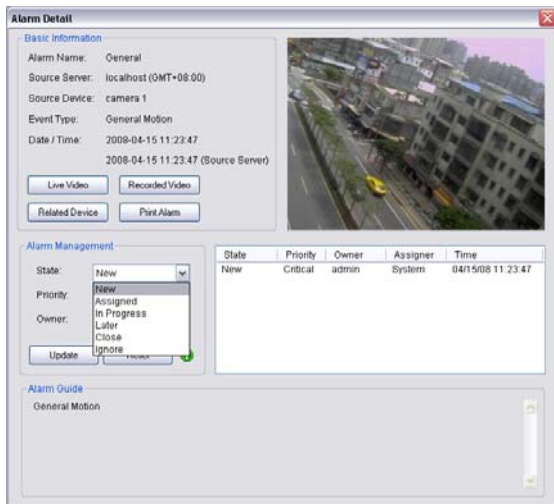
- **Instant Status Notification** System will show correspondingly small icon nearby the devices in the map automatically to notify users of the events. User can know each device's current status easily and clearly from the map.
- **Intuitive Map Operations** Once alarm is triggered, user can make instant reactions by questing alarm information, activating live video and playback video to track back events. Moreover, user can backup recorded video for future examination.





Alarm Management

- **Supported up to 30 Alarm Types** Alarm could be triggered when signal abnormal, digital input trigger, network abnormal, system setting change, general events, low disk space, and etc.

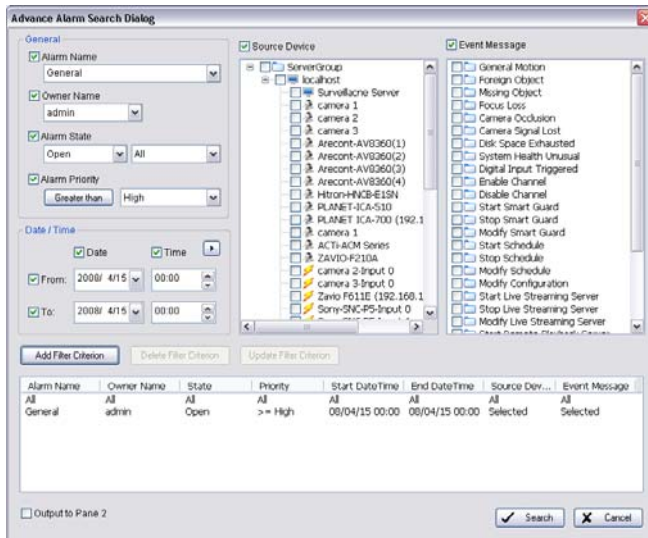


- **Alarm Priority** Four different priorities (critical, high, normal, low) can be defined for each alarm so that user can deal with alarms in order.

- **Alarm Coverage** User can define a valid period time for each alarm, for example, detecting general motion only during off-office time.

- **Alarm Management Guide** When an alarm occurs, user can access management guide from the alarm notification on map.

- **Alarm Procedure** User is allowed to manually change the selected one/multiple/all alarm status and alarm priority. Also, alarm can be assigned to different owners in case default owner is unable to deal with it.
- **Alarm Auto Notifications** When an alarm occurs, client system can play user-define sound, go to device's map layer, popup device's live video window, show live video or related camera's live video in the chosen matrix; server will send email or SMS message to any selected user.
- **Alarm Viewing** System will show the specific alarm image and alarm detail automatically once the alarm is triggered. User can export selected alarm details to Excel file or even print alarm details.
- **Print Alarm** Clint can print all alarm detail with alarm snapshot.



- **Advanced Alarm Search** When searching for alarms, user can search by alarm name, owner name, alarm state, alarm priority, time periods, source device and alarm type. By editing/saving filter criterion, user can access required alarm logs in an efficient way.

- **Export Alarm list** User can export alarm list to an Excel table on Alarm window.

Live Matrix System

- Live Matrix System receives all commands from CMS Client system to enable live video viewing on CCTV monitors.
- Each matrix can support up to 64 concurrent camera viewing.
- Support 9 various grid types (1/4/9/12+1/16/25/36/49/64).
- Support flexible auto scan viewing mechanism and full screen video preview with automatically hidden toolbar.
- CMS Client User can activate floating PTZ panel to manipulate selected camera on the matrix system.
- User can select any matrix grid to popup live video associated with alarms when events are detected.
- Client users can access to different matrix profiles. System can save unlimited matrix profiles and one matrix profile can be loaded by many users.



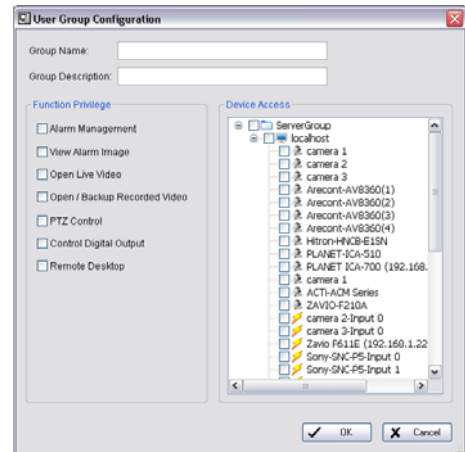
Remote Playback System

- From CMS Client window, user can access remote playback system for any connected server.
- Support up to 16 concurrent camera viewing.
- Support various grid types such as 1, 4, 9 and 16.

- Export video to “AVI” or “ASF” file; Export single frame to “BMP” and “JPEG” file.
- Support intelligent search for general motion, missing object, foreign object, lose focus and camera occlusion,

Miscellaneous

- **UserGroup Authority** User can define the authority of UserGroup in a most flexible way. Privilege functions, including alarm management, view alarm image, view live video, view recorded video, PTZ control, control digital output and remote desktop, and access devices can be defined differently for each UserGroup.
- **User Authority** Each User belongs to one UserGroup and shares the UserGroup’s authority. Moreover, coverage period and access matrix profile can be defined differently for each user.
- **Remote Backup Video** CMS users can backup video from remote NVR/NVR site to local machine. The backup files would include NUUO Playback system. It will easy to carry to other PC without install our software.
- **Build-in Remote Desktop** CMS users can configure each connected surveillance server through remote desktop protocol if they have remote desktop authority.



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 IP camera brands supported by Main Console v3.1.0
Unlimited Server Solution	Unlimited access of cameras and DVR/NVR/NVR-mini site
Multiple Matrix System	Unlimited matrix consoles could be connected 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	Use SQL Server 2005 Express to store all the 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 clients' access through network
	Registers different time zones into UTC format
Supported Notification Type	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
Navigation Tools	Use to use zoom in, zoom out and drag operation
Indicators on Maps	Indicators for maps, servers, cameras and I/O devices Indicator icons support image format with alpha channel (TIFF)
Instant Status Notification	show correspondingly small icon nearby the devices automatically to notify users of the events
Intuitive Operation on Maps	Open Last Alarm Open Live Video Window Open Instant Playback Window Backup Recorded Video View Server Status Report
Live Popup Window	Live popup window to show live video with PTZ control panel
Playback Popup Window	Remote playback popup window to show recorded video
Alarm Management	
Supported Alarm Type	Video Signal Abnormal Digital Input Trigger (Normal / Emergency) Network Abnormal DVR / NVR Abnormal Motion / Missing / Foreign / Focus / Blocked Low Disk Space CPU temperature High / Fan Speed Low

Function	Description
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	1, 4, 9, 12+1, 16, 25, 36, 49, 64
View Type	Flexible auto scan mechanism and full screen viewing
Automatically Popup	Show the live video associated with alarms
PTZ Panel	Floating PTZ panel to manipulate cameras on the matrix system
Joystick Support	Control PTZ camera by 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
Miscellaneous	
UserGroup Authority	Alarm Management View Alarm Image View Live Video View Recorded Video PTZ Control Control Digital Output Remote Desktop Access Devices
User Authority	User/Password Phone Number Email UserGroup Coverage Matrix Profile
Built-in Remote Desktop	CMS could control NUUO servers through remote desktop protocol

Supporting NVR/DVR Device						
NVR	SW v3.1.0	SCB-IP+ series				
DVR	SW v3.1.0	SCB-G3-1000 series, SCB-G3-2000 series, SCB-G3-3000 series, SCB-4016, SCB-5000R series				
NVR-mini	FW v1.3	NV-2040, NV-4080, NV-4160				
NVR Supporting Cameras						
IP Camera Brand(s)	ACTi	Arecont	Atlantis	Axis	CISCO	D-Link

	Dynacolor	Etrovision	EverFocus	Fine	Hitron	Icantek
	IQinvision	JVC	Level One	Linksys	Lorex	Lumenera
	Mobotix	Moxa	Panasonic	Pixord	Planet	Probe
	Samsung	Seorim	Sony	Toshiba	Truen	Vivotek
	Zavio					
Camera Format	MPEG4, M-JPEG, H.264					

