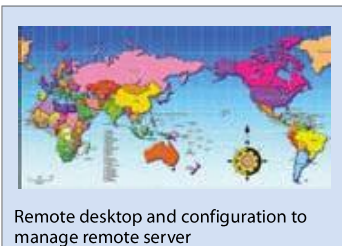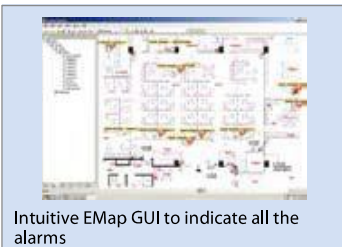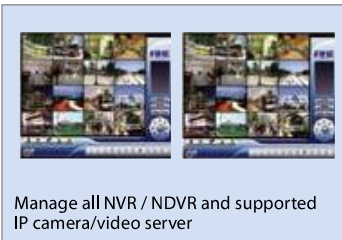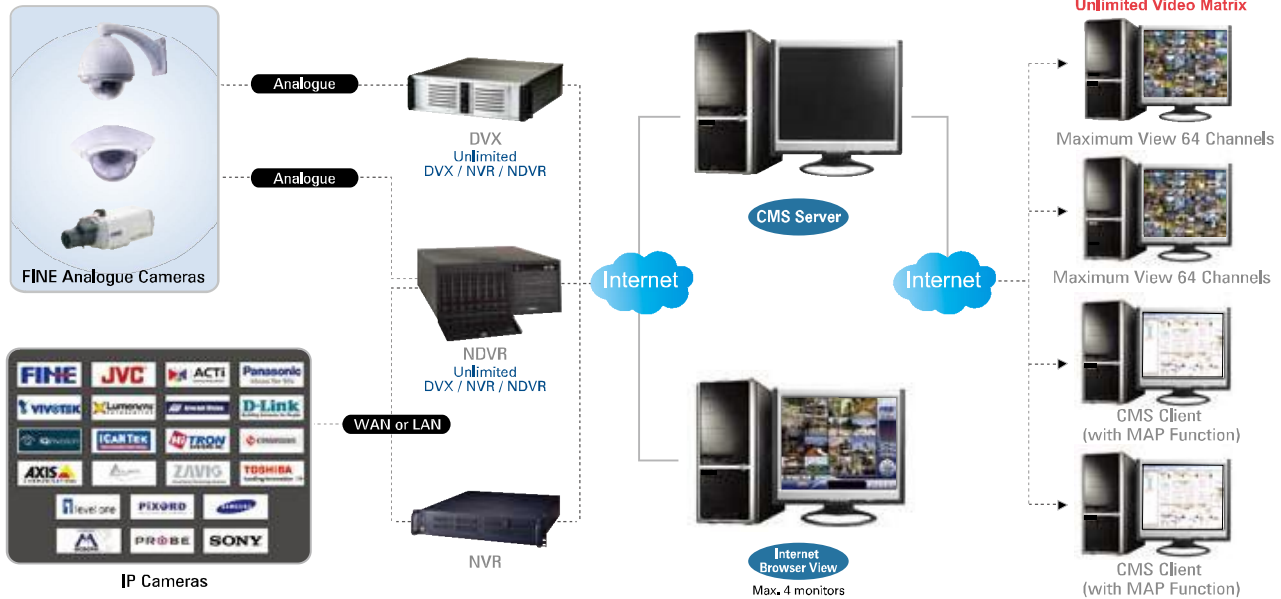# Central Management System (CMS)

Software Block Diagram:

This seamless management of digital video, audio and data is a powerful solution for large scale installations

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

Manage all NVR / NDVR and supported IP camera/video server

Up to 64 concurrent live camera viewing for each video matrix

Intuitive EMap GUI to indicate all the alarms

Remote desktop and configuration to manage remote server

❖ Key Features

- Authentic client-server architecture
- Centralized management
- Supports all recording servers (NDVR, NVR, DVR and NVRmini)
- Supports unlimited cameras, I/O devices and POS
- Supports unlimited display matrices for remote live view with PTZ and joystick control
- Supports unlimited layers of E-map
- Supports H.264, MPEG4, MJPEG, and MxPeg video compressions
- Supports IP cameras, megapixel cameras and video servers
- Device groups
- Advanced GUI alarm management
- Alarm status, data mining and reporting function
- Instant playback
- Remote backup
- Embedded remote desktop access to any servers (NDVR, NVR, DVR and NVRmini)

❖ System Overview

Component	Description
Overview	Access and control unlimited cameras, I/O devices and POS from any recording servers (NVR/DVR/NDVR Hybrid and NVRmini). SQL Server 2005 Express Data base.
Client –Server Architecture	Unlimited clients and multi-monitor support. Clients support 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 maps layers. Intuitive GUI indica tor of cameras, I/O devices, POS and server locations.
Alarm management	Real-time alarm management supporting up to 45 alarm types, 6 video analytic events, alarm status, priorities and independent alarm coverage, data mining tool and much more.
Central Management & Remote Desktop	Assign different levels of privilege to access server, camera, alarm, log and much more to each user account and user group. Built-in "remote desktop configure" can remotely configure any NVR/DVR/NDVR.
Display Matrix	Unlimited video matrices supporting up to 64 channels of video display per monitor.

Central Management System (CMS)

Display mode with E-Map support Navigation design for zoom in/out

Alarm Live Video Pop up notification

Remote Playback Window

Remote Back up Recorded Video

Low Disk Space, Disconnect Servers, Unsuaual System Health Alarm

Remote PTZ control

Advanced Alarm Search

✛ Technical Details

NCS Alarm Server:
- EUltimate recording servers: Centralized management station supports unlimited number of recording servers (NDVR, NVR, DVR and MiniNVR).
- EClient/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.
- ESQL database: Uses SQL Server 2005 Express to store all alarm logs.
- EInstant 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.
- EUser 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.
- ESmart 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 recording server site into the time zone of central management z station
- ELicense Management: To register and validate your licenses, the system offers easy-to-use online activation via the Internet and alternatively

NCS Client
Operator Mode:
- EMulti-Monitor scenarios:
  Monitor 1 – E-Map/Navigation panel
  Monitor 2 – Alarm panel, event list, remote playback
  Monitor 3-N – Live video display matrix
- EMap centric Intuitive operation: All NCS functions are accessible directly from the E-map.
- EAutomatic startup and login: NCS Alarm Server/Client/Matrix can start up and login automatically when the servers restart.
- EAutomatic device synchronization: Automatically synchronize for all of the IP cameras, I/O device and POS in the servers.

E-Map:
- EHierarchical map tree: Tree structured map layout supporting unlimited maps layers.
- ECustom Map Indicators: Recording servers, cameras, I/O devices and POS each have its unique indicators. Operator can place them anywhere on the E-map or even design its own indicator icons.
- EInstant 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.
- EIntuitive Map Operations: All NCS functions are accessible directly from the E-map. Security operator can open live video window, instant playback window, remote backup, query alarm, trigger digital output devices, check system status, search POS transaction data and more.
- EUser-friendly E-Map tool: Users can edit maps and servers easily, as well as make use of navigation tool to zoom in and out of the map view, drag and drop the cameras and much more.
- EMultiple image formats: Import any image in BMP, GIF, JPEG, PNG, and TIFF formats.

Alarm Management:
- EPowerful Alarm Management: Real-time alarm management supporting up to 45 alarm types, 6 video analytic events, alarm priorities and independent alarm coverage, data mining tool, alarm note and much more.
- EAlarm Priority: Assign alarm priorities (critical, high, normal, low) to each alarm to increase the efficiency in response and data mining.
- EAlarm Coverage: Operator can schedule each alarms to be active at a specific times or time intervals.
- EAlarm Management Guide: Attach an alarm management guide to each of the alarms so the operator knows how to respond to different alarms.
- EAlarm Notifications: NCS client can play sound, popup live video window, active alarm matrix, send email alarm and SMS message at the moment of an event trigger.
- EPrint Alarm: Client can print out a detailed alarm report with snapshots, alarm guide and timestamp included.
- EPowerful data mining: User 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.
- EExport Alarm list: User can export alarm history to Excel table.

NCS Matrix:
- ELive Matrix: NCS Matrix stream and display live video from any recording server (NVR/DVR/Hybrid/NVRmini) as commanded by NCS client.
- EMulti-channel live view: Each matrix computer can display up to 64 channels of live video per monitor and supports multi ple monitor display.
- EDisplay layout: Supports 9 different display layouts (1/4/9/12+1/16/25/36/49/64).
- ECamera sequencing (auto scan): Matrix can loop through all the cameras automatically at a specified interval.
- EPTZ Control: Full functional PTZ control panel on the NCS client can be used to pan, tile and zoom the cameras displaying on NCS matrix.
- EAlarm Matrix: Matrix can popup alarmed cameras instantly upon an unusual event on any matrix monitor specified.
- EMatrix Profile: Each user/user group can be assigned to a different matrix profile with specific camera viewing privilege.
- ETranscoding: Live display at different frame rate and resolution
- EAudio: Listen live and recorded audio from cameras' microphone through NCS Client.

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

Remote Playback System
- E Multi-channel Remote Playback: Remote playback of 16 channels recording from any one of the servers (NVR, DVR, NDVR and NVRmini).
- E Layout: Playback in full screen, single channel, 4, 9 and 16 channel simultaneously.
- E 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 water mark.
- E 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.

Central Management System (CMS)

✛ Key Features

Function	Description
Key features	
Client Server Architecture	One CMS server could be connected by several CMS clients
Supported Devices	Support all based site, as well as all I/O devices, POS and IP camera brands supported by Main Console v3.2.0 and NAS NVRmini v2.1
Unlimited Server Solution	Unlimited access of cameras and DVR/NVR/NVR-mini sites
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 / 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 and POS
	Indicator icons support image format with alpha channel (TIFF)
	Display camera coverage
	Easy to find device on Map and Matrix View
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
	Search POS transaction data
Live Popup Window	Live popup window to use audio function and show live video with PTZ control panel
	Set stream profile to change video quality
	Snapshot and POS transaction overlay
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)
	POS Alarm Trigger
	Network Abnormal
	DVR / NVR Abnormal
	Motion / Missing / Foreign / Focus / Blocked
	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

Function	Description
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 View and Search POS transaction Access Devices
User Authority	User/Password Phone Number Email / Phone number UserGroup Coverage Matrix Profile
Built-in Remote Desktop	CMS could control servers through remote desktop protocol

NVR Supporting Cameras

IP Camera Brand(s)	FINE Cisco EverFocus Icantek Lorex Panasonic (PSS) Seorim Y-cam	Arecont Digimerge Eyeview IQinvision Lumenera Pixord Sony Zavio	Atlantis D-Link Vivotek JVC Mobotix Planet Toshiba ACTi	Axis Dynacolor HIKVision LevelOne Moxa Samsung Truen Sanyo	Basler Etrovision Hitron Linksys Panasonic (PCC)
Camera Format	H.264, MPEG4, MJPEG, MxPEG				

Supporting Language

Bulgarian	Chinese (Simplified)	Chinese (Traditional)	Danish	English	Finnish
Bulgarian	Portuguese (Brazil)	Spanish			