SmartVMS™ Security Management System Software

from

SmartVMS Technologies

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System Architecture

SmartVMSTM Security Management System

Cameras (1 to 1000+)

SmartVMSTM Enterprise Servers + Optional built-in video analytics

SmartVMSTM Lite Servers

SmartVMSTM Video Analytics Servers

Failover Management Servers

Redundant Recording Servers

Input Network

Uniform Communication Interface (HTTP, TCP, RTSP, UDP)

Output Network

YVAN / Internet

SmartVMSTM Remote Clients

SmartVMSTM Client Workstations

Browser Based Clients (IE / Mozilla / Safari)

SmartPhone Clients (Windows Mobile, Android, iPhone)

iPad Clients

Any external event generator software / hardware

Custom Apps / 3rd party apps (e.g. access control system)

Client SDK (C/C++ version, ActiveX version)

Command and Control Center
Features

• Feature-rich Video Management Software
• Open platform – supports cameras and security devices from multiple vendors
• Video management and management of data generated by security devices like access control, fire alarm systems etc
• Supports quick addition of new camera and security devices
• Fully distributed architecture to avoid single point of failure
• Highly optimized, includes multi-core processor support
• Can manage hundreds of cameras
• Tightly integrated built-in video analytics module
• Flexible architecture to quickly support project specific customized video analytics
• Supports quick updates for project specific requirements
• Availability of SDKs for integration with external 3rd party systems
• Simple licensing

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Simultaneous Functioning

• Recording
• Alarms handling
• Live view
• Camera control
• Map view
• Video analytics
• Playback
• Configuration and reports
• Pre-defined surveillance tasks execution
• Multiple monitor support

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Video Input

- Hybrid solution supporting analog video as well as IP video
- Supports video cameras from multiple vendors
- Video capture from wide range of video sources – video cameras, video encoders, video servers and DVR models
- Flexible architecture to quickly integrate any new cameras
- Auto search for IP video devices
- Auto search analog cameras
- Supports multiple formats - MJPEG, MPEG4, H264
- Supports dual stream cameras, triple stream cameras
- Support for mega pixel cameras
- IR / thermal cameras
- Fixed cameras and PTZ cameras
- Independent FPS, resolution and bit rate settings for display stream, recording stream and video analytics stream
- Fully optimized video capture to minimize the bandwidth usage
- Y-flip video to manage difference in coordinate systems
- Automatic restore of video connection

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Security Devices

- Ability to manage other devices like – access control cards, motion sensors, fire alarms etc
- Flexible and expandable architecture for quickly integrating any new security device
- Primary and secondary videos association with devices
Recording

• User configurable video resolution and frame-rate for each channel
• Multiple recording modes – continuous, scheduled, on alarm
• Pre and post event recording
• High FPS recording on alarm
• Operator activated recording
• Time lapse video recording
• Video overlay text
• Available disk space and expected recording time indicators
• Recording history indicator
• Watermarking on recorded video
• Automatic hard disk recycling
• Network time server synchronization
• Multiple drives selection
• Support for RAID, Direct-attached Storage and Network-attached storage
• Redundant recording
• Fail-over recording with full data synchronization
• Highly optimized to record 256 channels per server
Alarms

- In-built video motion detection
- Video Analytics alarms
- Camera tampering / scene change
- Network loss, network recovery
- Video loss, video recovery
- Low disk space, disk space recovery
- Camera / video server alerts
- Alerts from the integrated security devices
- External digital alarm input
Alarms Management

- Dedicated recent alarms console screen
- Ability to independently configure alarm management for alarms generated from different sources
- Wide range of alarm handing options - Indicators on map, Audio indicator, Start multi-channel recording, Multi-channel PTZ, Digital output to devices, Pop up alarm acknowledge window, Pop up preconfigured live video screen, E-mail, Save alarm image, Execution of user defined macros, Digital output etc
- Alarms stacking / queuing
- Alarm categories – Logs, Warnings and Alerts
- Manual and auto alarm acknowledgement
- Advanced alarm acknowledgement screen displaying active alarms queue; and live and alarm videos associated with each of them
Live Video View

- Tree view of cameras and sequences
- Drag and drop camera selection
- Patrolling mode / video sequences
- Multiple layout options combined with patrolling mode
- Page navigation within layout
- Compact layout button
- Digital PTZ
- Interactive digital PTZ
- Magnifying glass
- Video overlay text
- Bandwidth usage indicator
- Multiple live view screens (up to 14)
- Independent layout settings for each screen
- 144 video view in single screen
- Instant replay
- Virtual linkage of cameras
- Quick access toolbar for each video window
- ‘Hide UI’ / ‘view videos only’ mode
- Image snapshot from live video

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Camera Control and Video Control

- Drag and drop camera selection
- Camera PTZ
- PTZ priorities configuration for different users
- Presets and tours
- USB joystick support
- CCTV keyboard support

- Digital PTZ
- Digital auto-tracking
- Vibration removal
- On-screen camera PTZ controls
- On-screen digital PTZ controls
- Full-screen / high resolution video viewing for any selected camera
Map View

- Dedicated map view screen
- Tree view of cameras and sequences
- Drag and drop camera selection
- JPEG / BMP map images
- Camera / device indicators on map
- Alarm indication on map
- Live video display of multiple channels and sequences on map
- Video view state and camera indicator state for each camera
- Device indicators display on the map
- Alarm indicator on map
- Digital PTZ for map
- Interactive digital PTZ
- Map location presets
Video Analytics

- Supports IR / thermal cameras
- Seamless integration of video analytics module / in-built video analytics
- Easy to manage, tightly integrated simple user interface
- Local or remote processing of video analytics
- Availability of wide range of standard analytics features
  - Intrusion detection, Wrong direction movement detection, Line crossing / trip-wire
  - Camera tamper / scene change detection, Crowd detection, Un-attended object detection, Queue length detection, Asset protection, Loitering detection, Tailgating detection, Object stopped detection, People counting, Vehicles counting, Object trace / travel path, Object speed calculation
- Flexible architecture to quickly support project specific customized video analytics features
- Option of project specific combined analytics on data generated by multiple security devices and video streams
- Option to use 3rd party video analytics libraries using the standard SDKs

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Playback

- Synchronized playback of multiple video channels
- Video navigation - play, pause, up to 16X fast forward and up to 16X rewind
- Slow speed playback – fast forward and rewind, up to 0.25X
- Time based playback
- Alarm based playback
- Tree view of cameras, Drag and drop camera selection
- Multiple layout options, Page navigation within layout
- Compact layout button
- Digital PTZ, Interactive digital PTZ
- Magnifying glass
- Video overlay text
- Multiple playback screens (up to 14)
- Independent layout settings for each screen
- Up to 144 video view in single screen
- Virtual linkage of cameras
- Quick access toolbar for each video window
- Image snapshot from recorded video
- Recording history indicator

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Video Export

- Video export based on time duration or alarm
- Option for video overlay text on exported video
- Standard format video export, exported video can be played in any standard media player like Windows Media Player
- Native format video export with player application
Reports and Logs

• Session logs display
• Session alarms display
• Detailed user logs / activity reports / system logs
• Search user logs to generate reports
• Report includes details like activity description, source IP address
• Alarms search to generate alarm reports
• Search alarms based on alarm type, channel and time duration
• Alarm video display with video navigation controls
• Quick access to multi-channel playback and video export associated with search results
• Print logs
• Save logs in TXT, CSV or PDF formats
• Print reports
• Save reports in TXT, CSV or PDF formats
• Automated daily reports saving
• Automated daily reports e-mailing
• Print images

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Users and Privileges

• Multiple user levels and privileges
• Built in standard privileges
• Ability to define custom privileges
• Built in standard uses
• Unlimited number of users can be added
• Ability to associate / change privilege for any user
• Ability to disable a user. Ability to delete a user
• Administrator control to change password for any user
• User information like name, contact information etc
User Interface

• Multiple monitors and video walls support
• Virtual matrix
• Video thumbnail views
• Full screen view of any video channel
• Quick set up wizard for easy initial configuration
• All windows can be resized to custom sizes
• Single click 'Fit to screen size' support for all windows
• Recording status summary
• Video channel availability summary
• Video analytics status summary
• Integrated web server
• Simultaneous functioning of all features
• View video channels as a list or as thumbnails

SmartVMSTM Security Management System

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Data Management

• Archiving or deleting history data
• Manual data clean up
• Scheduled data clean up
• Manual data archiving
• Scheduled data archiving
• Single or multiple drives selection for recording
• Automatic intelligent drives allocation in case of multiple recording drives
• Option of automatic recycling of storage space – first in first out, with user configurable recycling thresholds
• Video player application is available along with the archived data for reviewing archived data
Client Application

• Standard server-client architecture
• Encrypted data communication between server and clients
• Support for port forwarding to support far away / remote clients
• Client software can be download from server URL
• Automatic client software upgrade, if required
• Multi-site monitor - connect to multiple servers and view combined data
• Ability to simultaneously view live videos from multiple servers
• Ability to simultaneously view Playback videos from multiple servers
• Automatic time synchronization with server computer
• Automatic time synchronization between multiple connected server computers
• Configuration to get live video streams from server or directly from cameras
• Browser based client – Internet Explorer, Mozilla Firefox, Apple Safari
• Browser based client – for Windows, Linux and Macintosh operating systems
• SmartPhone client
• iPad client

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24X7 Working

• Watchdog to monitor application health and status
• Automatic saving all settings including user interface settings
• Automatic full system restore after unexpected events like power loss
• Diagnostics parameters display
• Fully distributed architecture with no single-point failure
• Automatic optimization option in server to lower resource usage, after the settings are done
• Single click import and export of all settings for backing up or for replicating the same set up on another computer
• Failover server support
Integration & SDK

• Input SDK
  SDK for integrating other security devices
  SDK for integration with other software systems
  XML based alarm integration for alarms generated by other systems

• Output SDK / Client SDK
  C/C++ SDK for external softwares to integrate video, alarms and meta-data from Security Management System
  ActiveX based SDK for quick integration in any Windows application
  XML based alarm notification to external softwares
Advanced

• Optimized for multi core processors
• Fully scalable and expandable architecture
• Flexible architecture to quickly integrate any new video camera or video server
• Flexible architecture to quickly integrate any new security device
• Fully backward compatible upgrades

• OEM re-branding and customizations
  Option for basic OEM customization - application name, logo etc
  Option for full re-branding
  Option for project specific customizations

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Thank You