

Next Generation NVMS Solution



- **Enterprise-level video, audio and data management system for recording and monitoring**
- **Utilizes off-the-shelf computer workstations, servers, networking and storage equipment**
- **Integrates with existing legacy CCTV equipment and third party hardware and software solutions**
- **DVTel offers a complete line of IP Cameras and intelligent video analytics edge devices which, along with Latitude NVMS 6.1, create a complete end-to-end solution**
- **Latitude NVMS was developed using Microsoft .NET Framework, thus providing better interoperability, security, and ease of deployment.**
- **Latitude NVMS software comes in three package options including Classic, Elite and Enterprise**

DVTel's award winning Latitude NVMS® is an open standards, IP-based software platform that uses the latest advances in technology to create the most user-friendly solution on the market today.

Latitude NVMS is part of DVTel's Smart Security Solution. DVTel develops, designs, and provides Smart Security Solutions that help protect critical infrastructure -- in transportation hubs, city centers, nuclear and power facilities along with buildings and campuses of corporations, educational institutions and government facilities.

We tie together leading edge IP-based cameras and encoders, with built-in analytics capabilities that detect and report security threats, creating a powerful security "edge".

System Overview

Latitude NVMS V6.1 is a fully scalable enterprise-level multimedia management system. This advanced network-based system architecture enables simultaneous monitoring of video and audio, live and recorded, from multiple stations. The system is easily configurable for storage both on and off site. The software can be configured to store and to view from one to thousands of cameras and monitor connections across an unlimited number of servers.

- Latitude V6.1 is built on Microsoft .NET Framework and includes Mentor Screen Recording, Casebuilder Incident Reporting and Management and the award winning SceneTracker video stitching software, which incorporates DVTel's patent pending Adaptive Visualization Technology (AVT).
- When Latitude NVMS 6.1 is unified with Altitude IP Cameras, ioimage intelligent video analytics, and iSOC Advanced Applications, they create DVTel's Smart Security Solutions.
- Simultaneous use of multiple video compression, including H.264, MPEG4 and MJPEG.
- Continuous, scheduled, manual, event-based and alarm-based recording
- Supports over 100 different IP cameras and video edge device models from leading manufacturers.
- Integration with existing legacy analog CCTV systems.
- State-of-the-art client applications and IT friendly features provide ease of deployment and ease of use with any system size.
- Video Analytics enabled platform.
- Microsoft .NET SDK, API and Plug-in technology provide flexible integration and customized solutions.
- Powerful Event and Actions model allows for automation and provides both customization and 3rd party integration.
- Supports both centralized and distributed architectures.
- Resilient system design with failover and redundancy options.
- Active Directory integration supported.
- Motion detection and smart search support.

Latitude NVMS V6.1

Network Video Management System

System Functions

Live Video Monitoring

- Cameras can be monitored using computer monitors displaying the ControlCenter client application and analog monitors connected to the network via hardware decoders.
- On client workstations, state-of-the-art On Screen Display technology is used for maximizing the video real estate
- Multiple patterns of tile layouts include 4:3 and 16:9 aspect ratios can be used in ControlCenter
- Camera switching to any monitor in the system using a client PC mouse, PC keyboard or CCTV keyboard
- Support for multiple streams of high quality video at full-motion frame rates (30 fps NTSC, 25 fps PAL)
- Support for remote viewing using the Latitude Transcoder server
- Camera sequences
- DVTel SceneTracker Views can be monitored directly from ControlCenter
- Full screen video support
- Support for up to 4 monitors on a single client PC.

Live Audio Monitoring

- Audio inputs, such as microphones, can be monitored using computer speakers on the ControlCenter client workstation. They can also be monitored using audio outputs, such as speakers, connected to the network via audio hardware decoders
- Multiple audio streams monitored concurrently on a PC (audio mixing)
- Audio inputs can be linked to video cameras for combined audio-video monitoring
- Audio inputs can be monitored independently in ControlCenter using audio layouts
- Volume, mute and other audio controls are provided by the client application

Recording

- Record video from any supported camera or edge device in any resolution and profile
- Record independent or video linked audio inputs such as microphones
- Support for multiple recording triggers: manual, schedule, alarm-based, motion based and event-based. These recording reasons are saved as part of the clips' metadata
- Dynamically change record settings based on motion, alarm, or other events
- Support for pre-alarm/post-alarm and pre-event/post-event recording
- Support for recording either the first or the second stream of a dual streaming encoder
- Control the recording retention time – how long clips remain archived before being overwritten—per camera and per type of recording trigger
- Lock clips that should be kept indefinitely
- Recording profiles and schedules can be set individually per stream (audio or video)
- The use of containerized storage optimized for large video files reduces operating system overhead and improves reliability by preventing disk fragmentation
- Fail over recording, allowing Archivers to dynamically take over other Archivers' roles in cases of machine failure or communication loss
- Redundant recording

Playback from Archive

- Support for multiple concurrent video and audio playback from archive
- Support for Synchronized playback of multiple concurrent video and audio clips
- Archives can be queried based on scenes; date and time; recording reasons/triggers; bookmarks and incidents; motion smart search and other motion search methods
- Increase or decrease playback speed and use reverse playback to examine clips from end to start. Support for frame by Frame playback
- The ControlCenter timeline provides a visual indication of the current frame's time and position, the playback speed and metadata such as recording triggers and bookmarks
- The ControlCenter timeline provides video and audio clip navigation capabilities such as jump-to-time, change of speed and direction, change of timeline resolution and more

Export

- Video and Audio can be exported to a DVTel proprietary file format, providing an encryption protected SHA-1 digital signature for evidence management purposes
- Video can be exported to an AVI file using industry-standard codecs, with or without audio
- Audio can be exported in a standard WAV format
- Latitude ControlCenter supports exporting clips for burning to a DVD with a copy of the stand alone DVTel proprietary player
- Mass Export functionality optimized for high-speed export of massive amounts of data
- Background Export functionality provides a cost effective solution for long term retention of video and audio footage, allowing to configure automatic schedules for copying footage from the Archiver's primary storage to a secondary storage layer

Resiliency

- Safrun – every server installation contains a watch dog process to guarantee system services are always running
- Redundant archiving
- Fail Over Archiver
- Fail Over Directory
- Fail Over EDB
- Distributed architecture—minimizing the risks of a single point of failure

Virtual Matrix

- Support PTZ user hierarchy to determine which users have priority over other users when controlling PTZ domes
- Camera switching from any keyboard or workstation to any viewing tile or analog monitor the system
- Sequences
- Salvos – available with Layouts in ControlCenter or groups of analog monitors
- Guard Tours (layout tours)
- PTZ control, including control of presets, patterns, auxiliaries, PTZ lock
- CCTV keyboard support
- Automation: configure actions execution upon events

Events and Actions

- Event logging within the audit trail database
- Latitude can receive and distribute events from multiple sources
- Support for automatic execution of actions in response to events.
- Intelligent event and action distribution using a rule-based service

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Network Video Management System

System Functions (cont'd)

Command and Control

- Unification with iomage Video Analytics
- Video wall management
- Supports full screen video

Advanced Alarm Management

- Support for creation and configuration of an unlimited number of alarm types
- Alarms can be triggered automatically by the system in response to any event, according to the administrator's definitions
- Alarms can be triggered manually by users
- Alarms can be sent to multiple recipients, either simultaneously or based on pre-defined, alarm-type-specific recipient priorities
- ControlCenter displays an alarm list with detailed alarm states and history as well as various other alarm indications, including sound
- Situational awareness: using MapBuilder the user can generate maps with alarm icons that display the alarm status
- Alarm can be displayed with color coding to help operators quickly determine the level of urgency
- Alarms may display video and audio content to the user, including live and archived footage and maps. Alarms can also be associated with a pre-defined procedure URL page
- ControlCenter can display footage of multiple alarms concurrently in different tiles, in Block mode or Salvo mode
- Collaboration for operator groups: each operator can accept, forward, snooze or clear an alarm
- Alarms can trigger recording of pre-alarm and post-alarm periods, if defined
- Alarm recording is marked with automatic bookmarks
- Recorded alarm clips can be searched by recording reason or bookmark text

Event Logging and Reporting

- Latitude automatically supports recording of many types of events into an AuditTrail database
- Support for user selectable event-type logging
- Recorded events include date, time and other relevant fields of information
- Reporting tool provides means for creating multiple types of reports, based on time criteria set by the user, and allows the user to view, print and export the reports
- Alarm history can be queried and displayed in ControlCenter

Metadata

- The system manages metadata by recording real time information in the Archiver and Directory SQL databases. The information describes events that may or may not be related to recorded multimedia such as video or audio
- The system provides multiple tools to search and retrieve information using metadata. The most comprehensive tool for metadata-based search is the ControlCenter Query Pane
- Metadata types include recording triggers, alarm information (including response data), event information and bookmarks and incidents (collections of multiple simultaneous bookmarks from different sources). All metadata is time-stamped

User Management

- Latitude NVMS 6.1 supports user management capabilities, authentication and privileges
- Support for user groups. A user can be assigned to one or more groups and inherit the privileges of the groups.
- User privileges can be assigned per site, per camera and per virtually any function or entity in the system. The privileges are assigned using a hierarchy that is similar to the application trees, to allow giving or denying access for sites.
- User management is available also with Active Directory integration
- Active Directory enables central/global user management for multi-directory systems
- Active Directory enables importing users and groups into Latitude
- Active Directory unified login option allows using the windows credentials to login to Latitude

Motion Detection

- Motion detection is supported in the following modes:
 - * Full screen or zones on the Archiver, for all DVTeI IP cameras and encoders, excluding the value line cameras.
 - * Edge based motion detection with zones for most of the 3rd party edge devices as well as DVTeI Value line cameras
- Motion detection profiles allows the definition of sensitivity thresholds for motion on and motion off events
- Motion indication, showing the level of motion as histograms on the timeline of recorded video
- Motion Smart search, allowing the user to define a region of interest to query the system for all the motion incidents that have occurred in that region during a certain time period

CaseBuilder Incident Reporting and Management

- Privileged users can use CaseBuilder to collect and organize raw data in meaningful format
- Cases can include video and audio clips, snapshots, bookmarks and alarms, or any other files or URL that the user wishes to include
- Cases are saved on a separate storage so they can be shared with other users
- Cases can be exported and then be investigated in an offline location

Web Publishing

- Allowing customers to stream live video feeds from Latitude to web sites and other 3rd party systems
- Latitude can integrate with common media streaming solutions such as Windows Media Encoder or VLC

Unified iomage Analytics

- Inherent support for iomage analytics
- Receive Analytics events and alarms in ControlCenter
- View iomage analytic detections marked with OSD on the Video Arm, Disarm and Clear events from iomage Analytics device

Latitude NVMS V6.1

Network Video Management System

System Components

Services

Directory – the system's central administration and configuration database

EventDistributor (EDB) – intelligent rule based switching of events and actions

Archiver – records video, audio and meta data and manages edge devices

Gateway – portal for remote access over the Internet

Transcoder – provide remote connectivity to the system and video streaming over the Internet

AuditTrail – Recording of all administrator events in SQL database

SafRun – watchdog service

CaseBuilder - provides case management services

Client Applications

ControlCenter – the operator command and control interface and a player for live, archived and exported multimedia and case management

AdminCenter – the system configuration interface

QuickControl Center - allows you to connect to your Latitude system with no installation required. Launch it from Internet Explore (or save as a file) to start operating your system, enjoying the ControlCenter full-fledged functionality. QuickControl Center is also a portable stand alone player

Integration Tools—Software Development Kit (SDK), APIs and Plug-Ins

Mentor—Capture the operator's screen as a video stream, allowing the supervisor to record or monitor it in real time for training and review

Directory

- Authentication management
- System configuration and settings catalog
- Alarm management
- Incident/metadata management
- System status view
- Using Microsoft SQL Express / SQL Server Database
- Fail over directory—multiple per system

Event Distributor (EDB)

- Intelligent, rule-based distribution of events, actions and messages
- Supports Failover EDB

Archiver

- Recording of video and audio
- With dual stream encoder, either stream can be recorded
- Playback of video and audio
- Manages IP Cameras, Encoders, Decoders and other IP Edge Devices
- Audio/Video - Multicast or Unicast capability
- Controls PTZ domes and sequences
- Video proxy (redirection)
- Performs motion detection events
- Using Microsoft SQL Express / SQL Server Database to store metadata including storage management, bookmarks and motion information
- Support for Redundant Recording
- Supports Failover archiving
- Automatic discovery of IP edge devices
- Performs Background Export and Mass Export

Transcoder & Gateway

- The Transcoder delivers MJPEG video streams for internet/low-Bandwidth clients, by performing H.264 and MPEG4 to MJPEG transcoding
- The Gateway is a Portal for remote access over the internet in a transparent fashion
- The Transcoder can interface with common media streaming solution for web publishing

AuditTrail

- Recording of all the event types that were selected by the administrator for logging, into an AuditTrail database.
- Using Microsoft SQL Express Database

ControlCenter

- View live, archived and exported video and audio, side-by-side
- Synchronized Playback
- Advanced Workspace Mode control
- CaseBuilder mode
- Advanced Video Overlay controls to maximize the video real estate
- Sophisticated alarm and event management
- Manage incidents and bookmarks
- Global client - connect to multiple directories
- Remote client – connect via the internet
- Logical tree view with entity status
- Embedded SceneTracker
- Maps and web content in tiles
- Flexible/customizable GUI layout
- PTZ, Digital PTZ and Keyboard support

AdminCenter

- Configuration and administration
- Licensing interface
- Ease of use through Wizards: Quick Configuration Wizard, Camera wizard, Copy Configuration wizard and user group wizard
- Dashboard display of system status
- Sidebar menu offering task oriented user interface
- Automatic Discovery of edge devices
- Physical tree - servers and edge devices configuration
- Logical tree - geographical/organizational hierarchy configuration
- Filtered views for cameras, users and more
- Search/Filter support for all trees
- Profiles and schedules
- Users, user groups and privileges
- Alarm, event and action definitions
- Global client - connect to multiple directories
- Remote client - connect via the internet
- Map Builder - A user interface for creation and maintenance of HTML based maps
- Ability to backup system databases
- Mass Export and Background Export interface

SDK

- Provides a Latitude API that can be used for integrations and customizations
- Provides video feeds using the Direct Show Filter
- Provides event and alarm listeners to the system using the Event API and Alarm API
- Productized and documented

Note:

For ordering and hardware specification information, please refer to the Price Guide and System Specification Document. Both can be obtained by contacting your Local Regional Sales Manager (info@dvitel.com).