PERSPECTIVE VMS

Release Notes (Version 2.7.3)

LENSEC, LLC.

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Release notes for the Perspective VMS Enterprise, Standard, Express, Command View. and Trial Editions

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RELEASE NOTES (VERSION 2.7.3)

Release Notes – Perspective VMS™

Thank you for choosing to install **Perspective Video Management Software (VMS) Version 2.7.3**.

LENSEC LLC, a leader in video surveillance management software, has designed Perspective VMS as an intuitive, feature-rich, scalable, and yet fully flexible platform for monitoring and interrogating video surveillance cameras and devices. Our latest release (Version 2.7.3) was first made available for installation and world-wide distribution on 11/14/2016.

This document is designed to provide an informational overview of features and issues that may be relevant to your installation of Perspective VMS.

1. Introduction

Perspective VMS Version 2.7.3 is a maintenance version release following the previous version 2.7.0 first released in May 2016 (Release History).

1.1. Scope

The release notes pertain to installations of Perspective VMS Enterprise, Standard, Express, Command View, and Trial Editions. Separately available is documentation for general use and installation of Perspective VMS.

2. System Requirements

2.1. Client-Side Operating Systems and Browsers Supported

Perspective VMS operates within the Microsoft® Silverlight™ platform and can be run as a client version through standard web-browsers that allow the Microsoft® Silverlight™ plug-in including Microsoft Internet Explorer, Apple Safari, and Firefox by Mozilla.

NOTE	For servers and client recommendations LENSEC recommends Microsoft platforms including Windows Server (2008 and 2012 R2), as well as Windows desktop versions of Windows 7, Windows 8.1 and Windows 10. Windows 2003 Server, Windows XP and Windows 8 are **NOT** recommended as they are no longer supported with security patches and updates by Microsoft.

Client Recommendations (specifications may vary based on anticipated video streaming requirements per installation)

Hardware	Software
Processor: 2.4 GHz (x64 Processor) or 1.3GHz (Dual Core). Memory: Minimum 4 GB RAM. Available Disk Space: Minimum 10 GB. Display: SXGA (1280 x 1024) or higher resolution	Windows 7 or above (Recommended Windows 10) Mac OSX or higher (Recommended OSX Lion) Internet Explorer 9.0 and above (Recommend IE 11.0) Mozilla Firefox 4.0 and above (Recommended 43.0). Microsoft Silverlight 5.1

2.2. Server System Requirements

Web Server*

Hardware	Software
Processor: 2.4 GHz (x64 Processor) or 1.3GHz (Dual Core). Memory: Minimum 16 GB RAM. Available Disk Space: Minimum 320 GB OS Partition (if applicable): Minimum 60 GB Network Interface Controller: Minimum 1GB	Windows 2008 Server or above (Recommended Windows Server 2012 R2). Internet Information Services 7 or greater. MIME Types: .xap and .xaml files. Microsoft .NET Framework 4.6.

Archive/Streaming Server*

Hardware	Software
Processor: 2.4 GHz (x64 Processor) or 1.3GHz (Dual Core). Memory: Minimum 16 GB RAM. Available Disk Space: Minimum: 320 GB OS Partition (if applicable): Minimum 60 GB Network Interface Controller: Minimum 1GB	Windows 2008 Server or above (Recommended Windows 2012 R2 Server). Internet Information Services 7 or greater. MIME Types: .xap and .xaml files. Microsoft .NET Framework 4.6.

Database Server*

Hardware	Software
Processor: 1.0 GHz. Memory: Minimum 16 GB RAM. Available Disk Space: Minimum: 320 GB.	Windows 2008 Server or above (Recommended Windows 2012 R2 Server). Microsoft SQL Database Server 2008/2012/2014 (Express/Standard/Enterprise)

* All services may be installed on a single stand-alone server

2.3. Server-based Software Prerequisites

2.3.1. Internet Information Services (IIS)

Internet Information Services with the following roles are required to host the application. These services will be installed from the Perspective VMS wizard.

Application Development	ASP.NET .NET Extensibility (prerequisite for ASP.NET) ISAPI Extensions (prerequisite for ASP.NET) ISAPI Filters (prerequisite for ASP.NET) CGI
Security	Windows Authentication SSL (optional)
Web Services	IIS Management Compatibility

2.3.2. .NET Framework 4.6

PVMS is built on top of Microsoft's Silverlight Application Framework which requires .NET Framework 4.6 to operate.

2.3.3. Silverlight 5.1

PVMS is built on top of Microsoft's Silverlight Application Framework which requires Silverlight 5.1 to operate as a client.

NOTE	Google's Chrome browser (Version 45 or higher, released on 09/03/15) NPAPI plugins such as Silverlight are permanently disabled by default. We recommend utilizing Perspective VMS' Out-of-Browser application, Microsoft's Internet Explorer, or Mozilla's Firefox browser.

3. Features

3.1. New Features, Bug-fixes, and Enhancements

3.1.1. Perspective VMS 2.7.3 (Maintenance Release)

This version is a **Maintenance Release** update. There exist new features, feature enhancements and maintenance items, which include:

Product Feature Name	Description
Stores Administration	Enhancement: Improved loading time of camera store location objects in large deployments.
Server Administration	Enhancement: Improved loading time of server objects in large deployments.
Archiving Service	Enhancement: Improved memory increases due to queue buffer threading in the snapshot repository collection process.
Streaming Service	Enhancement: Improved streaming service memory utilization and memory growth on large systems.
Camera Integrations	Enhancement: Added model updates to the default cameras database
Camera Setup	Bug-Fix: Corrected a condition that would prevent camera edits of the corresponding server if the ADAM service routine was not installed on the distributed server.
Archive Audio	Bug-Fix: Corrected a condition that could result in asynchronous Audio and Video under select conditions.
Streaming Service	Bug-Fix: Improved streaming service memory utilization and memory growth
Direct Connection	Bug-Fix: Corrected a condition that resulted in Direct Connection option selection for cameras being ignored.
Real-Time Extraction	Bug-Fix: Corrected a failure condition on real-time extractions of IQinVision cameras
Image Extraction	Bug-Fix: Corrected a condition that could prohibit the deletion of an extraction by a permissioned user under select circumstances.
Image Snapshot Reference	Bug-Fix: Corrected a failure condition on camera snapshot references when set to Interval
Archive Redistribution	Bug-Fix: Corrected a procedure to allow the removal of archives past expiration on store in which the original archives were re-distributed
Audible Alert	Bug-Fix: Corrected condition where full audio file would not play.
Server Health Status Email Alert Notification	Bug-Fix: Corrected an errant email notification for servers offline when a new server is added to the system.
PVMS Streaming Log	Bug-Fix: Corrected types of errors logged in event of a streaming service failure.

3.1.2. Perspective VMS 2.7.2.1 (EBF Release)

This version is a **Maintenance Release** update. There exist new features, feature enhancements and maintenance items, which include:

Product Feature Name	Description
Archive Video Extraction	Bug-Fix: Corrected a condition from Version 2.7.X that would duplicate archive transactions resulting in duplicated video segments within a video extraction

Distributed Database Connectivity	Bug-Fix: Corrected a condition from Version 2.7.X that would duplicate archive transactions resulting in erroneous duplicate data in the archives table within the SQL database affecting size of the table as well as query reports.

3.1.3. Perspective VMS 2.7.2 (Maintenance Release)

This version is a **Maintenance Release** update. There exist new features, feature enhancements and maintenance items, which include:

Product Feature Name	Description
ONVIF PTZ Handler	Added ability to add a PTZ handler for ONVIF Profile-S compliant devices
Active Directory (Read)	Bug-Fix: Corrected a condition that would prohibit group importing from AD

3.1.4. Perspective VMS 2.7.1 (Maintenance Release)

This version is a **Maintenance Release** update. There exist new features, feature enhancements and maintenance items, which include:

Product Feature Name	Description
UHD Resolution Support	Added ability to support 4K (UHD) resolutions
Web Service SSL	Enhancement: Ensured all external links are pointing to SSL locations, removing mixed content warnings.
Autonomous Distributed Archive Management (ADAM)	Bug-Fix: Corrected a condition that could lock the cameras table resulting in false camera status reporting.
Custom Camera Attributes: Camera Overlay	Bug-Fix: Corrected a condition where Axis cameras would display the date/time header if the "Show Camera Header" attribute was deselected in Additional Attributes.
Events Panel – Archive Playback	Bug-Fix: Corrected a condition where a user without archive permissions could playback archives through tagged events in the expanded Information Panel.
Analog Encoder – Axis	Bug-Fix: Corrected default db model for Axis P7404 and 241Q to include Multi-Channel.

3.1.5. Perspective VMS 2.7.0 (Minor Release)

This version is a **Minor Release** update. There exist new features, feature enhancements and maintenance items, which include:

Product Feature Name	Description
Autonomous Distributed Archive Management (ADAM)	Ability for full autonomous archive management (creation, deletion, protection of archive locks and all other archive management features) regardless of consistent network connectivity to a central database. ADAM allows for remote transaction logging of archive storage information during a degraded network state which allows for subsequent merging with the central database when connected.
Axis Joystick Control Integration	Ability to leverage joystick and preset buttons from Axis Communications for navigation of PTZ and selection of pre-defined presets of compatible PTZ cameras.
Camera Image Portfolio Report	A printable report that shows the image snapshot of each camera in the system for assessing camera image quality, focus and field-of-view.
Dahua Camera Integration	Added camera model configuration for Dahua cameras.
Huawei Camera Integration	Added camera model configuration for Huawei cameras.
Pelco Camera Integration	Added camera model configuration for Pelco cameras.
Ipsotek Analytic Events	Added ability to receive events from Ipsotek Video Analytics.
Nedap ANPR Integration	Added ability to receive events from NEDAP devices.
PC-based Joystick Integration	Enhancement: Ability to leverage joystick buttons to select defined PTZ presets. Also allows for PTZ presets to be re-ordered (via drag-and-drop functionality) for correspondence with ordered preset positions.
System Lockdown	Enhancement: Changes lockout status from non-authorized users to immediate upon initiation of the lockdown.
User Groups	Enhancement: Allow for the ability to import permissions, cameras, and maps from one group to another. This enhancement greatly aids the incorporation and configuration of groups imported from Active Directory.

Multi-View Presets	Enhancement: Allows for sharing of multi-view presets to selected groups as well as public and private access.
Multi-View Sequences	Enhancement: Allows for sharing of multi-view sequences to selected groups as well as public and private access.
System Help	Enhancement: Updated embedded help manual using a new HTML5 interface.
Report - Access Log Query	Enhancement: Audit Logging of Play/Download/Delete of Image Extractions.
IP Addressable Camera Setup	Enhancement: Allow for configuration of custom HTTP and RTSP ports per camera.
PVMS Health Monitor Service Email Distribution	Enhancement: Include versioning information in health monitor email reports footer
Workflow External Notifications	Enhancement: Added ability to attach a report from an email notification workflow action
External Audio Stitching	Bug-Fix: Corrected a condition where audio from an external IP source controller, may lose synchronization with associated camera video.
MPEG-4 Support - Playback	Bug-Fix: Corrected a condition where grey framers were interspersed during rewind of MPEG-4 video.
Import Video from Source	Bug-Fix: Corrected a timeout condition on imported videos that may have precluded select videos from logging.
Snapshots Repository	Bug-Fix: Corrected a condition where Image Snapshot Cycle request failures may result in rampant requests before camera can respond. (affected IQinVision cameras)
Neighboring Cameras – Archive	Bug-Fix: Corrected navigation error where neighboring cameras from archive would show time as the incorrect time-zone.
Image Snapshot Reference	Bug-Fix: Corrected error where the snapshot frequency would not save upon edit.

3.2. Previous Versions Features, Bug-fixes, and Enhancements

3.2.1. Perspective VMS 2.6.0 (Minor Release)

This version is a **Minor Release** update. There exist new features, feature enhancements and maintenance items, which include:

Product Feature Name	Description
Camera Dock - Rapid Loading	Ability to load all visible cameras from a map to the camera dock
Edge-based motion event detection (Axis)	Ability to support edge-based Motion Detection alerts for Axis
PC-based Joystick Integration	Ability to leverage PC/USB joysticks (including Playstation and Xbox game controllers) for controlling Pan/Tilt/Zoom functionality of compatible cameras.
Map Layout Designer (Keyboard Controls)	Ability to utilize keyboard shortcuts to position cameras (fine-tune) on a map
System Volume Status Email Alert Notification	Ability for the system to detect and report via email health status exceptions if a system volume (C: Drive) is below 1.5 GB in free space.
Real-Time Extraction	Enhancement: System should associate real-time extraction time to the camera/server time-zone rather than the client PC
Archive Threshold Control	Enhancement: Ability to add a storage size limit of archives per camera
Cross Browser Interoperability	Enhancement: Launch Out-Of-Browser if user attempts to login via Chrome or Edge browsers
Archive Video (Image) Extraction	Enhancement: Added ability to prioritize the Extraction Queue
Camera Advanced Settings	Enhancement: Allow for selection of archive stream as source for streaming service
User-defined Schedules	Enhancement: Added a column in the Settings | Schedules list view that shows current status of schedules
Area of Interest - Motion Detection	Enhancement: Modified schedule grid to drop-down selection of schedules for greater control of motion alerts scheduling
External Notifications	Enhancement: Added ability to recognize username or full name when adding an email recipient to workflow
Conditions Setup (Workflows)	Enhancement: Extend withholding time configuration value
Custom Camera Attributes	Enhancement: Optimized layout for custom camera attributes
PVMS Web Log	Enhancement: Change workflow event messages from Debug level to Informational level
Multiview Administration Layouts	Enhancement: Added ability to "un" merge the layouts in Edit Layout control

Direct Camera Interface Link	Enhancement: Added ability to open camera window (from network link in camera setup) in a new full window
User Default PTZ Control Settings	Enhancement: Added ability to invert joystick vertical navigation commands as a user preference
Camera Collection	Enhancement: Renamed Groupings to Camera Collections and moved to the Cameras container to simplify user interface and administration.
Disable Basic Authentication Setting	Enhancement: Added setting to allow for connections without basic authentication
Archiving Service	Bug-Fix: Corrected a memory leak in Archiving Service (under select conditions)
Streaming Service	Bug-Fix: Select cameras (potentially with buggy firmware) may not release sockets if disconnect not properly terminated
Administration Service	Bug-Fix: Prevented occurrence of a break in reconnecting logic when connection fails for administration service
Camera Mass Editing	Bug-Fix: Allow for separation of archive schedules and archive stores when bulk editing
Downloadable Extracts	Bug-Fix: Extraction download should not show complete if not able to download fully
Image Snapshot	Bug-Fix: Image snapshot from a video (h.264) archive better reflects exact scene at moment of capture
Frame-by-Frame Archive Playback Controls	Bug-Fix: Correct condition where rewinding one frame (in h.264) could move forward to closest iframe rather than back
User-defined Schedules	Bug-Fix: Correct condition where system would not allow schedules to become inactive if crossing over midnight
Camera Setup	Bug-Fix: Corrected an error when clicking save after GoTo (live or archive) from Administration

3.2.2. Perspective VMS Version 2.5.2 (Maintenance Release)

Product Feature Name	Description
Panamorph De-warping (Immervision)	Ability to de-worp and navigate (server-side) video from a compatible IP camera with a Panamorph lens
Archive Video (Image) Extraction	Enhancement: More efficient in Image Extraction generation based upon selectable camera resolution
Server Health Report	Enhancement: Add reporting of Analytics Service to system health reports
Multiview Administration Settings	Enhancement: Add Camera Layouts to all license levels
Streaming Service	Bug-Fix: Corrected errant appendage to CGI string on live streaming

3.2.3. Perspective VMS Version 2.5.1.1 (EBF Release)

Product Feature Name	Description
PTZ control support (Panasonic)	Bug-Fix: Controls for vertical movement are inverted and Zoom is too stepped
PTZ control support (Axis)	Bug-Fix: Problem found on newer firmware of some Axis Q-series PTZ

3.2.4. Perspective VMS Version 2.5.1

Product Feature Name	Description
Analytic Communications Service	A service communicating independent analytic packages with Perspective VMS
Camera Tamper	An embedded video analytic that monitors the video and automatically detects camera failure or sabotage
Camera Timeout Value	Ability to custom define the amount of time when a service recognizes a camera stream as not connected (also known as a Timeout interval).
Intrusion Detector / Trip-line	An embedded video analytic that provides automated perimeter monitoring and secure area protection.
Multiview Administration Settings	An ability to define and show/hide both default and custom multi-view arrangements
Object Left Detector	An embedded video analytic that continuously monitors an area to detect objects or baggage that have been left unattended for too long in the scene
Camera List	Enhancement: Allow for increased thumbnail in administration upon hover over a camera object.

Camera Status Testing	Enhancement: Live, archive, and snapshot stream parameters are displayed when testing each for pass or failure from the camera setup screen.
Import Video from Source	Enhancement: Allow for tagging of imported video from import wizard.
Import Video from Source	Enhancement: Allow for text description of each imported video clip.
Import Videos Administration	Enhancement: Allow for direct navigation to imported video within Archives from Administration list.
Import Videos Administration	Enhancement: Allow for post-import modification of date/time of video generation.
System Settings	Enhancement: Added ability to configure archiving service settings within a user interface of the Administration module.
Action Button Trigger	Enhancement: Allow for selectable user notification of action button success within a workflow.
Neighboring Cameras	Enhancement: An improved interface for defining neighboring camera arrangements.
Archive Locking (Archive Lock)	Enhancement: Removed archive lock from default permissions within Archive Module.
Extraction detail view	Enhancement: Added sortable column based on time extraction is generated/created
Logon-based Trigger	Enhancement: Added "Failed" login as a trigger item in workflows.
Configuration Tree	Enhancement: Reordered cameras configuration container in Administration.
Report - Access Log Query	Enhancement: Allow for search of apostrophe character in queries.
User Groups	Enhancement: Added a find/filter control on permissions dialog of User Groups.
PTZ Control	Bug-fix: Improved handling of PTZ errors on non-advanced models.
Camera Mass Editing (Bulk edit)	Bug-fix: Corrected a bug that would remove archive stores information upon bulk-edit.
Install Shield - Installation Wizard	Bug-fix: Corrected a bug that would limit the number of servers listed during a distributed installation to 29 records.
Archiving Status (Analysis) Report	Bug-fix: Modified timeout limitation for the Archive Status Report on a large dataset.

3.2.5. Perspective VMS Version 2.5.0

Product Feature Name	Description
Camera Bitrate/Compression Quality Adjustment	An ability to set a value selection for compression quality (bitrate) if allowed per camera model for streaming bandwidth regulation.
Configuration Import/Export - Camera Model	An ability to Export and Import custom camera model configurations across different systems of Perspective VMS.
Edge-based Recording Import	Ability to pull/import recordings from an SD card either from the camera or directly from the SD card
Edge Storage (Axis)	Ability to record and recall edge based storage on Axis Cameras
Event-based Trigger (Camera Input)	The ability to initiate/trigger a programmable action (via workflow routine) based a defined an input event from a camera
Extraction Editing	An ability to edit or refine extractions via editing start and end times thereby creating a second "trimmed" extraction in addition to the original.
Import Video from Source	An ability to import video files (.mp4, .mov) from an external source such as a mobile phone, tablet, or web-camera. The imported videos may be associated to a selected device and managed within the archive timeline for comparison against other camera objects during an investigation or search.
Imported Videos Administration	An ability to manage imported video information within the Administration module.
Multiple Areas of Interest - Motion Detection	Provides the user the ability to define multiple areas of interest for motion detection.
Preferred Default Aspect Ratio	Allows user to select default / preferred aspect ratio for camera (workflows maps)
Server-Generated Extraction Overlay	An ability to add metadata of a server generated overlay with camera name, date/time onto video extractions.
User Default Archive Module Preferences	Allows each user the ability to define default timeline start time and interval.
Windows 10 - Client Support	Ability for Perspective VMS to operate as a client on Windows 10
Windows 10 - Server Support	Ability for Perspective VMS Server application to operate on Windows 10
Workflows by Camera	An administrative view for showing cameras configured in a workflow.
Workflows by User	An administrative view for showing users configured in a workflow.
Workflows with Cameras Report	A report listing each workflow and associated camera(s)
Workflows with Users Report	A report listing each workflow and associated user(s)

Multi-View Monitoring	Enhancement: Provides text information of connection status when not live streaming.
PTZ Control	Enhancement: Allow for digital zoom of PTZ cameras beyond the optical zoom of the camera itself.
Camera Setup - GUI	Enhancement: Allow for ability for camera changes (additions or make active) to be reflected immediately within the same user session.
Camera Setup - GUI	Enhancement: Allow camera setup to maintain settings when switching models if the model supports the same codec options.
User Default PTZ Control Setting	Enhancement: User option to enable/disable Digital PTZ controls.
Custom User Profile	Enhancement: User profile interface reorganized to 3 distinct sections for easier management.
Camera Status Report	Enhancement: Added filters to camera status report.
Camera Status Testing	Enhancement: Expose connection string attempted if camera status test fails.
Custom Archive Stream Types	Enhancement: Change title names of archive settings to better reflect function
Snapshots Repository	Enhancement: Ability to take an image snapshot (for the snapshot repository) from an archive when no image snapshot path is available.
UI Action - Camera Viewer	Enhancement: Ability to start camera sequences as part of the workflow.
User Default Camera View Arrangement	Enhancement: Allow the user to select Borderless Multi-view as a default arrangement option.
Camera Support Tracking	Enhancement: Allow for bulk-editing of support tracking fields
Camera Viewer Overlay - Advanced Options	Enhancement: Add of feature to navigate to Administration from Archive Camera Container.
Automated Real-Time Extraction	Enhancement: Additional default values for Real-Time Extraction action in workflows.
Universal Camera Model Driver	Enhancement: Camera setup will ignore parameters not enabled by the model itself.
User Groups	Enhancement: Allow for bulk editing of user groups
Expandable Info Panel	Enhancement: Allow for individual filter resets on information panel.
Archiving Service	Bug-fix: Corrected an occurrence where a camera's date/time failure could send errant data in the archive record.
IIS App Pool / Installation Package	Bug-fix: Changed a condition that could cause the default application pool to recycle (log-out users) every 29 hours.
Print-ready views	Bug-fix: Corrected field labels on CSV exports or system reports
SQL Backup/Restore	Bug-fix: SQL utility will write a new folder if one does not exist from path configured in user interface.

3.2.6. Perspective VMS Version 2.4.1.1 (EBF Release)

Product Feature Name	Description
Streaming Service	Bug-Fix: Corrected random behavior noted in 2.4.1.0 that causes camera problem in authentication mechanism

3.2.7. Perspective VMS Version 2.4.1

Product Feature Name	Description
Custom Action (Button)	A user-defined button that can be utilized as a trigger for workflow-based actions. The button may be customized by the configuration user in both text and graphic icon. It will appear where assigned by group permissions on the Actions menu of the Side Panel.
Archiving Status Report	An exportable status report of all active camera's archiving statistics including: Camera Name, Model, IP Address, Archiving Server, Store Location, Oldest Archive Date, Newest Archive Date, Missing Dates, Archive Span, Archive Schedule, Archive Codec, Retention, Motion %, Storage per Day, Total Storage Used, Archive Lock Status.
Event-based Trigger (GUI)	The ability to initiate/trigger a programmable action (via workflow routine) based a defined event such as an input, video analytic, or system message.
Event-based Trigger (Behavioral)	The ability to initiate/trigger a programmable action (via workflow routine) based a defined an event from a configured behavioral analytic device.
Event-based Trigger (Camera)	The ability to initiate/trigger a programmable action (via workflow routine) based a defined an event from a camera.

Event-based Trigger (Door Alert)	The ability to initiate/trigger a programmable action (via workflow routine) based a defined an event from a configured Door device.
Interface Actions (GUI)	Ability to configure a user interface action as part of a workflow
Output Actions	Ability to configure device output actions as part of a workflow
External Notifications	Enhancement: External delivery (via Email / SMS) of action notifications with snapshot
External Notifications	Enhancement: External delivery (via Email / SMS) of alarm notifications with Video
Archiving Service (Service) x64	Enhancement: When archiving service becomes overloaded, allow option to drop frames recorded to accommodate.
Archive Timeline Control	Enhancement: Enable timeline slider to encompass entire timeline to simplify user interface upon initial navigation to archive module.
Archive Timeline Control	Enhancement: Allow for larger scaling of archive thumbnails for easier viewing.
Image Extraction Search	Enhancement: Add a progress indicator when Image Extraction is in progress.
Camera Setup – GUI	Enhancement: Added indication in camera setup if variable FPS and/or Resolution are not able to be modified
Camera Setup - GUI	Enhancement: Allows users to add stores directly from Camera Setup page
Camera Setup - GUI	Enhancement: On Edit Camera page should have ability to navigate live and archives
Camera List	Enhancement: Ability to sort on Camera Name, Model, Description, IP, Resolution or Active
Camera List	Enhancement: Ability for sorting by server and store information in the camera list
Camera Icon Set	Enhancement: Added a default icon set for doors
Cross Browser Interoperability	Enhancement: Allow for detection if Google Chrome browser is blocking NPAPI and produce instructions on enabling
ONVIF Camera Discovery	Enhancement: Allow for detection if SSDP service is not running when attempting to use Camera Discovery and provides notification to user
Camera Status Report	Enhancement: Camera Status Report will show cameras that are marked Out-of-Service
Multiple Aspect Ratio Viewing	Enhancement: Allow for 9:16 aspect ratio viewing containers
Welcome and Login (Module)	Enhancement: Keep Top Navigation bar in Welcome Module
System Health Status Email Alert Notification	Enhancement: Health email displays online/offline column next to stalled archives for easier troubleshooting.
Add Users	Enhancement: Alphabetize groups in Add Users dialog box
Add Users	Enhancement: Allow filtering of users on username or full name
Add Users	Enhancement: Provide indication on Users list which users were added via AD
Custom Log Level	Enhancement: Allow for ability to set logging levels for all services from the General Settings
Archiving Service (Service) x64	Bug-fix: Addressed archiving service memory leak (h.264 archiving)
Video Extract Player	Bug-fix: Corrected an issue where video extraction (of large MPX video) were not compiling correctly for external playback.
Multi-Language Support (Spanish)	Bug-fix: Correct various language labels for Spanish translation
AXIS Camera Integration	Bug-fix: Correct problem found in Axis P5534 models whereby without the camera number set it is not controllable

3.2.8. Perspective VMS Version 2.4.0

Product Feature Name	Description
Archiving History Report	Ability to report on statistical information in graphical format of archive storage utilization per day.
Archiving Status Report	An exportable status report of all active camera's archiving statistics including: Camera Name, Model, IP Address, Archiving Server, Store Location, Oldest Archive Date, Newest Archive Date, Missing Dates, Archive Span, Archive Schedule, Archive Codec, Retention, Motion %, Storage per Day, Total Storage Used, Archive Lock Status.
Audio Streaming (Mobotix)	Ability for audio streaming for Mobotix Cameras
Camera Status Report	An exportable status report of current camera status along with support reference information.
Camera Support Tracking	An ability to annotate reference information for support items per each camera object.
Conditions Setup	Ability to define scheduling conditions for enabling a workflow which consists of defined triggers and customized actions.
Enhanced Recording	An ability for PVMS to enhance normal camera configurations (FPS and Resolution) to a changed state on trigger-able (alarm/alert) conditions defined in a workflow.

External Notifications	An ability to notify externally of PVMS (such as email) on trigger-able (alarm/alert) conditions defined in a workflow.
Logon-based Trigger	The ability to initiate/trigger a programmable action (via workflow routine) based on a user's login.
PTZ Preset Action	An ability to move to a PTZ preset as a result of a workflow on trigger-able (alarm/alert) conditions defined in a workflow.
Server Health Report	Exportable status report of current server status along with support reference information.
System Lockdown	An ability to "one-click" lockdown the video surveillance system enabling access for only select users (based on permission assignments)
Time-based Trigger	The ability to initiate/trigger a programmable action (via workflow routine) based on a specific or recurring time.
Visual Service Status Indication	A visual alert within the events panel, annotating the service status for quick reference.
Workflows Component	Workflows are a logical association of objects, triggers, conditions and actions that allow for integration of physical and logical inputs into on-screen display actions or other notification alerts.
PVMS Favicon (Logo) Update	Enhancement: Updated with new PVMS Logo
Email Settings	Enhancement: Move IoC Email Settings to Database (Administration | Settings)
Health Jobs Scheduler Settings	Enhancement: Move Health Jobs Scheduler Settings to Database (Administration | Settings)
Configuration Software Licensing	Enhancement: Simple license option added for configuration only
Archive Stores	Enhancement: Addition of default Archive Store to new installation (for easier configuration).
Camera List Configuration	Enhancement: Allow for in-line editing of camera information within Camera's administration
Copy Administration Records	Bug-fix: System will not copy picture when copying user record in administration
Copy Administration Records	Bug-fix: System will keep focus on parent record after copy action
Camera Setup	Enhancement: Allow for duplicate IP addressing of cameras for testing or multi-stream
Archive Timeline Control	Enhancement: Add control to minimize Timeline Legend
Archive Timeline Control	Bug-fix: Remove condition where timeline control could become too detailed causing errors with Silverlight plug-in
Arecont Integration	Enhancement: Add multi-sensor support of Arecont models to default database configuration
Mobotix Integration	Enhancement: Add multi-sensor support of Mobotix models to default database configuration
About Perspective VMS	Enhancement: Add information for System Maintenance expiration to About page
Active User Sessions	Enhancement: Change "Delete" session to "Terminate" session for clarification purposes.

3.2.9. Perspective VMS Version 2.3.0.1 (EBF Release)

Product Feature Name	Description
Archive Store Threshold Management	Bug-fix: Resolve condition where moving a camera from one store to another could disable process of deleting archives meeting age threshold
Archive Timeline Control	Bug-fix: Resolve a memory leak in populating thumbnails from H.264 archives
MJPEG Image Extractions	Bug-fix: Resolve a condition for Image Extractions not generating for Motion JPEG archives
Image Extraction Search	Bug-fix: Resolve a condition that limits users from seeing "private" extractions created by the user.

3.2.10. Perspective VMS Version 2.3.0

Product Feature Name	Description
Archive Threshold Control	An ability that allows a user to determine the condition to remove archives (number of target days achieved or based on drive space only).
Audio streaming integration (IQEye)	Audio Integration for all general IQinVision camera models
Automated Database Size Maintenance	An ability to automatically maintain a database size so that it does not exceed 10GB (for SQL Express Version deployments).
Borderless Multi-view	An ability to view multi-view arrangements without pixel space or borders between containers.
Camera Dock - Rapid Map Callup	An ability that allows users to navigate to maps associated to cameras within the dock.
Camera Status Testing	An ability inside of camera configuration to test the camera stream status.

Custom Logon Script/Message	An ability to create a custom message for users logging into Perspective VMS. This message can be a one-time acceptance by the user, or persistent for each access attempt to the software. The message(s) may be custom tailored for each permission group and multiple messages may be prioritized or ranked for sequential viewing and acknowledgement.
Logon Acceptance Message Report	Provides the ability to generate a report for all users who have agreed to the Custom Logon Message Agreement.
Multi-channel / Multi-Sensor Camera Model Setup	Ability to configure multi-sensor / multi-channel cameras
Scheduled Recording	An ability to schedule various parameters of recording on camera during selected schedules
SQL Backup/Restore	A feature that would allow for an SQL database backup routine to be initiated and/or scheduled through PVMS
Full-screen Typing	Enhancement: Resolved an issue where users were not able to type while in full screen mode.
Fast-Find Analytic	Enhancement: Add multiple clip extract button to Fast-Find Search results
Panasonic PTZ support	Enhancement: Panasonic PTZ Support Handler
PTZ Control	Enhancement: Added digital PTZ support
NTSC/PAL support	Enhancement: Allow for regional resolution support of cameras based on their supported values for NTSC and PAL.
Services (64-bit)	Enhancement: Allowing all services to leverage a 64-bit server infrastructure. This increases memory utilization per service as well as optimizes the host server/pc.
Image Extraction Queue	Enhancement: Allow for the deletion of a pending Image Extraction
SSL Support	Enhancement: Allow for easier configuration of SSL by a select checkbox in Server Administration
Archived Neighboring Cameras	Enhancement: Allow Neighboring Cameras to operate and navigate from Archive Playback in Camera Module
Door Alerts	Enhancement: Changed the grid format for pop-up display of door events
Map Locator	Enhancement: An ability to zoom in map (launched from Map Locator)
Map Administration	Enhancement: An ability to download previously saved maps
Maps Module	Enhancement: Need ability to present lower resolution maps to consolidate bandwidth
Multiple Aspect Ratio Viewing	Enhancement: Support for 8:3 aspect ratios
User Profile	Enhancement: Allow for user default map selection
Tagging Preview	Bug-Fix: Resolved a scenario where a tag will disappear from a preview container.
Snapshot Preview	Bug-Fix: Resolved a scenario where the snapshot preview was generating in low resolution
Fast Archive Playback Control (h.264)	Bug-Fix: Resolved a scenario where multi-speed rewind was not performing in h.264 archives

3.2.11. Perspective VMS Version 2.2.0

Product Feature Name	Description
Archive Stores	Archive Stores provide the ability to dynamically store archived video across one or multiple drive volumes.
Audio out integration (Axis)	Audio out Integration for all general Axis camera models
Bi-Directional Audio	Ability to stream audio out via an on-screen control within the camera overlay of Perspective VMS. The feature utilizes the PC microphone and audio-output on selected cameras.
Camera Scan	Adds a default Multi-view sequence of all cameras the user has access to, enabling the user to quickly scan cameras one after another in a one-up configuration.
Cameras Service Report	An ability to run a report showing cameras marked as Out-of-Service
Group Permissions Report	An ability to run a report show all Groups and inherent permissions of each group for reference.
License Key Entry	Area under help to add license key information
S2 Enterprise Integration - Pull Events	Integration of S-2 Enterprise PACS for association of Access Control events and managed video surveillance.
S2 NetBox Integration - Pull Events	Integration of S-2 NetBox PACS for association of Access Control events and managed video surveillance.
SQL Server 2014 Express Integration	Provides the ability to operate and run using Microsoft SQL Server 2014 (Express).
SQL Server 2014 Integration	Provides the ability to operate and run using Microsoft SQL Server 2014.
TDSi Integration - Pull Events	Integration of TDSi readers for event association to cameras

User Default Map Selection	Provides the user the capability to select their own default map when logging into the Perspective VMS.
Mobile Streaming Enhancement	Mobile streaming service enhancement for iOS and Android devices
Archive Playback Enhancement	Enhancement: Modified h.264 archive video playback increasing responsiveness to rewind.
Android OS	Enhancement: For connection, live streaming, and archive playback using the PVMS App on Android OS platforms 4.4
Custom Overlay Height	Enhancement: Allowing for ignoring pixels of a camera on-screen display overlay from the bottom (as well as the top) of the frame.
Multi-View Dynamic Resolution	Enhancement: For dynamic resolution feature of camera viewing in a multi-view setting allowing for the reconnect of the stream when navigating to a larger container size.
Events Panel Navigation	Enhancement: Allowing for Next/Previous controls on the information panel to review events.
Touch Enabled	Enhancement: For Surface Pro 3 touch inputs
Archive Management	Enhancement: To overall archive file management accounting for orphaned system files
Archive Service Watchdog	Enhancement: To configurable service watchdog utility for monitoring the archiving service

3.2.12. Perspective VMS Version 2.1.1.1/2 (EBF Releases)

Product Feature Name	Description
Camera Health Monitor Check Interval	Ability to custom configure intervals and thresholds for health monitoring on Cameras, Servers, External Systems, and Drive Information
Camera Health Status Email Alert Notification	Ability for the system to detect and report via email health status exceptions such as non-responsive services, cameras offline, or excessive database size growth.
Camera Info and Server Status Health Monitor Check Interval	Ability to custom configure intervals and thresholds for health monitoring on Cameras, Servers, External Systems, and Drive Information
Database Health Status Email Alert Notification	Ability for the system to detect and report via email health status exceptions such as non-responsive services, cameras offline, or excessive database size growth.
External System Health Monitor Check Interval	Ability to custom configure intervals and thresholds for health monitoring on Cameras, Servers, External Systems, and Drive Information
Operating System Health Status Email Alert Notification	Ability for the system to detect and report via email health status exceptions such as non-responsive services, cameras offline, or excessive database size growth.
Server and Drive Info Health Monitor Check Interval	Ability to custom configure intervals and thresholds for health monitoring on Cameras, Servers, External Systems, and Drive Information
Server Health Status Email Alert Notification	Ability for the system to detect and report via email health status exceptions such as non-responsive services, cameras offline, or excessive database size growth.
System Health Status Email Alert Notification	Ability for the system to detect and report via email health status exceptions such as non-responsive services, cameras offline, or excessive database size growth.
User Default Map Selection	Provides the user the capability to select their own default map when logging into the Perspective VMS.
Windows Services Health Monitor Check Interval	Ability to custom configure intervals and thresholds for health monitoring on Cameras, Servers, External Systems, and Drive Information
Archive Playback	Enhancement: For h.264 archive video playback increasing responsiveness to rewind.
Mobile Streaming	Enhancement: For Mobile streaming service enhancement for iOS and Android devices
Mobotix Integration	Bug-Fix: Corrected condition where Mobotix cameras would not archive

3.2.13. Perspective VMS Version 2.1.1

Product Feature Name	Description
Camera Scan Sequence	Adds a default Multi-view sequence of all cameras the user has access to, enabling the user to quickly scan cameras one after another in a one-up configuration.
S2 Enterprise Integration – Pull Events	Integration of S-2 Enterprise PACS for association of Access Control events and managed video surveillance.
Administration Interface Controls for Integrations	Controller Types, Controllers, Event Controllers, Devices, and Event Levels have been added to administration for configuration of 3rd-party devices and controllers.
Live Streaming	Enhancement:
Image (Frame per Hour) Archiving	Enhancement: Improves archiving utilization for time-lapse video storage.

Streaming/Archiving for (Arecont)	Enhancement: Improves performance handling of Arecont manufactured cameras.
Extract handling from Global Controls	Enhancement: Improves time association of extracts when launched form a global control interface.
Camera Setup	Enhancement: Allows for text fields (hostnames) on camera setup larger than 31 characters.
Archive Timeline Control	Enhancement: Added a refresh button to archive timeline for better forensic analysis.
System Auditing	Enhancement: Added Neighboring camera administration tasks to system audit log
System Help Information	Enhancement: Added Company Name as an editable field in Settings for display on System Help Menu.
Multi-view Arrangements	Enhancement: Added a 5x5 and 5x4 (4x5) layouts to the default multi-view arrangements
Enhanced General User Interface	Enhancement: Various tool-tip and layout enhancements to improve the usability of the general layout and graphical-user-interface (GUI).
Fast-Archive Playback Control	Bug-Fix: Improved responsiveness and synchronization of global controls during FF and REW actions.
SSL	Bug-Fix: Corrected implementation errors in SSL
Mobile Streaming	Bug-Fix: Improved and corrected live streaming on iOS and Android devices.
Live Streaming	Bug-Fix: Removes a condition that may have caused a camera flicker effect when live viewing Motion-JPG cameras.

3.2.14. Perspective VMS Version 2.1.0.1 (EBF Release)

Product Feature Name	Description
Mobile Streaming (iOS)	Bug-Fix: Corrected Streaming on iOS mobile devices

3.2.15. Perspective VMS Version 2.1.0

Product Feature Name	Description
Archive Locking	Provides the user the ability to flag or mark sections of times (or entire days) for exemption from the normal archive deletion routines
Open API/SDK	Provides the ability to render live streaming or archive playback at a set date/time in a controlled browser window of Perspective VMS based on an application programmable interface (API) call. Typically associated with Access Control or Intrusion Detection software systems
Camera API Report	Provides a report showing all cameras with camera ID and description
Archive Playback	Enhancement: Improves responsiveness of Rewind and Fast-Forward controls in archive playback
Welcome Module	Enhancement: Added navigation from the Welcome Screen to navigate to Reports
System Help	Enhancement: Added navigation to Training Tutorials from System Help
Customized Support Information	Enhancement: Now allows for custom company name on support tab along with phone number and hours of operation.
Authorized Pass-Through Authentication	Enhancement: Pass-through authentication for 3rd-party integrations allow an administrative function to generate login strings for each user.
Neighboring Cameras – Archive Module	Enhancement: Enhances the users' ability to rewind from a live view camera and call-up associated cameras using the Neighboring feature at the same date/time of the camera being reviewed from Camera Viewer.
Administration Module	Enhancement: Allowing for sort of items such as Last Login and Name fields
Camera Models Setup	Enhancement: Various camera model enhancements for supported camera manufacturers.
General User Interface	Enhancement: Various tool-tip and layout enhancements to improve the usability of the general layout and graphical-user-interface (GUI).
Multi-View Synchronization	Bug-Fix: Improves upon a condition resulting in multi-view latency in Camera Viewer
Multi-View Sequencing	Bug-Fix: Improves upon long-duration play of the multi-view sequence
Full-Screen in Mixed Aspect Ratio	Bug-Fix: Improves the layout and functionality of running a full-screen view from a layout containing both 4:3 and 16:9 layouts
Camera Dock	Bug-Fix: Improves the camera streaming when pulling into and out of the camera dock

3.2.16. Perspective VMS Version 2.0.0

Product Feature Name	Description
Configuration Reports	An area inside of the reports module for launching the administration print-views and configuration reports
EULA Report	Provides the ability to generate a report for all users who have agreed to the End User License Agreement.
User-defined Schedules	A schedule interface tool designed for event/action parameters but that will also customize further the times to record, archive, search for motion or other items.
Camera/Archive Location Reports	Adds a report that associates cameras with archiving location.
Active Directory Integration	Enhancement: Adds the ability to incorporate group permissions from Active Directory into Perspective VMS during the synchronization process.
H.264 Archiving (Axis)	Enhancement: Adds the ability to record variable frame rates for Axis cameras using the H.264 codec.
Install Shield	Enhancement: Adds the ability to configure windows user settings and create application shortcuts during the installation.
Enhanced camera model support	Enhancement: Various camera model enhancements for supported camera manufacturers.
Enhanced Error Management (Out-of-Browser, Neighboring Cameras, SQL Scheduling)	Enhancement: Various enhanced error message corrections and dialog descriptions.
Enhanced General User Interface	Enhancement: Various tool-tip and layout enhancements to improve the usability of the general layout and graphical-user-interface (GUI).
Administration Service	Bug-Fix: Removes the risk for errant archive deletion upon a database connection failure while the administration service is running.
Archive Module Timeline	Bug-Fix: Corrects an error where not all archive days appear on the timeline.
Direct Connection	Bug-Fix: Corrects an error where PTZ cameras in Direct-mode may become inoperable upon edit.
Out-of-Browser user management	Bug-Fix: Corrects an error where a user logged into the Out-of-Browser application is not cleared from the Active Sessions.

3.2.17. Perspective VMS Version 1.5.1.2

Product Feature Name	Description
Motion-JPEG Support - Playback	Bug-Fix: Corrected Pause on target of video
Administration Service	Bug-Fix: Corrected error causing deletion of valid archives upon upgrade
Real-Time Extraction	Bug-Fix: Corrected a User-Interface error upon execution of RTE

3.2.18. Perspective VMS Version 1.5.1

Product Feature Name	Description
Default Camera Resolutions List	Added default set of resolutions for cameras
MJPEG Client-Side Streaming (IQ)	Added ability for IQinVision cameras to operate in Direct Mode
Archive Playback	Bug-Fix: Corrected Archived Audio not pausing on playback
Streaming Service	Bug-Fix: Corrected problem with External Audio source crashing the streaming service
Global Search	Bug-Fix: Corrected window being orphaned on Welcome Module

3.2.19. Perspective VMS Version 1.5.0

Product Feature Name	Description
Automatic Event Purging	The ability to schedule and purge image snapshots of past events from the database at a desired number of days.
Fast-Find (Image)	Ability to quickly search a camera field of view for motion events in a user-defined area by drawing a box and setting a sensitivity threshold.
Line Crossing Report (Axis)	Exportable reports for a line crossing analytic on Axis cameras.

Multiple Aspect Ratio Viewing	Ability for custom defined multiple live streaming camera view arrangements using 4:3 or 16:9 or 16:10 ratios with several pre-defined templates for easy and fast viewing configurations.
Out of Service Identifier	A capability within the User Interface to annotate cameras that are Out-of-Service for planned / remedy maintenance or pre-staging of future installation cameras to alert the user of a known out-of-service condition.
Private Labeling	Ability to modify the user-interface with private labeling options
RFID Reports	Ability to filter RFID data and run printable RFID transaction reports.
SQL Server 2012 Express Integration	Provides the ability to operate and run using Microsoft SQL Server 2012 R2 (Express).
SQL Server 2012 Integration	Provides the ability to operate and run using Microsoft SQL Server 2012.
Windows 2012 Server - Client Support	Ability for Perspective VMS to operate as a client on Windows 2012 Server
Windows 2012 - Server Support	Ability for Perspective VMS to operate as a server on Windows 2012
Windows 8 - Server Support	Ability for Perspective VMS Server application to operate on Windows 8

3.2.20. Perspective VMS Version 1.4.1

Product Feature Name	Description
Live Streaming (Proxy) - H264	Ability to proxy camera streams via the streaming server to workstations where direct connection is unavailable using selectable H264 parameters
OnVIF Profile-S Integration	An ONVIF device compliant to the Profile S is an ONVIF device that sends video data over an IP network to a client. The Profile S also includes support for PTZ, audio and metadata streaming, and relay outputs if those features are present on the device. For example, a device compliant to the Profile S may be an IP network camera or an encoder device.
User Default PTZ Control Settings	User profile options allow the user to select their default method of PTZ control (Joystick, Click-to-Center, or Click-to-Zoom)
Unlimited Archive Settings	Enhancement: Corrected exceptions in saving new archive settings and enhanced ability to save as Frames per “Hour” for time-lapse recording
Fast Archive Playback Control	Enhancement: Corrected fast-rewind and fast-forward features for Video archives (H264/MPEG)
External Audio Stitching	Enhancement: Corrected minor distortions in audio quality from external IP sources.
Downloadable Extracts	Enhancement: Lowered default compression to increase overall extracted video quality.
Snapshots Repository	Enhancement: Added a global snapshot repository path in Administration. This allows for easier upgrade migration for distributed systems.
Windows 2003 Server - Server Support	Enhancement: Added install shield support for Windows 2003 server.
Multi-view Presets	Enhancement: Allow for default alpha-numeric ordering of public and private preset lists.
Multi-Language Support (Russian)	Enhancement: Corrected an issue logging in with a Russian Language user.
H.264 Archiving	Bug-Fix: Corrected condition that could result in an extraction not stitching the full time period.
Fast Archive Playback Control	Bug-Fix: Fast-forward/fast-playback does not function smooth on MJPEG at 4X

3.2.21. Perspective VMS Version 1.4.0.1/2 (EBF Releases)

Product Feature Name	Description
Installation Package/Wizard	Enhancement: Disallow installation attempts on non-supported Operating Systems

3.2.22. Perspective VMS Version 1.4.0 (Minor Release)

Product Feature Name	Description

Audio streaming integration client-side/Direct (Axis)	Audio Integration for all general Axis camera models (Series: M, P, Q, 200) in direct-mode connections.
Axis Cross Line Detection	Allows for the incorporation of Cross-Line Analytic behavior from Axis Communications to Perspective VMS.
EULA	A one-time acknowledgement of the End-User License Agreement
External Audio Stitching	Provides the ability to combine an external audio source (secondary IP source) with camera
H.264 Integration (Brickcom)	Basic streaming integration with IP cameras
MJPEG Server-Side Streaming (Brickcom)	Basic streaming integration with IP cameras
MJPEG Server-Side Streaming (Mobotix)	Basic streaming integration with Mobotix IP cameras
MxPEG Server-Side Streaming (Mobotix)	Basic streaming integration with Mobotix IP cameras
ONVIF Camera Discovery	Provides administrators and systems integrators the ability to add cameras directly from the network using a discovery tool. (Applicable to cameras that are ONVIF-Profile but S compliant).
PTZ Support (HIK Vision)	Basic streaming integration with HIK IP cameras
PVMS Favicon	The use of a browser icon shall be available to differentiate the application from other web/browser tabs.
PVMS Debugging webpage	A tool for monitoring active streaming connections within PVMS for troubleshooting and debug purposes.
Support Information Administration	An area within system settings for administering support information
Time-lapse Extractions	Provides the ability to record video in increments of Frames per Hour(s), thereby allowing for archive viewing or video extractions spanning multiple weeks, months, or even years.
Archive Timeline Control	Enhancement: Add Day Intervals for selection
Custom Video (Image) Archive Settings	Enhancement: Add ability to select Frames “per Hour”
Add Users	Enhancement: Add ability to note user’s mobile number to their user account
Display Active User Sessions	Enhancement: Add ability to display mobile users’ active session
PTZ Lock	Enhancement: Make PTZ lock more readily apparent to user
Camera List	Enhancement: Added ability to delete a camera from the list
Global Search	Enhancement: Modify close experience for users
Archive Management	Bug-Fix: Correct inconsistent behavior of Administration service cleaning expired archive files
Archiving Service	Bug-Fix: Addressed a potential memory leak in the archiving service
H.264 Support – Playback	Bug-Fix: Correct date/time stamp movement on h.264 playback
H.264 Support - Playback	Bug-Fix: Correct condition where no thumbnail image was presented
Live Audio Streaming	Bug-Fix: Correct condition where proxy audio streaming interrupts live video
Live Audio Streaming	Bug-Fix: Correct condition where live audio could stop after 3+ minutes
Custom Video (H.246/MPEG4) Archive Settings	Bug-Fix: Correct video type archive setting
Extraction detail view	Bug-Fix: Correct where older extractions where “not found” in Perspective VMS Version 1.3.1
Copy Administration Records	Bug-Fix: Correct copy of groups access when copy of cameras. Error introduced in Perspective VMS Version 1.3.1
Motion Event Pop-up (Preview) Window	Bug-Fix: Correct System Memory Error
Dynamic Camera Icons	Bug-Fix: Correct where thumbnails may maintain on the map after Hover-off
Dynamic Camera Icons	Bug-Fix: Alphabetize list
Dynamic Camera Icons	Bug-Fix: Corrected highlighting of camera list
Multi-View Monitoring	Bug-Fix: Corrected where “View Arrangements” does not appear on first click
Clip Length	Bug-Fix: Corrected Tool-tip on Clip Length setting
Open in Administration	Bug-Fix: Corrected label on button from Camera Overlay
Global Search	Bug-Fix: Corrected where dialog box could cause system to become inoperable
User Groups	Bug-Fix: Corrected issue where permission checkboxes appear to be checked on initial load

3.2.23. Perspective VMS Version 1.3.1 (Maintenance Release)

Product Feature Name	Description

Alert Annotations	Ability to track alert acknowledgement by user/date as well as modify event to mark as active for additional follow up. Marked active event transactions are also tracked by user and date.
H.264 Support (HIK Vision)	Basic streaming integration with HIK IP cameras
Neighboring Cameras - Archive	Provides the ability while in archive playback mode within the camera viewer module, to associate cameras together in custom multi-view arrangement of a logical group for quick display of "neighbor" cameras or devices.
MJPEG Support (HIK Vision)	Basic streaming integration with HIK IP cameras
Open (camera) in Administration	Ability to open the camera administration (based on permissions) from the camera overlay
Services Administration	A configuration area within Perspective VMS to monitor and administer actions performed on PVMS Services such as Start, Stop, and Restart
Acknowledge Response Report	Exportable reports for event acknowledgement / responses by users
Email Settings Configuration	Area within settings to administer default database email server settings
Default Motion Email Settings	Area in configuration xmls for establishing default motion email alerts.
HIK Integration (H.264)	Streaming/Archiving integration with HIK h.264 Codec
HIK Integration (MJPEG)	Streaming/Archiving integration with HIK Motion-JPEG Codec
Administration (User Groups)	Enhancement: Added several default sample user groups with tiered permission sets to assist in rapid installation.
Dynamic Camera View Selector	Enhancement: Added the ability to load large number of cameras (10,000+)
Downloadable Extracts	Enhancement: Added ability to download extractions as standard .mp4 format
Camera Setup	Enhancement: Added the ability to hide the dialog box to restart services each time a camera modification is made in Camera Administration.
Installation Wizard	Enhancement: Simplified process of adding an admin password during the installation wizard.
Map Layout Designer	Enhancement: Added ability to show “inactive” cameras and place them onto a map.
PTZ Control (Click to Zoom)	Enhancement: Ability to Pan/Tilt/Zoom by using a “Click to Zoom” control
PTZ Control (Click to Center)	Enhancement: Ability to Pan/Tilt/Zoom by using a “Click to Center” control
Alert annotations	Enhancement: Ability to un-acknowledge alerts
Print-ready Views	Enhancement: Added the ability, by using a right-click in the administration table, for the user to define which columns should appear in the print-ready view as well as adding ability to sort each column.
Login	Bug-Fix: A correction was made to properly handle Caps Lock which had been incorrect in Version 1.3.0
PTZ Full Screen	Bug-Fix: An error occurred when navigating a PTZ camera out of full screen where the camera would zoom out incorrectly. This has been corrected.
User Profile	Bug-Fix: When launching the user profile widget from the top navigation bar a generic error appeared and has been corrected.
User Account Permissions	Bug-Fix: The multi-login permission was nested in an incorrect hierarchy and has been corrected.

3.2.24. Perspective VMS Version 1.3.0 (Minor Release)

Product Feature Name	Description
Audio Archiving	Ability to record/archive audio synchronized with video
Audio streaming integration (Axis)	Audio Integration for all general Axis camera models (Series: M, P, Q, 200)
NAS Support	Ability to support Network Area Storage
Windows 8/8.1 – Client Support	Ability to run Perspective VMS client on Windows 8 Operating Systems
Android Mobile App Support	Provides the ability to view Perspective VMS installations on an Android powered mobile device
iOS Mobile App Support	Provides the ability to view Perspective VMS installations on an iOS powered mobile device
Clip Length (Archive Settings)	Ability to set defined clip lengths for recorded video chunks (in minutes)
Door Alert Message	Ability to receive door-based events
Full-screen Archive Monitoring	Ability to monitor video in full screen mode
Panoramic Camera Support (Axis)	Panoramic camera support for Axis models with 360-degree FOV. Will display Overview, Panoramic, and Quad View support.
SSL Support	Ability to support SSL web services for enhanced browsing security.
Remote Software Updates	Enhancement: Allowing for wizard-based updating of Software

Updated Permissions Control and Support	Enhancement: Introduction of a new Administration/Configuration permissions tool for distributed control of User Group permissions
Global Search	Enhancement: Added image extraction parameters to be included in Global Search feature
Megapixel Support	Enhancement: Increased functionality of megapixel support in live and archived viewing
Multi-Monitor Support	Enhancement: Increased functionality of multi-monitor support by allowing user to preserve full-screen in out-of-focus monitor
PTZ Handler Support	Enhancement: Increased use of PTZ handler controls to accommodate alternate PTZ types
Browser Controls	Enhancement: Introduction of controls for notification warnings if exiting the browser window and the ability to operate full screen browsers in multiple monitors regardless of application in use.
IPv6 / Hostname Support	Enhancement: Allow for support of IPv6 and Hostname addressing of Cameras and Servers.
SQL Messaging	Enhancement: Simplify error messaging when database connectivity is lost.
Snapshot Repository	Enhancement: Allow for defined capture of snapshot on fixed interval or on-demand.
Multi-view Monitoring	Enhancement: Allow for fitting video to fill screen
Extractions Download	Bug-Fix: Correct permissions restriction for downloading extraction based on group permissions setting
Informational Camera Header	Bug-Fix: Correct bug with live view status not changing on disconnect
Multi-View Presets	Bug-Fix: Correct condition where preset could errantly revert to another selection.

3.2.25. Perspective VMS Version 1.2.2.1 (EBF Release)

Product Feature Name	Description
Custom Training URL	Offers users the ability to modify web-based training locations for end-users
User Groups	Enhancement: Added ability allowing for deletion of a group with users assigned.
Archive Video Extractions	Enhancement: Add checkbox to open extractions list upon close of dialog box
Cross-Browser Interoperability	Enhancement: Add a limitation warning when clicking the “back” button in web-browsers
Last-Login Report	Bug-Fix: Corrected date format to US Standards
Access Log Query Report	Bug-Fix: Corrected .NET error upon certain selections and print function of report
Access Log Query Report	Bug-Fix: Corrected limitations of report not finishing before reaching end
PTZ Support (Axis)	Bug-Fix: Corrected condition when Axis PTZs would become unresponsive during direct mode configuration.
Multi-Level Mapping	Bug-Fix: Corrected condition where top-map association could become incorrect

3.2.26. Perspective VMS Version 1.2.2 (Maintenance Release)

Product Feature Name	Description
Access Log Query Report	Enhancement: Allow access log reports visible on default permissions groups
Camera Models List	Enhancement: Add camera part numbers to camera models list

3.2.27. Perspective VMS Version 1.2.1.1 (EBF Release)

Product Feature Name	Description
Last Login Report	Provides administrators with at-a-glance "last-login" reporting and audit of users who have logged into Perspective.
PTZ Control (Bosch)	Added integration for Bosch PTZ Controls
MJPEG Support (Bosch)	Enhancement: Added more default models to default database

3.2.28. Perspective VMS Version 1.2.1 (Maintenance Release)

Product Feature Name	Description
MJPEG Support (Bosch)	Motion-JPEG Integration for all Bosch BVIP Cameras
Enhanced System Help	Added embedded administration help section

Update to Global Search	Enhancement: allowing for quick Camera Call-ups from Global Search
System Help	Enhancement: Incorporate administration guide into Help links
User Groups	Enhancement: Allow for Events to be a permissioned item per group
Custom Archive Stream Definitions	Enhancement: Added more default choices for Global Archive Settings
Camera Models Setup	Enhancement: Edit category name and form to simplify setup
Custom Icons	Bug-fix: Corrected an error that could appear when deleting an icon associated to a Site
Global Search	Bug-Fix: Corrected camera search results not populating in correct view
Maps Module	Bug-Fix: Corrected condition where map items could cluster together on-load
Share View	Bug-Fix: Corrected condition where cameras within dock were not populated on share

3.2.29. Perspective VMS Version 1.2.0.1 (EBF Release)

Product Feature Name	Description
Sites	Enhancement: Simplify nomenclature of sites within administration
Multi-Level Mapping	Bug-Fix: Correct hover-off behavior of map dialog search

3.2.30. Perspective VMS Version 1.2.0 (Minor Release)

Product Feature Name	Description
Dynamic Resolution	Ability for selected cameras with multiple resolution attributes to stream at a size appropriate for larger and smaller container sizes, making streaming more efficient overall.
H.264 Support (Axis)	H.264 Integration for all general Axis camera models (Series: M, P, Q, 200)
Agent Vi Edge Analytic Integration	Integration with Agent Vi Video Analytics
DNA Fusion Integration - PACS Video Call-up	Integration Feature that calls up video within Open Options DNA Fusion (Access Control)
Custom Archive Stream Definitions	Allows for custom string handling of archive types
Printable Settings List	Ability to print the system settings parameters.
Camera Dock Camera Setting	Enhancement: Allow for a custom “max” number of cameras in the dock
Behavior Events	Enhancement: Allow for associating devices (Cameras) to Behavior Events
Motion Events	Bug-Fix: Correct event navigation to beginning of clip
System Help	Bug-Fix: Correct errant link
Extraction and Recording Settings	Bug-Fix: Correct default path

3.2.31. Perspective VMS Version 1.1.1/2/3/4 (EBF Releases)

Product Feature Name	Sales Description
Live Audio Streaming	Ability to stream live audio back to PVMS
Video Analytics	Ability to incorporate 3rd-party behavior-based video analytics within the Perspective VMS Events container
Map Locator	The quick locate function allows the user to find the location of any camera on one (or multiple maps) from within the Camera Viewer. Any map the selected camera is associated with will be displayed in a quick preview window
Fit Window Viewing	Ability for the user to "Fill" or "Fit" the viewing area by not constraining video feeds to maintain defined aspect ratios.
Dynamic Camera Icons	Icons change state based on status (alarm/alert, service/no service)
VMware Workstation Integration	Ability for the application to be installed and maintained on a VMware instance
Camera Viewer Overlay	Enhancement: Re-arrange ordering of overlay icons
Custom Archive Path	Enhancement: Increased ability to bulk edit items with wildcard support
Camera Model Administration - Advanced PTZ Controls	Enhancement: Ability to define advanced custom PTZ controls within the administration of camera models
Camera Security Authentication	Enhancement: Support “show password” checkbox in camera administrative dialog, controlled via group permissions.
Custom Archive Path	Enhancement: Simplify configuration of Archive Path

Camera Dock	Enhancement: Allow for Camera Dock to persist between sessions
Full Screen Monitoring	Bug-Fix: Corrected loss of top navigation when navigating between modules in full-screen

3.2.32. Perspective VMS Version 1.1.0 (Minor Release)

Product Feature Name	Sales Description
SIRIT RFID Integration	Transaction-based event integration with RFID readers and tags from SIRIT.
Behavior Events	Behavior-based event transactions and alerts. Most often used for Video Analytic alarms.
Authorized Pass-through Authentication	Ability to generate an authenticated pass-through login credential to access Perspective VMS from 3rd party software or resources without requiring an additional login.
Camera Setup	Enhancement: Add the ability to capture installation information such as serial number, installation photography, installation date, etc.
Image Snapshot	Enhancement: Add Email button to Image Snapshot
Motion Alerts	Enhancement: Add drop-down list selection for sensitivity
Neighboring Cameras Administration	Enhancement: Add Delete function to administration of Neighboring cameras
Informational Camera Header	Enhancement: Add ability to remove by user
User Profile	Enhancement: Add ability to set custom camera default layouts
PTZ Control	Bug-fix: Adjust fluidity of PTZ Joystick
Multi-level Mapping	Bug-fix: Order maps in tree alphanumerically
Administration Module	Bug-fix: Re-order administration configuration containers

3.2.33. Perspective VMS Version 1.0.1 (Maintenance Release)

Product Feature Name	Sales Description
Installation Wizard	A step-by-step guided process for installing Perspective VMS (Server) at your site.
Silverlight 5 Integration	Integration into Microsoft Silverlight Version 5
Print-ready views	Ability to print configuration views
Simplicity Integration (Intransa)	Integration with Intransa's Simplicity Line
Flexibility Integration (Intransa)	Integration with Intransa's Flexibility Line
Custom Icons	Offers users the ability to upload custom icons for use in the map layout design.
Area of Interest - Motion Detection	Provides the user the ability to define the area of interest for motion detection.
Audible Alert Notification	User-defined audible alert action upon event notification.
Neighboring Cameras	Enhancement: Modification to move the icon to the camera container
Camera Setup	Enhancement: Ordering of camera lists by camera number
Camera Setup	Enhancement: Allow model list sorting
User Account Administration	Enhancement: Reorder and re-categorize settings
Map Layout Designer	Enhancement: Allow for search on map items
Informational Camera Header	Enhancement: Move of camera status icons
User Settings	Enhancement: Allow for setting of “Extended Tool Tips”
PTZ Control	Bug Fix: Corrected PTZ overly refresh rate
Custom Maps	Bug Fix: Corrected hang on uploading a custom map in Chrome

3.2.34. Perspective VMS Version 1.0.0 (Major Release)

Product Feature Name	Sales Description
Camera Dock (Component)	Allows the user to drag and drop cameras from one or more maps into one common area (the Camera Dock) for viewing.
User-defined Schedules	A schedule interface tool allowing for customizing times to record, archive, search for motion or other items.
Video Extract Player	Ability to play extracted video within Perspective VMS and download for external playback
Fast-Find (Component)	Ability to quickly search a camera field of view for motion events in a user-defined area by drawing a box and setting a sensitivity threshold.

Custom Multi-view Sequence Editor	Provides the ability to create user-defined multi-view sequences. The sequences can rotate on a schedule for automated display of unlimited camera arrangements.
Informational Camera Header	A header overlay with relevant information and real-time status about the camera.
Dynamic Camera View Selector	Allows user to select and switch camera view arrangements through the utilization of a dialogue window consisting of thumbnail icons, devices, lists, or map views.
Image Snapshot	Provides the ability to take and download a snapshot image from any one or multiple camera view(s).
System-based Alerts	Diagnostic alerts on system actions of a camera or service
Motion detection based events	Motion recording
Authorized User Logon	User generated password protected login for secure and audit-able access to the platform.
Display Active User Sessions	Provides status of all users actively logged into Perspective VMS
Tagging	Ability to mark/flag video, cameras, or events for fast search and quantifiable look-up
Private and Public Extracts	Provides the ability to annotate whether an extract can be viewed by other system users or to be maintained as a private event by the owner and administrator.
Custom Maps	Provides the ability to upload custom generated map files of facilities, grounds, or regions.
Multi-View Monitoring	Ability for custom defined multiple live streaming camera view arrangements with several pre-defined templates for easy and fast viewing configurations.
Browser interoperability and General GUI	Provides the ability to run as a Rich Internet Application, smart-client, in Internet explorer, Mozilla Firefox, Google Chrome and Apple Safari browsers.
Multi-Floor Navigation	Provides the ability to navigate to floors in a building or site location.
Software License	A software license key allows each site to be configured properly towards the scope of work. The license will determine the instance edition (Standard or Enterprise) as well as enable purchased add-on modules.
PTZ Control Sphere (Component)	Provides a unique interactive interface tool allowing the user to navigate the field of view of the PTZ camera using a sphere graph.
Archive Timeline Control (Component)	Dynamic timeline control for fast searching and visual historical search navigation
Map Integration	Ability to add custom or pre-defined map images into Perspective and add dynamic camera icons providing accurate situational awareness for a facility or site.
Multi-view Presets	Ability to save a selected camera configuration and view as a preset for quick retrieval.
PTZ Sequence Editor (Tour)	Ability to configure PTZ presets into a tour configuration
PTZ Presets	Ability to control PTZ cameras and set preset stopping coordinates.
Virtual Pan/Zoom	Ability to digitally pan and zoom on any image from any camera view, providing more analysis of an area of interest.
Streaming Archive Player	Ability to playback archived video.
Motion-JPEG Recording	Ability to record and archive video in Motion-JPEG format
H.264 Recording	Ability to record and archive in H.264 format.
Share View	A collaboration tool providing the ability to dynamically share any view the user is currently seeing with any other user.
Send Message	Allows users to send messages within the application
Active Directory (Read)	Active Directory Integration
Maps Module (Module)	An interface providing an at-a-glance geographic overview of the site or entire enterprise with the ability to interact with cameras and devices for relative field-of-view. Ideal for real-time situational awareness and to build visual familiarity of the...
Camera Viewer Module (Module)	The Camera Viewer module provides live video viewing, enabling you to monitor one or more live Views, create Sequences of Multi-Views, quickly initiate on-demand recording, manipulate Pan-Tilt-Zoom ("PTZ") cameras, and quickly review recently archived vi...
Real-time Extraction (Component)	Ability to live record and extract video with or without motion or external trigger by a simple one-click interface on any camera view.
Welcome and Login (Module)	Welcome area with navigation to components and modules within Perspective VMS
Visual Camera Status Indication	A visual alert within the events panel, annotating the camera status for quick reference.
Send Messages	Ability to send and receive messages between users.
Downloadable Extracts	Ability to download and view extracts in a standard video player
Extraction List/View	A customized and filter-ready list view of extracts made.

Tutorial Videos	Interactive tutorial videos showing brief functional instructions to common operating interfaces.
SQL Server 2008 R2 Integration	Provides the ability to operate and run using Microsoft SQL Server 2008 R2.
Silverlight 4 Integration	Perspective VMS operates and runs in a Microsoft Silverlight environment
Archive Module (Module)	Allows users to quickly locate and playback archived video, provides functionality for timeline based archive retrieval, event and archive integration, downloading and sharing archived video and tagging archived information.
Out-of-browser	Provides the ability to run as a desktop client without the need of any browser.
Multi-Level Mapping	Provides the ability to navigate multiple maps through an intuitive interface with dynamic pan-tilt and zoom on each graphic.
Multi-Streaming Archive Player	Ability to playback multiple archived video streams simultaneously.
Neighboring Cameras	Provides the ability to associate cameras together in custom multi-view arrangement of a logical group for quick display of "neighbor" cameras or devices.
Custom Map Layers	Ability to add definable layers to any map. These layers can be hidden or exposed depending on user configuration and preference.

4. Full Product Feature List

A full product feature list can be found online at (Features List Link)