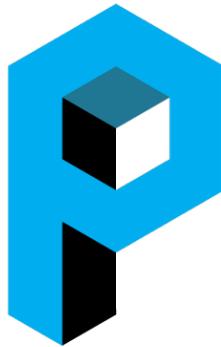# Perspective VMS®

User Training Manual and Guide

LENSEC, LLC
7/17/2020

This training manual was designed for Perspective Video Management Software: Version 4.2.0. Topics covered include, user interface interaction and system administration.

Contents

About LENSEC

Product Overview

Perspective VMS is an enterprise-level, multi-site, distributed environment Video Management Software product from LENSEC, LLC. First available to the public in 2011, Perspective VMS is currently available through authorized and certified resellers in over a dozen countries throughout the world.

About Us

Since 1998, LENSEC has been breaking new ground in video surveillance security systems. LENSEC pioneered IP video management and IP video surveillance by creating real-time situational awareness tools designed and delivered over the web. Focusing on functionality as well as the user experience, LENSEC solutions -- which include browser-based video surveillance and network camera surveillance software -- have become a relied upon video surveillance system for first responders and emergency security personnel.

LENSEC currently works with users and installation companies throughout the world distributing video-centric security platforms. LENSEC is based in Houston, TX and is the developer of the Perspective Video Management Software (VMS) application.

LENSEC Key Support Personnel

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External Resources

LENSEC Web Site	**https://lensec.com**
Perspective VMS Documentation	https://lensec.com/pvms
*Live Demonstration Site	https://demo.lensec.com/perspectivevms
Tutorial Videos	https://lensec.com/tutorial
Support	https://lensec.com/support

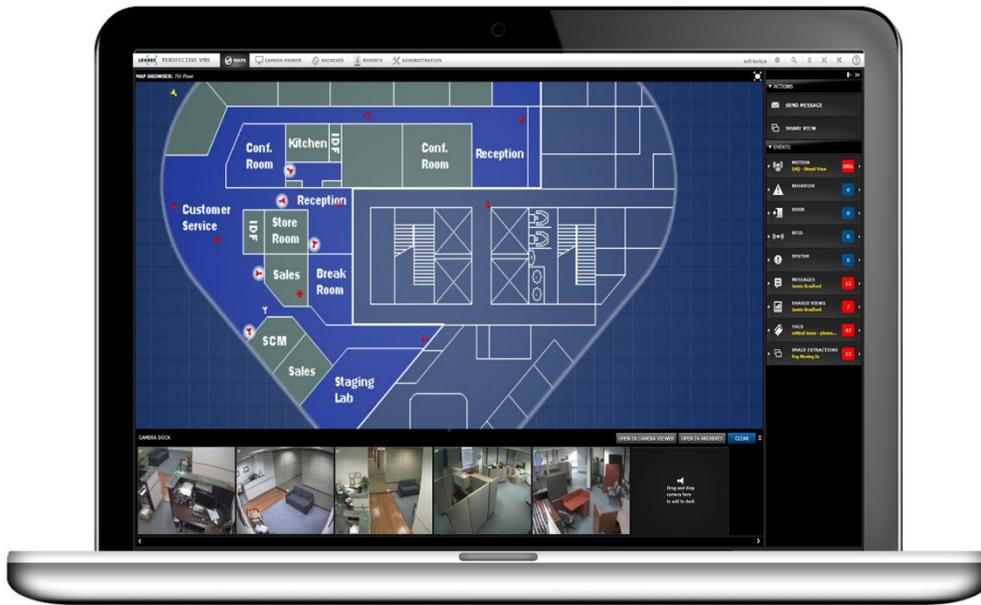*NOTE: A password is required for the PVMS Live Demo Site. Contact LENSEC for a username and password.

Perspective VMS Overview

Client Environment

HTML5 Browser-based

Perspective VMS is a browser-based client application. This means you can run Perspective VMS from any computer running a modern web-browser by opening the browser and navigating to the Perspective VMS web URL or address.
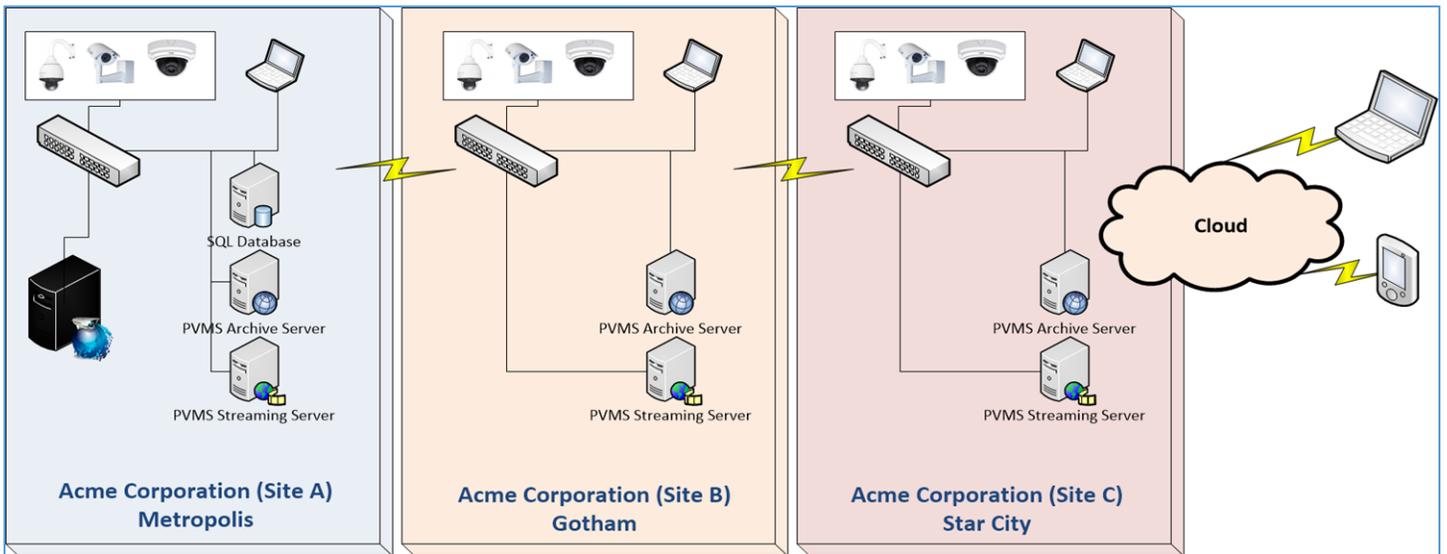
Perspective VMS is a smart-client built leveraging HTML5 standards. LENSEC's unique use of HTML5 and over a decade of experience with browser-based video allows Perspective VMS to maintain rich application features uncommon in typical HTML-based client viewing pages.

Mobile Applications

Perspective VMS is available (listed as PVMS Mobile) for download on both the Google Play Store and Apple App Store. Both versions of the mobile application allow for live streaming and archive playback when connected to a Perspective VMS server.

Enterprise Level:

- **Sites** – Sites (Buildings, Campuses, etc…) can be organized to perform services locally yet interact globally.
- **Web Server** – As a web-application Perspective utilizes a web server to allow multiple clients to connect to one unified platform.
- **Database Server** – Leveraging Microsoft SQL, the database server can be local or distributed on the end-user's network.
- **Streaming Server** – Using Perspective VMS Streaming Services, all or select cameras can stream world-wide over a WAN or Internet.
- **Archiving Server** – Recording of video streams can be handled locally but distributed globally.

Welcome Module / General Navigation

Authorized User Logon

Accessing Perspective VMS can be done via any computer with network accessibility to the Perspective VMS server (or accessible to that network via network access rights, such as VPN) with a standard web-browser, or by utilizing the Out-of-Browser client application installed on the PC.

When navigating correctly to a licensed Perspective VMS instance the user may be presented with a login dialog box asking for user name and password.

Single Sign-on (Active Directory)

Authentication may also be provided using Active Directory. If Active Directory is utilized by the organization and configured for Perspective VMS than the login screen will be bypassed, instead leveraging single sign-on parameters and allowing the user direct access to their system under their domain credentials.
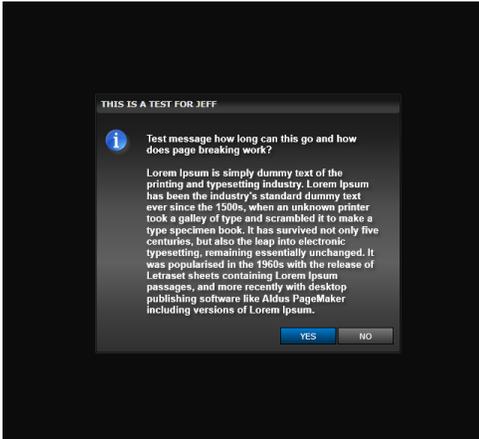
3rd-party application automated sign-in

As an administrative feature, Perspective VMS provides the capability to generate an authenticated pass-through login credential to access Perspective VMS indirectly. Furthermore, this credential string can be embedded into a 3rd party software or resource for automated login to Perspective VMS without requiring an additional user intervention.

An End-User License Agreement (EULA) is presented for each user upon their initial login to the system. Acknowledgement of this agreement is required to access the software application by each user. A report of accepted EULAs is available in the Reporting Module of Perspective VMS.
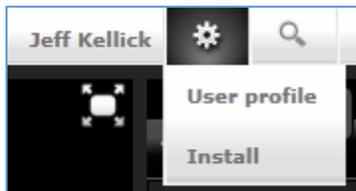
Similarly, a Custom Welcome Message can be configured to alert users of a video viewing policy, short term notifications, or standardized greeting. These messages can be configured for one time or continuous use and assigned to any user group as needed. Multiple messages can be displayed as well, based on configuration design and goals of the administrator.

Top Navigation Bar

User Profile

When a new user logs in for the first time, they may wish to setup general preferences for future access to the software. This may include changing of their password and setting default preferences or views.

Extended Tool Tips

To assist new users with the software, LENSEC offers the option of Extended Tool-Tips which provide further descriptive detail on selected buttons and controls. This information is another tool for users to acclimate to using the software.

Screen Orientation/Layout Controls

Perspective VMS offers several layout options including navigating to full screen, showing and hiding panels, or allowing users to fit the application browser to their specific demands.

Maps Module

The Maps module provides an at-a-glance geographic overview of a site or entire enterprise with the ability to interact with cameras and devices for relative field-of-view. This includes the ability to zoom and pan on a map for greater detail of an area or set of devices. The module is ideal for real-time situational awareness and to build visual familiarity of the site for users, administrators, first responders, and visiting agencies.
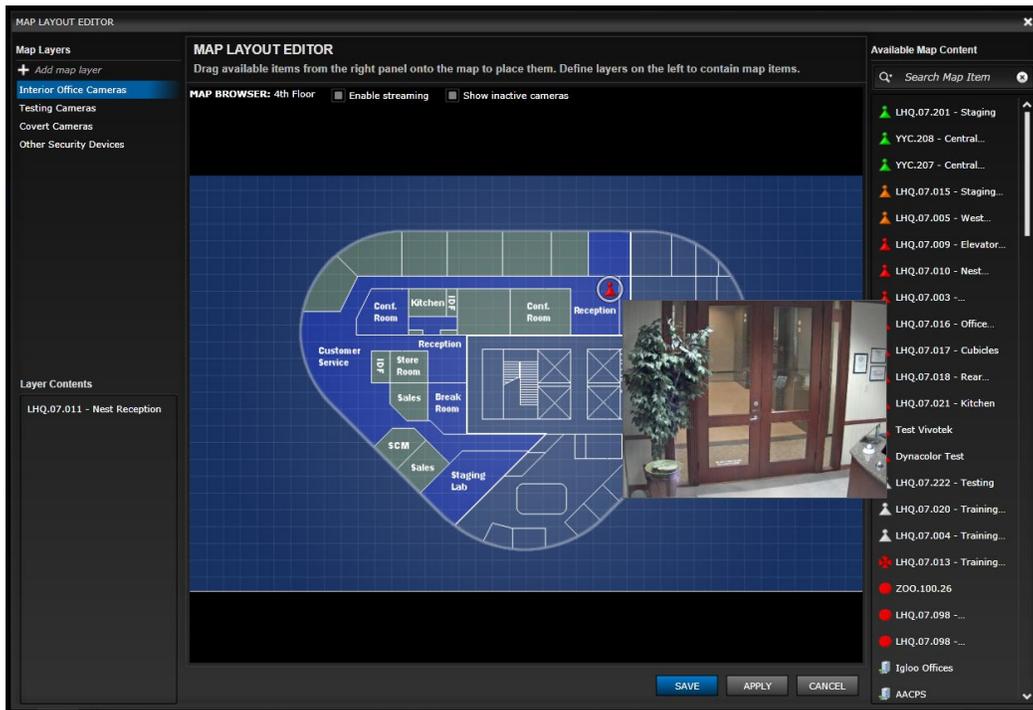

Multi-level Mapping

Perspective VMS provides the ability to navigate multiple maps through an intuitive interface with dynamic pan-tilt and zoom on each graphic. These maps may be general floor plans, architectural drawings, or satellite/orthographic imagery. Multiple level maps hierarchy provides users the ability to have multiple options for visual orientation within a facility or whole enterprise.

Map-Layers

Layers can be designed on a map to show or hide selected objects based on a layer being turned on or off when viewing.

Dynamic Camera Icons

Camera icons will change state based on conditions or status of their corresponding devices such as motion or alert.

Camera Dock

The Camera Dock allows users to drag and drop cameras from one or more maps into one common area for live viewing while continuing to browse or utilize maps within the Maps Module. The Dock component is comprised of individual camera containers for collecting the camera views, and button controls for displaying the camera views collection in the Camera Viewer or Archive Module. The cameras within the Dock can be re-arranged using a drag-and-drop method.

Camera Viewer Module

The Camera Viewer module provides live video viewing, enabling users 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 video footage via instant playback functionality.

Live Monitoring Containers

Each camera viewer container will supply one camera stream/thread in a configured codec format. Along with the camera stream, a camera header will be displayed and camera overlay with controls for that individual camera container.

Layouts and Aspect Ratio

Multiple layouts and aspect ratio can be defined for the preferences of individual users. Presets are defined in the system based on Aspect Ratio but custom arrangements can be created by an administrator.

Informational Header

The camera header displays the camera streaming status icon as well as the Camera Name and the Date/Time relative to the video streaming (Live or Archived).

Presets & Sequences

Custom preset views and multi-view sequences (multi-views cycled through on a defined time interval) can be created both as public items accessible to all or for individual users under their private logon access.

Live and Recorded Video

Perspective VMS provides the ability to play both live streaming and archived video side-by-side in the camera viewer.

PTZ and Virtual PTZ Controls

Pan-Tilt-Zoom (PTZ) cameras are controllable inside of Perspective VMS based upon camera model by multiple options. A virtual joystick (mouse click-and-drag) a click-to-center control, and a select-to-zoom control (draw a box to where the camera will zoom. Even on fixed cameras, Perspective VMS allows for virtual zoom and pan controls.

Snapshots/Tagging/Neighboring

Image snapshots can be downloaded and saved from multiple viewing screens. Information can be tagged (also known as bookmarked in some systems) for rapid and searchable retrieval. Also cameras can be associated together as "neighbors". While the cameras do not need to be geographically adjacent, neighboring does allow for quick viewing of saved camera views with one click from within any camera container.

Intuitive Navigational Controls

Within the Camera Overlay, controls also allow the users to quickly navigate to that camera within other modules such as Archiving or Administration. A Map Locator feature also allows the user to quickly ascertain the location of the camera on a corresponding map.

Archive Module

Timeline Control

The Archive Browser (Timeline) control is designed for fast searching and visual historical search navigation.
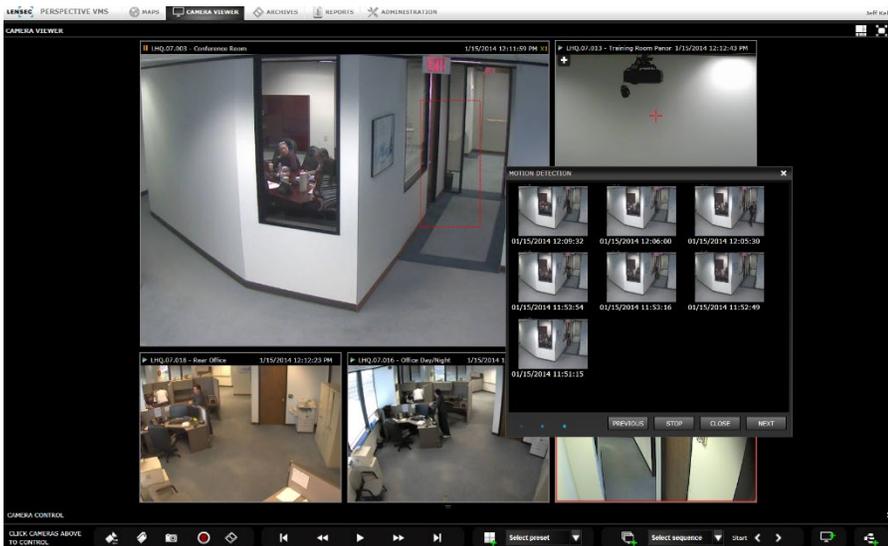

The Timeline control slider is a sizable preview mechanism that controls which Thumbnails are displayed in the Archive Browser. The Timeline control can be shrunk or expanded on the timeline to change the focus of the thumbnails displayed. If double-clicking on the timeline control, the slider will drill into that area of focus.

Fast-Find

Perspective VMS provides the 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.

Reports Module

The Reporting Module provides the ability to launch configurable filtered reports showing system information and event transactions within Perspective VMS.

Configuration Reports

Perspective VMS provides an area inside of the reports module for launching the administration print-views and configuration reports. This allows both users and system integration/installation professionals to have quick access for site commissioning and review.

Audit Reports

Perspective VMS also provides the ability to track users' activities within Perspective VMS.

Health and Status Reports

Primary areas to note for system status are System Health and Analytic Reports. Within these report categories users can assess health on servers, cameras, and archives.

Note, there is a zoom and a navigation slider at the bottom of the report. Also note that you may **EXPORT (or Save)** the report to a format of your choosing.

Reports can also be run by sub-grouping for targeted searches.

Events and Side Panel

On the right side of the Perspective VMS application is a configurable side panel designed to provide users a collapsible or expandable area for collaboration and alert notifications.

Collaboration

For collaboration users have the ability to both send messages and share their view. Sharing their view enables other users to view the same arrangement and module they are looking at during the instant of the share. This is extremely helpful in communicating specific information during an investigation, case, or research activity.

Lockdown

Perspective VMS provides an ability to "one-click" lockdown the video surveillance system enabling access for only select users (based on permission assignments)

Import Video

Fixed camera assets are a small portion of the video surveillance tools at a modern college or university. Mobile phones, aerial drones and iPad or tablet webcams can be very helpful in piecing together a forensic investigation. Perspective VMS allows for importing of video files into the core VMS application for comprehensive video management of security cameras and ancillary video data.

Custom Action Buttons

With workflows users may require a custom soft-button. Perspective VMS offers users the ability to create multiple and permission-able custom action buttons.

Information Panel (Extractions and Alerts)

An expandable information panel showing events for easy filtering and search by time, date, object, and grouping criteria is available based upon permissions.

A pop-up preview allowing users to interact with events while still maintaining the primary viewing space is available on motion, system and behavioral alerts.

Administration Module

Users (Active Directory)

Perspective VMS offers unlimited users to be added for permission to utilize the software application. Users can be defined by an administrator and permissions controlled through assigned groups. Synchronization of users via Active Directory is also a configurable feature for Enterprise editions.

Groups (Permissions)

Permissions control allows administrators to choose user access to features within the software application. Users in a group will receive the permissions of that group. Users associated to more than one group inherit the most permissive control between the multiple groups. Administrators may choose permissions control for users, restricting them to 'Read Only' status, allowing ability to 'Modify' an object, or providing 'Full Control' with the ability to delete data.

Camera Administration

Cameras are configured for custom streaming and archiving inside of Perspective VMS Administration. Additional attributes can be defined as well as historical support tracking or references for each device.

Archive Locking

Perspective VMS provides the user the ability to flag or mark sections of times (or entire days) for exemption from the normal archive deletion routines.

Workflows and Automation

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.

API (Integrations)

Perspective VMS 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.

Installation Details

Architecture

System architecture design of Perspective VMS is flexible to suit the varying demands of each facility or customer. At its core, Perspective is a web-server based application distributed to clients through a browser based interface connected on a LAN/WAN/GAN.

Network

Perspective VMS is a network connected Video Management Software application. To view the Perspective VMS web-client you will need to have established connectivity with your security network. The security network may be a closed Local Area Network (LAN) or available over the internet on a Wide Area Network (WAN).

Perspective VMS utilizes several default TCP connections for accessing services. These ports may be adjusted if necessary but by default your network administration will need to allow the following ports:

4530: For Live Streaming
8090: For Live Proxy Streaming
8091: For Archive Streaming and Extractions
943: If using Cross-Domain Access
443: If using SSL Connections

Servers/Services

Perspective VMS leverages windows-based services for distribution of jobs performed for managing video. These are typically distributed amongst system servers.

Administration Service	The Administration service monitors and checks drives for the right utilization; checks how much free space on the drive(s), and subsequently purge old archives or move them to a different offsite location. It is also responsible for importing and ensuring user synchronization between Active Directory and PVMS.
Health Monitor Service (Service)	A Health Monitor Service which functions to check if system cameras defined in the VMS are up and running. If not, the service will notify the user about the offline status of the camera in question. The Service will also generate health report related to cameras, servers and other system components.
Streaming Service (Service)	A service that acts as an intermediary agent between PVMS and system cameras; it is mainly responsible for handling the streams and passing them to the system. It is also responsible for streaming the archives that are created using Archiving Service.
Archiving Service	Archive Service provides for; archiving image and video streams from system cameras, handling image extraction requests from users and create archives/extractions accordingly, as well as managing live recording requests from users to capture camera video streams and encode them using H.264/MPEG-4 codec for optimal quality/size.
Integration Communication Service	A service communicating independent packages from Perspective VMS to act as an intermediary communication agent between PVMS and 3rd party software/hardware applications (RFID, Video Analytics, Access Control, etc.)

Software Updates and Maintenance

Software Maintenance Plus

With Perspective VMS, a user owns the software upon purchase. It is never disabled or turned-off by LENSEC. This differs from competitors providing a subscription-based service which can terminate if not renewed. That said, to take advantage of software advancements, integrations and innovative feature sets, Perspective VMS is itself an evolving software product. Therefore, in order to future-proof the investment in the software, annual software maintenance plans may be purchased which entitles the organization to all software upgrades produced for the product line.

Future Release Schedule and Roadmap

LENSEC maintains an active roadmap schedule incorporating new feature requests from users, security and vertical market consultants, as well as industry analysts to provide an ever evolving security solution for our customers. Over the next 3 years LENSEC plans to graduate Perspective VMS to one or two new major version enhancements with 4 to 5 minor version releases per major release. We can also forecast there will be a number of maintenance releases that would add some level of notable functionality or integration improvements for select customers but may not merit a minor or major release / rollout of their own. In total we can assume 10-20 incremental releases of which end-users may choose to take advantage of 5-10 software updates that offer applicable feature enhancements to their environments.

http://www.lensec.com/pvms/releasehistory.html

Manufacturer Support

Health Alert Automation

Perspective VMS Enterprise Edition provides configurable health status alerts. Based upon reporting queries, health alerts can be automated to send update alerts to a support account.

Remote Monitoring

Remote monitoring support plans help to ensure maximum uptime of your system by proactively monitoring the up/down status of each camera and server in your surveillance network. If a camera or server is determined to be off line, LENSEC's customer service professionals in conjunction with the system integrator will remotely diagnose and attempt to remedy the problem to ensure your system is always online and operational.

Notes

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LENSEC

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