Ocularis™ PS - Specifications Sheet

Version 3.6, May 2013
For full list of features, see the Ocularis Architecture & Engineering (A&E) document, available by request.

General

Ocularis is OnSSI’s flagship IP-video surveillance and security platform which includes a full-fledged VMS, combined with central management of end-user rights and video recording and distribution.

The Ocularis Platform is offered in four feature sets – PS, IS, CS and ES – to meet the needs of organizations of all sizes and types.

The Ocularis PS Feature Set was designed for organizations with limited active live monitoring and alerting operating in a single or at multiple locations.

Major System Components

Ocularis PS is a unified, modular software platform that consists of a number of components:

1. **Ocularis Base**: Provides system-wide management for shared assets, user rights management, and video distribution.

2. **Ocularis Recorder Component (RC)**: Provides video recording, storage management, video delivery to users and camera management.

3. **Ocularis Client**: Access to video, management of alerts and shared event handling is done through the unified Video Client software.
System Highlights

- **Full-Fledged multi-site, multi-server VMS**
  Ocularis PS manages video received from cameras connected to multiple recording servers at multiple sites, with central management of user rights, video distribution and shared assets.

- **Open-Architecture Non-Proprietary Technology**
  Ocularis PS runs on off-the-shelf PC hardware and supports all leading manufacturers’ cameras and devices (over 1500 models) as well as all industry-standard compression formats (MPEG4, MJPEG, H.263 and H.264) and Onvif and PSIA standards.

- **Per-Camera Configuration of Video Streaming, Recording and Archiving Parameters**
  System resources are optimized through per-camera configuration for compression level/format, image resolution, bandwidth, framerate, conditional recording, retention time, archiving frequency, archiving location and more.

- **Flexible archiving**
  Multiple archiving instances per day to local storage devices, performed transparently to the user.

- **Central Management for Video Client Asset and User Authorization Data**
  All RC-P recording servers and Ocularis Client users are managed by the Ocularis Base, which manages users’ rights to specific cameras and functions system wide, and distributes all shared assets.

- **Highly Intuitive Unified Video Client**
  Ocularis Client offers a user-friendly operator interface that takes only minutes of training to for full proficiency.

- **Live Monitoring with Instantaneous Investigation**
  While monitoring live video feeds, users can perform basic investigation on individual cameras – playback, digital PTZ and optical PTZ (for PTZ cameras) - without the need to switch to a dedicated investigation mode.

- **Multiple Investigation Tools**
  Ocularis Client's investigation tools include the Kinetic Motion Timeline, multi-parameter motion detection, and the Time Slicer and the Motion Slicer toolset.
Detailed Features and Functionality

Ocularis Base

The Ocularis Base Application for Ocularis PS manages all user and system status data from the various system components.

- **Management of Users, User Groups and Authorizations**
  Users are assigned to authorization groups, granting users rights for cameras, assets and operations (including PTZ controls and presets, accessing recorded video and initiating recording for specific cameras).

- **Simple recording server management**
  Any number of recorders can be managed under Ocularis Base allowing for unlimited system scalability.

- **Camera Array Views for Video Client Users**
  By logging in to the Ocularis Base, users gain access to Views – arrays of different dimension and pane size combination, containing camera streams, hotspots, carousels, web pages and images, and push-video panes. View panes can be configured for image resolution, framerate, carousel dwell time, etc.

- **Repository for Shared Assets System-Wide**
  Shared asset management, including maps for easy navigation to cameras, icons and events tagging/classification tables.

- **Integration**
  Ocularis PS integrates with access control systems, alarms, contact closure devices and other systems via hardware I/O, internal events and TCP/IP events.

RC-P Recorder

- **Scalable Architecture**: simultaneous recording and monitoring for an unlimited number of cameras, connected to multiple recording servers (up to 26 streams per server) at multiple sites.

- **Camera Support**: 1500+ devices by over 80 manufacturers, with support for MJPEG, MPEG4, H.263 and H.264 compression formats as well as the Onvif and PSIA standards; support for analog cameras via a wide range of IP video encoders.

- **Recorder Administrator Application**: each RC-P recording server is configured via an administration application for setup and configuration of cameras and I/O devices, camera event settings, archive settings, scheduling, and soft buttons for manually triggered events.

- **System Configuration Wizards**: Used for adding cameras, configuring video, scheduling recordings, adjusting of motion detection, and user configuration.

- **Device Discovery and Detection**: Cameras and other devices are automatically discovered and detected based on user preferences (Universal Plug and Play, Broadcast and IP Range scanning).

- **Batch Device Configuration**: Settings for cameras, connected to multiple recorders, can be configured as a batch action.

- **Export/import of configuration data**: allows backup of recorder configuration files for fast recovery. Configuration data can be set off-line, allowing the configuration of the system prior to physical installation.

- **Set automatic system restore points**: Restore Points are created each time a configuration change is confirmed. Current and previous five sessions are stored and can be reapplied.

- **Recording and Archiving**: Unlimited recording with per-camera configuration for compression format (for multiple format cameras); image resolution; frame rate; image parameters (brightness, contrast), archiving retention time, and archiving location.

- **Maintenance-Free, Transparent Archiving**: Multiple archiving instances per day on local drives. No down-time during transfer for video to archive.

- **Multi/dual-stream support**: separate video streams, at different resolution, video format and...
framerate settings, can be assigned for live monitoring and recording (e.g. MJPEG for live, MPEG4 for recording), for maximizing CPU, bandwidth and storage resources.

- **Recording Settings**: Individual cameras can be configured for recording on motion, continuous recording, or either based by schedule; and for pre- and post-recording (buffer) on motion/event. Optional speed-up recording on event.

- **PTZ Preset Settings**: 25 presets per PTZ camera, controllable from each camera’s view pane in Ocularis Client.

- **Audio**: One way audio (from camera/IP device-connected microphones, with multiple audio channels per server. Audio from cameras is recorded and included in export of evidence (as AVI file).

- **Networking**: Support for Multi-Network operation; Network Addressing Translation (NAT) and DNS

- **Network Topology**: Support for segmented (VLAN or dedicated network) or shared networks, for physical network separation between the camera and the recording servers and video clients.

- **Outside Network Access**: the RC-P administrator is able to allow/prevent access from outside the local IP address range. The configuration settings allow selecting an Outside IP Address, Outside IP Port, Local IP Ranges, Maximum Number of Clients.

- **User Authentication**: Via Basic authentication or local Windows accounts (Ocularis Client Limited Mode). Typical user administration and authentication is handled via Ocularis Base.

- **Logging**: Detailed logging, including Overall System log, Event log and Audit log

- **Virtualization**: Support for VMware and MS Hyper-V

- **Background Operation**: RC-P runs as a Windows® service, with no need for user login. Service can be stopped/started, and provides system status and logging information.

- **Advanced Motion Detection**: RC-P offers 3 resolution levels of motion detection.
Ocularis Client

- **Unified Client for Ocularis**: Ocularis Client provides complete access to all playback, event handling, maps, investigation tools, and export features.
- **Four Concurrent Users**: with no incremental cost for additional Ocularis Clients.
- **User Authentication**: Basic or Active Directory authentication via Ocularis Base. (Basic or local Windows login for Ocularis Client Limited Mode.)
- **Touchscreen-Enabled, Intuitive Interface**: Ocularis Client's intuitive, touchscreen-enabled GUI reacts to the user's actions, presenting only the controls and tools required by the current mode of operation.
- **Multiple Screen Support**: supports up to 8 connected displays with full independent functionality on each display.
- **Mixed Content Views**: Users can select among unlimited private (Limited Mode) or administrator-configured pane arrays of different sizes (up to 8x8 panes), consisted of camera streams, carousels, hotspots, HTML content (requires file support on client machine), and panes for receiving automatic (on-event) and manual (peer-to-peer) push-video alerts.
- **Personalized display attributes**:  
  - Display mode (windowed or full screen)
  - Select active local monitors
  - Set interface language (English, French, Spanish, Portuguese, Arabic, Italian, German, Dutch, Finnish, Russian and Swedish)
  - Manage video streaming attributes for MPEG4/H.264 cameras.
  - Set joystick (physical and virtual) sensitivity to eliminate unintentional joystick positioning data from being sent to the client.
- **Pane View/Full Screen Toggle**: Any view pane can be toggled between pane and full-screen viewing modes.
- **Live Monitoring Assisted by Instantaneous Investigation**: A-synchronous live monitoring, with per-camera controls for: Playback, Pause/live, Digital PTZ, Optical PTZ controls and PTZ presets (for PTZ cameras)
- **360-Degree Cameras**: Dedicated parsing controls for cameras equipped with 360-degree (Panomorphic) lens.
- **Digital PTZ**: Applicable in all viewing modes, and assisted by PIP (Picture-in-Picture) for easy orientation. Control methods include draw rectangle, mouse wheel zoom in/out, and dragging selected PTZ region in PIP window.
- **Unified Optical PTZ Control**: All PTZ cameras are manipulated using the same controls. Controls include:
  - Mouse wheel (zoom in/out)
  - Variable zoom ribbon
  - Zoom in/out buttons
  - Click-to-center
  - Click-draw zoom rectangle (for supported devices)
  - PTZ preset list (unlimited presets)
  - Virtual joystick
  - Physical joystick.
- **360-Degree Lens Controls**: Special controls are provided for parsing views from fixed cameras equipped with 360-degree (Panomorphic) lens. The parsed view emulates a PTZ camera, with simulated pan, tilt and zoom. 360-degree parsing is available for both wall or ceiling mounted cameras, in single or quad view within a single camera pane, with playback and digital zoom controls. Settings for Panomorphic lens-equipped cameras are done in the Ocularis Administrator.
- **Camera Offline Notification**: On event that a camera goes offline (lost communication or other camera failure), a visual alert in the form of a prominent red ‘X’ will immediately appear, overlaying the last received frame.
- **Change Cameras on the Fly**: In all viewing modes, the current camera can be instantly replaced by selecting another camera from a drop-down list. The camera list is equipped with a quick-access filter, which displays only the camera names that include the entered alphanumeric combination.
- **Smart Carousel Monitoring**: Carousel panes, displaying cameras in a predefined sequence, include controls for pause/restart rotation, next and previous camera.
- **Copy Current Camera View to Clipboard**: users are able to copy live or recorded camera views, for pasting in other documents or editing using image editing software. Copies performed while digitally zoomed will copy only the zoomed-in portion of the video.
• **Live and Playback Audio:** Audio is available in both live and playback mode

• **Start Recording Control:** Users are able to initiate the recording of a live-monitored camera, for the time period specified in the recorder application.

• **Toggle PTZ Patrolling:** Users are able to toggle a PTZ camera’s patrolling directly from the Ocularis Client application.

• **Switch Audio Streams:** Audio streams from camera-connected microphones can be switched on and off, selectable from a menu list.

• **Activate Outputs:** I/O devices can be activated directly from Ocularis Client, including visual and audio alarms, contact closure, etc.

• **Investigation and Access to Events:** Multiple tools are provided for quickly accessing and investigating video:
  
  o **Synchronous Camera View:** Current live monitoring view will carry upon transitioning to Browse mode, with synchronous playback, skip to next/previous event and skip to next/previous event sequence.

  o **Go to Time/Date:** Through ‘odometer’-style control

  o **Kinetic Motion Timeline:** scalable horizontal timeline, with kinetic variability (responding to the momentum and speed of the user’s ‘swiping’ movement). Allows reviewing extended periods of recorded video in a short time, with color indicators for recorded video and detected motion.

  o **Highly Configurable Motion Detection:** calibrated for percentage of changed pixels within the motion detection zone; sensitivity and detection sampling time interval.

  o **‘Time Slicer’ Tool Set:** The Time Slicer tool set auto-generates thumbnails, for rapid drill-down to the moment of an event, based on time interval, motion detection, camera alerts and alert sequences. All Time Slicer tool enable the application of digital PTZ to all slices, by drawing a region in the Timeslicer main pane.

• **Export of Evidence:** Video evidence is exported as: annotated still image report, multiple still frames and audio-included AVI file with annotated preamble. Optionally export only the zoomed-in portion of video pane (AVI only). Segments of video for exporting are graphically selected on the Kinetic Motion Timeline. Video export tasks are performed seamlessly in the background; tools include job status (percent complete and bar graph) and cancel button.

• **Map-based Navigation:** cameras and entire views are accessible through a map-based interface, used also for displaying video on in a local video wall configuration (for displays connected to the same machine as the Ocularis Client application).

  o Multiple maps, with hyperlinked icons to other maps, cameras and views. Map images are scalable and movable.

  o On-map live preview windows of cameras and camera groups, with full playback, digital PTZ and optical PTZ (where available) controls.

  o Local Videowall control - Cameras, as well as entire views (consisted of live cameras, push video alert panes, automatic push video alert panes and HTML/graphics) are pushed to local displays by simple drag-and-drop. Cameras displayed on local video walls are located on their respective maps via a Locator control.

• **Keyboard Shortcuts for commonly used controls:** Users can configure keyboard shortcuts for a large number of commonly used controls, including pan, tilt and zoom; go to presets; next/previous image; playback; toggle between minimized and maximized view pane; minimize application and more.

• **Memory usage indicator:** provides information for memory and graphics card resources usage.
Hardware Requirements for Ocularis v3.6 Components

Ocularis Base Server
- CPU: Intel Core i3 or better
- RAM: 4 GB (8 GB if using 64-bit OS)
- Hard Drive: minimum 250 GB, dependent on recording/archiving needs
- Operating System: Microsoft® Windows® Vista Business, Ultimate, Enterprise, or Windows 7 Professional, Ultimate or Enterprise (32 & 64 Bit), Windows 8, Server 2003/2008/2012 (32 or 64-bit).
- Software: .NET 4.0 Framework; IIS 6.0 or newer

Ocularis Administration Client
- CPU: Intel Core i3 or better
- RAM: Minimum 4 GB (8 GB is using 64-bit OS)
- Operating System: Windows Vista Business, Ultimate, or Windows 7 Professional or Ultimate (32 or 64-bit), Windows 8
- Graphics Adapter: Adapter: PCI-Express, 128 MB RAM, Direct 3D supported

Note: the Ocularis Administration Client does not require a dedicated PC.

RC-P Recorder
- CPU: Intel Core i3 or better
- RAM: Minimum 4 GB (8 GB is using 64-bit OS)
- Hard Disk Space: Minimum 100 GB free (depends on number of cameras, rules, and logging settings).

Ocularis Client
- CPU: Intel Core i5 or better (Intel Core i7 or better for 20+ megapixel streams)
- RAM: Minimum 4 GB (8 GB if using 64-bit OS)
- Operating System: Windows XP Professional SP3, or Windows Vista Business, Ultimate, Enterprise, or Windows 7 Professional, Ultimate or Enterprise (32 & 64 Bit), Windows 8
- Graphics adapter: PCI-Express, minimum 256 MB RAM, Direct 3D supported

Guidelines for video RAM Requirements:
- 20 simultaneous video streams: 256MB minimum
- 50 simultaneous video streams: 512MB minimum

Video RAM requirements are regardless of number of attached monitors. Additional factors may affect video RAM requirements, including megapixel cameras, compression format, as well as video card and other system hardware specifications.

Note: For demonstration purpose, trial systems or small systems (supporting less than 8 cameras), all software components can be run on one workstation provided the appropriate hardware specifications are met.