

Ocularis DS - Specifications Sheet

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For full list of features, see in *Ocularis DS Architecture & Engineering (A&E) document, available by request only.*

General

Ocularis DS is a comprehensive video-centric Physical Security Information Management (PSIM) platform which provides management and coordination of integrated physical security, content analytic, radiation and other sensor detection, transaction and other enterprise systems, as well as full VMS functionality, centralized event, end-user system-wide rights and video recording and distribution management.

The Ocularis DS VMS component enables the user to view, manage, and record video from an unlimited number of IP and non-IP video surveillance cameras at multiple sites, manage short- and long-term video storage, and combine video with non-video alerts, resulting in automatic video delivery to subscribers of interest.

Major System Components

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

1. **Ocularis DS Base:** Provides system-wide management, user access, shared event management, alarm and event correlation, video access, and distribution rights.
2. **Ocularis Recorder - NetDVMS:** 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, for desktop and control room video wall environments.
4. **Add-Ons and Integrated Applications:** Video Wall management; Video Content Analytics; forensics applications; and integrated physical security solutions (access control, radiation detection, contact closure, etc.)

System Highlights

- **Video-Centric Physical Security Information Management (PSIM):** Ocularis DS manages video and event data from multiple DVR, NVR and VMS systems as well as physical security, content analytic, environmental detection, transaction and other enterprise systems.
- **Designed for Integration:** Ocularis DS allows the integration of a host of add-on components via integration tools including Generic ASCII Generated Events, API commands, Contact Closure and more. An optional Software Development Kit (SDK) enables integration of 3rd-party components.
- **Scalable, Multi-Site Multi-Server:** Ocularis DS supports unlimited cameras and integrated devices and systems, connected to multiple recording servers at multiple sites. Video from any camera (including two-way audio) can be accessed by authorized users from anywhere in the network, through multiple video clients for desktop, video wall and mobile (handheld) operation.
- **Open-Architecture, Non-Proprietary Technology:** Ocularis DS runs on off-the-shelf PC hardware; and supports all leading manufacturers' cameras and devices (over 500 models) as well as all industry-standard compression formats (MPEG4, MJPEG, H.263 and H.264).
- **Central Management for Alerting, Shared Event Handling, Client Asset and User Authorization Data:** All recording servers and Ocularis Client users are managed by the Ocularis DS Base, which coordinates all event and alert handling, manages users' rights to specific cameras and functions system wide (Active Directory supported), and distributes all shared assets.
- **Per-Camera Configuration of All Video Streaming, Recording and Archiving Parameters:** The Ocularis Recorder - NetDVMS for Ocularis DS enables optimizing system resources through per-camera configuration for compression level/format, image resolution, bandwidth, framerate, conditional recording, retention time, archiving frequency, archiving location and more.

- **Highly Intuitive Uniform Video Client:** Ocularis Client offers a user-friendly operator interface, for both desktop and control room video-wall environments, with only minutes of training required 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, the Time Slicer and the Motion Slicer, as well as the optional VideoSynopsis and Video Content Analytics add-ons.
- **Shared Event Handling:** Recorded events are handled simultaneously by multiple operators, bookmarked and exported as evidence in multiple formats, all within minutes.

Detailed Features and Functionality

Ocularis DS Base

The VC-PSIM Base Application manages the flow of event, user and system status data from the various system components.

- **Event Management:** All events within the Ocularis DS platform, as well as messages received from external devices and systems, are managed through the Ocularis DS Base administrator. These include camera connected I/O messages; motion detection events; camera status events and others.
- **Composite Events ('Event Fusion'):** Composite Events are created by linking two camera events or alerts, configured by sequence order, time interval and logical conditioning (e.g. 'If Door A opens, but no motion detection on Camera N, within 15 seconds'). Composite Events can be fused with other events to create complex detection scenarios, and assigned priority for push video and handling by Ocularis Client operators.
- **Automatic Push Video Alerting (Blank Screen Monitoring):** Upon event, a push-video alert of the camera that triggered the alert, or any other camera, can be sent to users running the Ocularis Client application. In addition, the alert can be configured to trigger alarms or send notifications to users.
- **Management of Users, User Groups and Authorizations:** Users are assigned to Active Directory-supported authorization groups, granting users rights for accessing cameras, operating specific camera and video wall functions (including PTZ controls and presets, accessing recorded video and initiating recording for specific cameras).
- **Schedule-Based Distribution of Events to Users:** Multiple activity ranges for each day of the week, as well as for overriding holidays, are configured through a simple GUI.
- **Camera Array Views for Video Client User:** By logging in to the Ocularis DS 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, for video wall maps and icons and events tagging/classification tables.

Ocularis Recorder - NetDVMS

- **Scalable Architecture:** unlimited number of cameras, connected to multiple recording servers (up to 64 cameras per server) at multiple sites; support for MJPEG, MPEG4, H.263 and H.264 compression formats, at image resolutions up to 5MP and framerates of 30 fps; support for analog cameras via a wide range of IP video encoders.
- **Administrator Application:** feature-rich administration interface for each recording server, for setup and configuration of cameras and I/O devices, camera event settings, archive settings, scheduling, and soft buttons for manually triggered events.
- **Recording and Archiving:** 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 or remote (network) drives. The archive for each camera is stored in a separate database. No down-time during transfer for video to archive.
- **Recording Viewer:** Dedicated application for viewing exporting multi-camera video databases.
- **Optimized bandwidth and hardware utilization:** Optional monitoring and recording at two different frame rates and image resolution settings.
- **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:** 50 presets per PTZ camera, controllable from each camera's view pane in Ocularis Client.
- **Audio:** Two way audio (from camera/IP device-connected microphones and to camera/IP device-connected PA system); audio from cameras is recorded and included in export of evidence (as AVI file).
- **Networking:** Support for Multi-Network operation; Port Forwarding (for access from outside a NAT firewall); and SNMP (for camera status and camera event alerting).
- **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 NetDVMS administrator is able to allow/prevent access from outside the local IP address range. The configuration settings allows selecting an Outside IP Address, Outside IP Port, Local IP Ranges, Maximum Number of Clients.
- **User Authentication:** Via MS Active Directory user accounts and groups/Windows accounts; user administration via Ocularis DS Base.
- **Logging:** Detailed logging, including Overall System log, Event log and Audit log
- **Virtualization:** Support for VMware and MS Virtual PC®
- **Background Operation:** NetDVMS runs as a Windows® service, with no need for user login. Service can be stopped/started, and provides system status and logging information.

Ocularis Client, Ocularis Viewer and Mobile (Handheld) Clients

Ocularis Client

- **Unified Client for Ocularis:** Ocularis Client is the main video client for all OnSSI Ocularis solutions.
- **Unlimited Concurrent Users:** No limit on the number of concurrent client users, and no incremental cost for additional Ocularis Clients.
- **User Authentication:** Basic or Windows Active Directory-supported
- **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:** for dual-screen and quad-screen monitoring workstations.
- **Mixed Content Views:** Users can select among unlimited private or administrator-configured pane arrays of different sizes (up to 8x8 panes), consisted of camera streams, carousels, hotspots, web browser/static image/flash animation (requires file support on client machine), and panes for receiving automatic (on-event) and manual (peer-to-peer) push-video alerts.
- **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 and PTZ presets (for PTZ cameras) and dedicated parsing controls for cameras equipped with 360-degree (Panamorphic) 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, regardless of make/model. Controls include: mouse wheel (zoom in/out), variable zoom ribbon, zoom in/out buttons, point-to-Center, click-draw rectangle, PTZ preset list (unlimited presets) virtual joystick and physical joystick.
- **PTZ Prioritization:** Users, within user groups, are assigned priority levels for controlling PTZ cameras.
- **360-Degree Lens Controls:** Special controls are provided for parsing views from fixed cameras equipped with 360-degree (Panamorphic) 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.
- **Smart Carousel Monitoring:** Carousel panes, displaying cameras in a predefined sequence, include controls for pause/restart rotation, next and previous camera.
- **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.
- **Manual Push-Video Alerting:** users are able to send a live push-video alert to other Ocularis Client users (selectable from a drop-down list). Pushed video alerts can be investigated using playback, digital PTZ and Optical PTZ controls.
- **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.
- **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 of incidents:
 - **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.
 - **Go to Time/Date:** Through 'odometer'-style control
 - **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.
 - **Highly Configurable Motion Detection:** calibrated for percentage of changed pixels within the motion detection zone; sensitivity and detection sampling time interval.
 - **'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.
 - **Video Synopsis:** Optional add-on module for Ocularis DS. Creates a minutes-long summary clip of all events that took place over hours of recorded video. The clip also serves as an event index, linking between movements in the clip to the original recording.
- **Shared Event Handling:** All events generated within the Ocularis DS system, or detected by external/add-on devices, are entered in a dynamically-updated, shared among all authorized users. Users are able to access, investigate and handle events directly from a dedicated event handling interface, with an on-map indicator of the camera that triggered the event and dual video panes displaying the recorded event and a live stream. Handled events may be accessed by the administrator for continued handling.

- **Event Bookmarking and Export of Evidence:**
 - Segments of video for bookmarking and exported are graphically selected on the Kinetic Motion Timeline.
 - Bookmarks are tagged, classified and commented by users, and copied into a Bookmark database. Bookmarked events are presented along all event information and thumbnail of the incident.
 - Video evidence is exported as annotated still image report; multiple still frames; audio-included AVI file with annotated preamble, and court-admissible, multi-camera video database package, which includes a dedicated player.
- **Map-based Navigation and Video Wall Management:** cameras and camera arrays are accessible through a map-based interface, used also for Video Wall management (requires optional Ocularis VideoWall add-on).
 - Multiple maps, with hyperlinked icons to other maps, cameras and camera groups. Map images are scalable and movable.
 - On-map live preview windows of cameras and camera groups, with full playback, digital PTZ and optical PTZ (where available) controls.
 - Cameras and camera groups are pushed to local displays or remote video wall (optional; requires Ocularis VideoWall add-on) displays by simple drag-and-drop. Cameras displayed on video walls are located on their respective maps via a Locator control.
 - Views sent to remote video walls are controlled for playback, digital PTZ and optical PTZ, via a dedicated control panel.
- **Private View Configuration:** users are able to configure private views, from within the client, combining camera streams, carousels, push video alerts (automatic and manual), hotspots and webpage/image panes.

Ocularis VideoWall (optional)

- Allows sending video to video wall monitors and remote displays anywhere on the network, all from the Ocularis Client's intuitive, map-based controller interface
- Instantly push cameras and camera groups to any display on the network
- Accommodates any number of cameras, displays and simultaneous operators at multiple sites.
- Eliminates the need for analog multiplexing hardware
- Ideal for command and control centers, central station and remote alarm monitoring operations.

Handheld Clients

- NetPDA and NetCell, for Windows (CE/Mobile) PDAs and Smartphones (both included for unlimited users with Ocularis DS) provide secure access to live and recorded video from any camera on the network, with playback, optical PTZ controls and PTZ preset selection.
 - Features include horizontal and vertical operation; connected I/O device controls; instant access to video by time/date, alert sequence, frame-by-frame playback and variable playback speed.
 - Additional handheld clients of Ocularis DS available from select 3rd-party vendors.

Ocularis DS Viewer

- A dedicated viewer is included with Ocularis DS for playback of exported evidence as multiple-camera video database.

Ocularis Analytics

- **Video Content Analytics:** Ocularis Analytics, an optional add-on for Ocularis DS, provides automated detection of targeted movements and behaviors by people and vehicles. Analytics-generated alerts can be pushed automatically to users' Video Clients, together with a graphical metadata overlay indicating the object or movement that triggered the event.
 - Multiple detectors, for a variety of behaviors, can be applied to a single camera.
 - Compatible with on-edge processing, providing the advantage of processing raw (pre-compression) video data.
 - PTZ Analytics functionality, including PTZ tracking and motion detection on PTZ presets
 - Detection, alerting and reporting modules for a variety of human & vehicular behaviors, including movement in zone, line crossing, crowding, tailgating, loitering, grouping, object counting, stickiness, moving water vessel, object left behind, stopped vehicle, road obstacle and asset protection.

Ocularis VideoSynopsis (optional)

- Optional Module for the Ocularis Platform
- Powered by the BriefCam VideoSynopsis™ engine
- Enables the compression of video activity into a very short time frame for faster identification of key events
- A day of video footage can be compressed into a few minutes-long video clip, indexed for instant access to each detected incident or movement

Hardware Requirements

Ocularis DS Base Server:

- CPU: Intel® Xeon®, minimum 2.0 GHz (Dual Core or better recommended)
- RAM: Minimum 2 GB
- Network: Ethernet (1 Gbit recommended)
- Operating System: Microsoft® Windows® Server 2003/2008*
- Software: Microsoft .NET 3.5 SP1 Framework; IIS 6.0 or newer

Ocularis DS Admin

- CPU: Intel® Core2 Duo CPU 2.8 GHz
- RAM: Minimum 2 GB
- Network: Ethernet (100 Mb or higher recommended)
- Operating System: Microsoft® Windows® XP Professional SP2* or Vista*
- Graphics Adapter: Adapter: PCI-Express, 128 MB RAM, Direct 3D supported

Ocularis Recorder - NetDVMS Recording Server:

- CPU – Intel® Xeon Processor (Intel Core 2 Duo recommended)
- RAM – Minimum 2 GB
- Network – Ethernet, 1 GB
- Hard Disk Type – SATA, SCSI, SAS.
- Hard Disk Space – Minimum 80 GB free (depends on number of cameras and recording settings).
- Operating System – Microsoft® Windows® XP Professional* Microsoft® Windows® Vista Business/Enterprise/Ultimate*, Server 2003*/2008*
- Internet Information Services (IIS) 5.0 or later and Microsoft .NET Framework 1.1. required for running NetPDA Server

Ocularis Client

- CPU: Intel® Core 2 Quad CPU 2.8 GHz

- RAM: Minimum 2 GB
 - Network: Ethernet (100 Mb or higher recommended)
 - Operating System: Microsoft® Windows® XP Professional SP2* or Vista 32bit*
 - Graphics Adapter: Adapter: PCI-Express, 256 MB RAM, Direct 3D supported
- Note: Recommended hardware specifications for an Ocularis Client workstation in a production environment vary depending upon the number of video streams, video resolution, and number of monitors. Refer to the Ocularis Client User Manual for more detail.

Portable Clients (NetPDA/NetCell)

- Operating System - Microsoft® Windows® Pocket PC 2003/2003, SE/Mobile 5.0.
- CPU - Intel® StrongARM or 100% compatible.
- RAM - Minimum 32 MB.
- Network - Ethernet (256 Kbit or higher recommended)
- Graphics Adapter - Minimum 320 x 200, 16 bit colors.

VideoSynopsis Server (Required one per 8 Synopsis-equipped camera channels.)

- CPU: Intel® Xeon® Quad Core
- RAM: 2GB
- Hard Disk: 500GB
- Operating System: Microsoft® Windows® XP Professional, Vista, Server 2003/2008
- The server requires an activated HASP plug plugged into its USB port.

Ocularis Analytics Server

No. of Devices	1-50	50-100	100-400
CPU	2.8GHz, Core 2	2GHz, Quad Core	Dual 2GHz, Quad Core
RAM	2GB	4GB	6-8GB
Hard Disk	40GB		
Network	1 Gbit		
OS	XP Pro SP2*; Vista*	2003 Server Standard	
Database	SQL 2005 Express		
Graphics Adapter	64MB RAM; 128MB if running the Analytic Configuration Client		

*32 bit or 64 bit running as 32 bit

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