Ocularis 5

ULTIMATE

Ocularis Version 5.4
Ocularis is OnSSI’s innovative and cost-effective open platform Video Management Software (VMS) designed to enhance your security while simplifying your daily workload. From convenience stores to citywide deployments and everything in between, Ocularis can scale up to accommodate an infinite number of cameras to match your growing system needs.

Ocularis lets you record both analog video and video from newly integrated IP network cameras, and can become your Physical Security Information Management (PSIM) platform, putting you in control of advanced tools and enhanced integrations like smart motion detection, access control, biometrics, and behavior analytics.

The Ocularis platform is offered in three models – Professional, Enterprise and Ultimate – to meet the needs of organizations of all sizes and types.

The Ocularis Ultimate model is designed for large IT-centric organizations with extended command and control needs. Ocularis Ultimate provides centralized recording server management and recording server fail over, multicasting capabilities, edge recording, as well as compatibility with the VideoWall and OpenSight™ add-ons, which allow for collaborative control of video walls at multiple command and control centers, and incorporating camera streams from other Ocularis installations.

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

FULL-FLEDGED VMS WITH PHYSICAL SECURITY INFORMATION MANAGEMENT (PSIM) FUNCTIONALITY

Ocularis manages video and event data received from cameras connected to multiple recording servers, as well as from physical security, content analytic, environmental detection, transaction and other enterprise systems.

DESIGNED FOR INTEGRATION

Ocularis allows the integration of a host of add-on components via integration tools including Data Link integration events, API commands, contact closure and more. A free Software Development Kit (SDK) is also available for 3rd-party manufacturers to integrate their systems into Ocularis.

OPEN-ARCHITECTURE NON-PROPRIETARY TECHNOLOGY

Ocularis runs on non-proprietary, off-the-shelf PC hardware and supports leading manufacturers’ cameras and devices. Support for all industry-standard compression formats (MPEG-4, MJPEG, H.264, H.265, and MxPEG) and the ONVIF and ONVIF Profile S standards are built-in. Ocularis Base and Ocularis Recorders are also fully supported in virtual environments such as VMWare and Microsoft Hyper-V.

EDGE RECORDING

Cameras with on-board storage capabilities can function as failover devices to ensure uninterrupted video recording in the event of network or server failure.

OCULARIS MIX & MATCH

Ocularis allows the use of multiple different recorders under the same Base. This lets users to tailor the system to meet their needs. Ocularis Mix & Match allows a user to install Ultimate, Enterprise, Professional – as well as legacy Ocularis 4.X and earlier recorders – in the same system with centralized user and event management.

CENTRALIZED RECORDING SYSTEM MANAGEMENT

Ocularis Ultimate provides centralized system management that dramatically reduces the complexity of managing edge devices, hardware and networking. All recording servers, cameras and connected devices, are managed from a single administration application, including configuration of entire device groups connected to multiple recorders, without the need to access each recording server individually.

AUTOMATIC RECORDER FAILOVER

Ocularis Ultimate includes recorder failover to automatically move cameras from a failed recorder to another recorder in the system.

FULLY REDUNDANT MANAGEMENT SERVICES

Ocularis Ultimate features fully redundant recorder management services that do not require the use of high availability or clustering technologies.

DYNAMIC DATA MANAGEMENT

Ocularis Ultimate features efficient and dynamic data management with automatic load balancing across multiple storage volumes and no archiving requirements.
FEATURES

USER AUDIT LOGGING
All user activity may be logged by enabling auditing in Ocularis Base. An easy-to-use query tool provides easy-to-read, color-coded results and export capability for further investigation and statistical reporting.

FLEXIBLE RECORDING OPTIONS
Ocularis features both Standard (continuous) and Alarm Recording, based on motion detection and other inputs. Each can be configured with different retention policies to ensure that critical events are saved. Alarm Recording can also be configured to use a different camera stream for added recording flexibility.

CRITICAL CAMERA FAILOVER
Ocularis Client features automatic switching of interrupted or disconnected video streams in any live view within 2 to 3 seconds – including maps and blank screen events – to designated alternate camera streams.

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.

MULTICAST
In addition to standard unicasting, Ocularis Ultimate also includes multicasting capabilities, which allows sending a single live video stream to multiple users, while optimizing server load and bandwidth.

END-TO-END DATA ENCRYPTION
Ocularis features encryption of all communication between servers and clients, and also supports HTTPS encryption between devices and recorders.

CENTRAL MANAGEMENT FOR ALERTING, SHARED EVENT HANDLING, CLIENT ASSET AND USER AUTHORIZATION DATA
All hardware and system operators are managed by the Ocularis 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.

MODERN 64-BIT VMS
Ocularis has been updated with all 64-bit components for efficient use of computer and server resources.

SMART CAMERA DRIVERS
Smart Camera Drivers for Arecont, Axis, Bosch, Canon, FLIR, Hikvision, Interlogix, Northern, Hanwha Techwin/Samsung, and Sony allow the use of new camera models immediately without waiting for a model-specific driver. Ocularis 5 also supports thousands of cameras from dozens of technology partners, and also includes full support for ONVIF and ONVIF Profile S.

SERVER-BASED MOTION DETECTION
In addition to supporting camera-based motion detection and analytics, Ocularis 5 also includes efficient server-based motion detection with multiple regions of interest, each with their own sensitivity and threshold adjustments.

AUTOMATIC RECORDER PATCH UPDATES
Recorder patch updates can be automatically downloaded and applied in Ocularis 5, keeping the system up-to-date. Administrators may also choose to download and install patches manually.

INCREASE AWARENESS WITH OPENSIGHT™
Share cameras and events between multiple, disparate Ocularis video surveillance systems to improve situational awareness and event responsiveness. Available only on Ocularis Ultimate, the OpenSight option can connect with all Ocularis models and versions.
FEATURES

MULTI-STREAMING SUPPORT
Ocularis 5 supports smart multi-streaming, which can automatically deliver a full resolution or low resolution stream to Ocularis Client based on the viewing needs of that Client. Views can also be configured to use a low bandwidth stream by default to conserve bandwidth.

INTUITIVE UNIFIED VIDEO CLIENT
Ocularis Client offers a user-friendly operator interface for both desktop and control room video-wall environments, with only minimal training required for full proficiency. Ocularis Client is also available in a 64-bit version for high video demand environments, supporting a higher number of video streams, as well as 4K and other high resolution cameras.

SHARED EVENT HANDLING
All events generated within the Ocularis system, or detected by external/add-on devices, are entered in a dynamically-updated list, shared among all authorized users. Users are able to acknowledge 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.

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.

ACCESS VIDEO ANYWHERE
Ocularis desktop, web, and mobile clients are provided license-free so video can be accessed from almost anywhere.

EXCLUSIVE INVESTIGATION TOOLS
Ocularis Client’s dynamic TimeSlicer™ senses motion in an area and brings the operator right to that video thumbnail in seconds instead of hours or even days. The Kinetic Timeline™ provides fast access to continuous historical data with a backwards and forwards swipe navigation and color codes to help identify recorded video.

360-DEGREE CAMERA DE-WARPING
Ocularis Client features native de-warping of 360-degree cameras from ACTi, Axis, Bosch, OnCam Grandeye, Samsung, Sentry 360, and Vivotek as well as for cameras equipped with the ImmerVision Panamorph lens.

MIXED CONTENT VIEWS
Users can select among unlimited views of different sizes (up to 8 x 8 panes), consisting of camera streams, carousels, hotspots, web pages and Blank Screen panes for receiving automatic (on-event) and manual (peer-to-peer) push-video alerts.

COMPLETE VIDEO WALL MANAGEMENT
Utilizing Ocularis Client’s map-based navigation, the Ocularis VideoWall feature (local or included remote add-on) allows sending cameras and camera groups to any monitor, eliminating the need for any video matrix hardware. Remote VideoWall allows operators to collaborate in real time with supervisor oversight.

MULTI-LANGUAGE SUPPORT
Ocularis Client includes support for Arabic-Modern Standard, Chinese (simplified), Dutch, English, Finnish, French, German, Hebrew, Italian, Korean, Portuguese, Russian, Spanish and Swedish.

CAPTURE VIDEO ON-THE-SPOT
With M2OTM (Mobile-to-Ocularis), mobile devices can be used to stream video into Ocularis*, just like another IP camera.

* Requires a camera license.
OCULARIS CLIENT
Unified operator interface for live monitoring, playback and investigation, alert management, map navigation and includes local VideoWall control for workstation connected displays and remote VideoWall control for displays connected to other client workstations.

OCULARIS BASE
Manages the flow of event, user and system status data from the various system components. Provides Active Directory authentication for client operators.

OCULARIS MEDIA SERVER
Enables web and mobile access to video and alerts and also serves as the gateway for M2O™ video from mobile devices.

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# Feature Set Comparison

<table>
<thead>
<tr>
<th>Ocularis System Feature</th>
<th>PRO</th>
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<th>ULT</th>
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</thead>
<tbody>
<tr>
<td>Number of cameras per system</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Number of recorders per system</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Number of concurrent client connections</td>
<td>10 per Recorder</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Ocularis Mix &amp; Match - combining multiple recorder types in a single system</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Ocularis OpenSight™ option for sharing video between Ocularis systems</td>
<td>Remote</td>
<td>Remote</td>
<td>Main/Remote</td>
</tr>
<tr>
<td>Compatible with Ocularis 4.x and prior recorders</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Critical Camera Failover for camera failure protection</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Centralized user management</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Active Directory support for client authentication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Integration with 3rd-party access control</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Integration with 3rd-party analytics</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Integration with 3rd-party License Plate Recognition (LPR) systems</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Data Link event integration</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Event Fusion / Composite Events</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Ocularis Media Server for free web and mobile clients and optional M2O (Mobile-to-Ocularis) video streaming</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Event Actions including move-to-PTZ-preset, email, TCP/UDP and HTTP messaging</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ocularis Recorder Features</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of cameras per server</td>
<td>128</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Centralized recorder management</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Fully redundant recorder manager without using clustering</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Automatic recorder patch update service</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Automatic failover of recording servers</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Efficient and dynamic disk load balancing with no archiving requirements</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Video data aging (grooming) for long term storage</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Automatic edge recording retrieval after network disconnect</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Automatic scheduled export of video data</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Support for H.265, H.264, MPEG-4, MJPEG, and MxMPEG compression formats</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Supports camera-based analytics including Axis Dynamic Event Stream</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Server-based motion detection and support for camera-based motion detection and analytics</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Support for thousands of IP cameras plus ONVIF, ONVIF Profile 5, generic RTSP and MJPEG drivers</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Smart Camera Drivers for Arecont, Axis, Bosch, Canon, FLIR, Hikvision, Interlogix, Northern, Hanwha/Samsung, and Sony</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Supports multi-streaming from cameras for efficient bandwidth utilization</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>HTTPS (SSL) encryption for camera to recorder communication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Digital input/output device support (number of devices)</td>
<td>5</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Simultaneous Standard and Alarm Recording with separate retention policies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Incoming audio recording for supported cameras</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Two-way audio support for Axis cameras and audio devices</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Multicast from recorder to Ocularis Client</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>No device registration or device MAC address required</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</tbody>
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## System Requirements

### Ocularis Base

- **CPU:** Intel® Xeon®, (Quad Core or better recommended) or Intel® Core™ i5 or better (if running on a workstation)
- **RAM:** Minimum 8 GB
- **Hard Drive:** 500 GB or more, more for large systems utilizing extensive video database Bookmarking
- **Operating System:**
  - Windows® 7 (Professional, Ultimate, Enterprise)
  - Windows® 8 (Standard, Professional, Enterprise)
  - Windows 10 (Professional and Enterprise)
  - Windows Server® 2008 (Standard, Enterprise)
  - Windows Server® 2008 R2 (Standard, Enterprise)
  - Windows Server® 2012 (Standard, Datacenter)
  - Windows Server® 2016 (Standard, Datacenter)
- **Software:** Microsoft .NET 4.0 Framework and Internet Information Services (IIS) 6.0 or newer, Microsoft SQL Express 2014 or Microsoft SQL Server 2012 and 2014

### Ocularis Recorder

**Core Service + Device Manager (DM) (Installed on the same server or on separate servers)**

- **CPU:** Intel Core i7-4930K @ 3.40GHz or Intel Xeon E5-2640 v3 @ 2.60GHz
- **RAM:** 8 GB (16 GB or more recommended)
- **Available hard disk space:** min. 50 GB and additional storage space for image recordings (HDD with 7200 RPM or faster recommended)
- **Network:** Gigabit or faster Ethernet Connection
- **Operating Systems (all 64-bit):**
  - Windows® 7 (Home Premium, Professional, Ultimate, Enterprise)
  - Windows® 8 (Standard, Professional, Enterprise)
  - Windows 10 (Professional and Enterprise)
  - Windows Server® 2008 (Standard, Enterprise)
  - Windows Server® 2008 R2 (Standard, Enterprise)
  - Windows Server® 2012 (Standard, Datacenter)
  - Windows Server® 2016 (Standard, Datacenter)
- **Software:** Microsoft .NET 4.0 Framework and Internet Information Services (IIS) 6.0 or newer

### Ocularis Client

- **CPU:** Intel Core i5™ or better
- **RAM:** 8 GB minimum (16 GB or more recommended)
- **Operating Systems (all 64-bit):**
  - Windows® 7 (Home Premium, Professional, Ultimate, Enterprise)
  - Windows® 8 (Standard, Professional, Enterprise)
  - Windows® 10 (Professional and Enterprise)
- **Software:** DirectX 9.0 or newer

### Ocularis Media Server

- **CPU:** Intel® Xeon® E3 Series or Intel® Core™ i5 (or better) recommended
- **RAM:** Minimum 8 GB (reserve 4GB for Ocularis Media Server if installing with other Ocularis applications)
- **Hard Drive:** 50GB or more
- **Operating System:**
  - Windows® 7 (Home Premium, Professional, Ultimate, Enterprise)
  - Windows® 8 (Standard, Professional, Enterprise)
  - Windows® 10 (Professional and Enterprise)
  - Windows Server® 2008 R2 (Standard, Enterprise)
  - Windows Server® 2012 (Standard, Datacenter)
  - Windows Server® 2016 (Standard, Datacenter)
- **Software:** Microsoft .NET 4.0 Framework and Internet Information Services (IIS) 6.0 or newer
- **Supported in virtual environments**

Please visit the [OnSSI Storage and Hardware Calculator](http://onSSI.com) for detailed system requirements or contact Sales Engineering at [se@onSSI.com](mailto:se@onSSI.com).

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