

## Software Features



### Product at a Glance

- ▶ True standards-based VMS built on ONVIF specifications
- ▶ Designed and built using the latest standard web-based development tools, ensuring optimization of platform interactivity
- ▶ Modular, modern, secure and efficient open software architecture
- ▶ Ready for the latest Windows platform
- ▶ Built-in Dashboard offers constant health monitoring
- ▶ Central licensing and software distribution
- ▶ Events Framework for 3<sup>rd</sup> party integrations

### Powerful VMS

Valerus is Vicon's new next-generation Video Management System developed for the modern security and surveillance world. Based on today's true open standards, Valerus is a centrally licensed, easy-to-deploy security and safety tool designed to support conventional video management system configurations.

Valerus is built on ONVIF, an industry standard that most modern cameras and VMS systems have adopted, and uses standard software and communication tools. Vicon has completed and documented certain features that ONVIF has yet to define and plug-ins for non-ONVIF devices can easily be added in the future. The API is ONVIF-centric, making integrations easier.

The Valerus VMS leverages centralized licensing, thin-client topology and internal diagnostics that modern-day system managers require. Quick deployment and discovery tools map out system components for connectivity. A focus on true open standards sets the bar high for interoperability among various video system components and avoids the "manufacturer lock-in" that non-standard-based systems create. It was designed using standard web oriented modern technology tools.

Valerus is a highly flexible VMS in which customized interfaces allow for the creation of optimized interactive functionality amongst the different layers of users within a system. It includes an internal diagnostics dashboard to report on system health and a Quick Configuration tool to get the system up and running with minimum input from the user.

### Topology

Valerus can be deployed in different configuration depending on system size and logistical deployment; configurations include standalone system on a single PC, a centralized site running multiple servers or a central

site running multiple remote NVRs and cameras. Offered in both a software only configuration or factory certified hardware, the components of a complete Valerus VMS are:

**Application/Web Server:** This is the brains of the system, where the database is active and all system programming is stored. On systems under 150 cameras, this can be used as an all-in-one server, a recording server as well as the application server.

**Recording Servers:** All Recording Servers (NVRs) record and provide video and audio streams; each is capable of handling a specific number of cameras based on its specification.

**Client Viewing Station:** With this thin-client topology, client viewing stations can be on any PC running Microsoft® Internet Explorer 11.

### Central Licensing

A single license activates all Valerus components, including cameras, NVRs and clients. Systems can complete licensing directly from the VMS Configuration system. Software can also be updated directly from a Configuration screen.

The software licensing is organized in a tier structure that combines the number of devices and a specific feature set. Both the number of devices and the features must be taken into consideration when making the choice of licensing. The CORE license tier is for up to 35 devices. The PRO license tier supports an unlimited number of devices.

### Events Framework

The Valerus Events Framework (VEF) is an add-on to Valerus that allows it to integrate external partners' systems, such as Facial Recognition systems, License Plate Readers, ATMs and many others. Using Events Framework, the framework wraps the event data as a video stream, becoming a resource that Valerus can display. Using the Events Framework allows capturing, storing and searching the events database to match the event with a related camera for visual confirmation

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The Valerus VMS software is COTS (customer-off-the-shelf) compatible. However, Vicon does offer factory certified, pre-installed Servers and Recording Servers (NVRs) for a competitive price, which saves valuable installation time and reduces the overall system cost, as well as providing one source for technical support. Refer to the Valerus hardware datasheet for details on Valerus servers. Additionally, there is a pricing incentive on edge device licensing when purchased with Vicon's cameras and encoders.

### Software Licensing Tiers

The Valerus software is provided for download on Vicon's website. Valerus has centralized licensing; a single license code activates all components. The key to activating the software is determined by the license type selected; each license is per edge device (with a single IP address), regardless of the number of channels that device provides. There is a three tier licensing platform. The licensing tiers are available for Vicon edge devices or third party edge devices. The license tier is associated with both a number of edge devices and a specific feature set; the CORE tier is for systems with up to 35 edge devices and the PRO tier is for unlimited devices within the system. TRY is a free trial license for up to 6 edge devices, that can be activated without any license from Vicon. It is important to note that if a feature is needed that is included in a tier, that license type must be purchased even if the number of edge devices required is less than that tier offers. There is a 30-day grace period after the software is downloaded and installed that allows full functionality without licensing, so the user can determine the number of devices and exact features required before completing license activation. Refer to the Valerus Tier Features table.

### Valerus Tier Features

License Tier	Number of Edge Devices	Concurrent Clients	Max Recording Days	Active Directory	Expiration	Application Server Redundancy	Museum Search	Thumbnail Search	Events Framework
Trial (30 days)	Unlimited	Unlimited	Unlimited	Yes	After 30 days from installation	Yes	Yes	Yes	Yes
TRY	6	5	7	No	No	No	No	Yes	No
CORE	35	10	Unlimited	No	No	No	No	Yes	No
PRO	Unlimited	Unlimited	Unlimited	Yes	No	Yes	Yes	Yes	Yes

### Valerus Software Licensing

Valerus Software Licenses	Model Number
Valerus CORE device connection license; one license per device (regardless of number of channels on device); for systems with up to 35 Vicon edge devices	VLR-VCORE-LIC
Valerus CORE device connection license; one license per device (regardless of number of channels on device); for systems with up to 35 third party edge devices	VLR-CORE-LIC
Valerus PRO device connection license; one license per device (regardless of number of channels on device); for systems with unlimited Vicon edge devices	VLR-VPRO-LIC
Valerus PRO device connection license; one license per device (regardless of number of channels on device); for systems with unlimited third party edge devices	VLR-PRO-LIC

### Upgrading

The licensing for the Valerus VMS can be upgraded as needs change. The tier can be upgraded as more devices or features are desired. Additionally, systems can be upgraded as new software is released. Upgrade Protection Plans are available to ensure that all licenses can be updated at no charge; a variety of plans for specific number of years are available. Licensing can also be upgraded on an individual basis without the Protection Plan.

# VALERUS VMS SOFTWARE FEATURES

## New Modular Architecture

The Valerus system consists of 3 components:

- Application/Web Server holds all the programs and runs the Web Client, providing central management and operation for the system.
- Recording Server (NVR) that records video and audio and streams it to the users
- Web Client that provides access to the system through the web browser

All these modules communicate with each other but are not bundled into one product.

## True Standards Based

The Valerus system is ONVIF-centric. Valerus is ONVIF Profile G and will work with any camera that is ONVIF Profile S compliant. There are no expensive proprietary camera drivers.

Valerus is also utilizing open SSL and REST API.

## System Configurations

Valerus can be deployed in different configurations depending on system size and requirements.

- Standalone systems hosted by a single PC.
- A centralized multi-site system is supported, where components are on separate PCs but are all on one network and video can be pulled from any NVR on the network.
- For large solutions, a distributed multi-site system provides remote recording on local NVRs managed from one server from the center.

## Windows Service

Valerus is based on a Windows Service that runs in the background. It is completely browser-based and requires a browser that supports Active X (currently IE 11 and Firefox). Apps are available at the Apple and Google stores for mobile devices. An Internet Gateway allows for internal connectivity.

## Single Point of Management

The entire Valerus system is centrally managed from the Application Server. All configuration, including user and user group management, event and alarm handling, and system-wide authorizations, upgrades and licensing are done from one unit.

## User Interface

Valerus has a clean and optimized user interface. Easy to use tabs allow access to Configuration, VAX and Dashboard as well as the Monitoring screen for display. A versatile choice of display options are provided and multiple views can be created.

Playback is simple, using the timeline from the live video display. Video can also be easily exported from the display area. Digital zoom is available directly from live view, as well as from playback.

All Resources are displayed on the Monitoring screen and can be viewed according to a hierarchy or by user group. Often used websites can also be accessed directly from the Resources list.

## Quick Configuration

Valerus provides a Quick Configuration tool that can get the system up and running with minimal input. This streamlined process allows the VMS to discover and configure all devices on the network with a few mouse clicks. It uses the most commonly used default settings, which can later be fine-tuned as needed.

## Central Licensing

Valerus has centralized licensing; a single license code activates all components. The key to activating the software is determined by the license type selected. There are three tiers of licensing available, based on a combination of number of edge devices and feature set.

- The TRY level is a free system that works with up to 6 edge devices and 5 concurrent clients; it can be activated with no license from Vicon. There is no technical support for these systems.
- The CORE level supports up to 35 edge devices and 10 concurrent clients with most basic features.
- The PRO level supports unlimited edge devices and concurrent clients and all features

All licenses are per edge device with a single IP, but not per channel on that device. Additionally, it is important to remember that the numbers of devices and the features required must be taken into account when deciding on the type of license that is required for each system.

When a new version of the software is released, bug fixes will be available to all users free of charge. Upgrade protection programs are available so all systems can be maintained at the current level. Cost-effective Upgrade Protection Plans are available for edge devices.

## System Software

The Valerus software is available on the Vicon website. There is no fee for the software. There is a 30-day grace period that the software can be used, full-featured, for the user to determine the license type required for the installation. Functionality will end after 30 days if no license is activated.

## System Hardware

The Valerus Application/Web Server and Recording Servers (NVRs) can be customer- provided COTS hardware with software installed by the user or purchased preinstalled on Vicon certified hardware.

## System Health Dashboard

The Valerus system has a central Dashboard that provides easy to read notifications and warnings on the system functions. It offers this for the Application Server, NVRs and all system edge devices. Additionally, a set of graphs provides ongoing data on camera distribution, bandwidth and recording performance, offering an easy to read look at system behavior and health to assist in solving conflicts and problems.

## Rules and Events

Valerus provides simple setup of Rules that trigger responses to a variety of Events. Devices are associated with specific events and can be configured to react as specified. Pre-event recording is provided.

## User Groups and Users

There three levels of users, Administrator, Supervisors and Operators, who have different privileges. Groups of users can be created for ease of user management and users can be added to multiple specific groups. Additionally, there is authorization for certain user settings.

## Recording

Both video and audio can be recorded and played back. Additionally, audio can be associated and linked to video that is recorded. Recording can be scheduled and pre-event recording is provided.

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## Export

Video clips can be exported and saved to any storage media. The video can be archived in MP4 format. Video clips are authenticated in the Valerus player.

## Active Directory Support

Valerus can connect to an Active Directory server, allowing to operate using the groups and users in Active Directory.

## Device Configuration

Resources are configured directly from the VMS. There is a link to the devices web interface for configuration of certain features, if needed.

## Masking

Privacy Masks can be setup in the VMS when it is necessary to protect sensitive areas of the video from being seen. A VMS-based unmask feature is also provided to temporarily remove the mask on the video display. The mask can also be removed on an exported video clip.

## Museum Search

The Museum Search feature allows a very fast and accurate scanning of the recorded video for changes in a specific region of interest, such as motion in an area or a missing item.

## Thumbnail Search

Thumbnail Search provides an efficient method of looking for a specific object over a large period of time by searching through a video clip and presenting a picture at certain intervals, allowing a fast visual comparison between the times. This can be accessed directly from the playback timeline.

## 360° Lens Dewarp

This capability allows digitally manipulating the full fisheye image of a 360° lens camera and zooming into specific areas on live and recorded video.

## Events Framework

An add-on to Valerus that allows it to intergrate external partners' systems and bring their event data to the VMS as a video feed that can be viewed as any other resource.

## Support for H.265 Compression

Now supported by ONVIF, H.265 format offers higher video compression to support lower bandwidth and overall storage requirements.

## Network and Security

Protocols that Valerus can work with include IPv4/IPv6, TCP/IP, HTTP, HTTPS, RTSP, RTCP, RTP, DHCP, UDP and ARP. Valerus provides HTTP, HTTPS encrypted data transmission, SSL and password protection for security.

## Mobile App

A free mobile app, both Apple and Android, is available for smartphones and tablets.

## Alarms

When Events have been defined and an alarm occurs, a dedicated alarm event tab will open to display the content configured for the alarm.

## VAX Access Control

A VAX system can be easily accessed directly from the Valerus interface. It opens in a separate window and can be easily dragged to another monitor so that Valerus and VAX systems can be viewed simultaneously.

## Central Software Upgrade

A new Valerus version can be uploaded to the Application Server and remotely pushed to the NVRs for update, eliminating the need to physically go to each NVR in the system.

## Backup and Restore System Settings

The system settings from both the Application Server and the NVRs are backed up on a continuous basis and can be used to recover a failed server, eliminating the need to reconfigure the unit. This applied only to settings and not to recorded video.

## Support for Keypads and PLC Controls

Vicon security keypads and PLC controllers can be connected through a serial or IP connection and used to control switching of video and camera control.

## Application Server Redundancy

A backup server can be added and defined in the Valerus System. If the primary Application Server fails, the secondary server can be made active. (This requires a PRO license.)

## ViconNet Gateway

A Valerus module has been designed to provide a simple migration path to allow bridging an existing ViconNet system (minimum v.5.6d) to a Valerus system (requires minimum Valerus version 18).

## Minimum PC Specifications for COTS Servers

Vicon offers factory certified, pre-installed Servers and Recording Servers (NVRs) for a competitive price, which saves valuable installation time and reduces the overall system cost, as well as providing one source for technical support.

<b>Operating System:</b>	Servers: Microsoft® Windows® 10, 64 bit; also supports Windows Server 2012 and 2016. Viewing Station: Additionally supports Windows 7 (for browser-based client PC only)
<b>CPU:</b>	Intel® i5 min. processor.
<b>Memory:</b>	8 GB.
<b>Graphics:</b>	256 MB RAM onboard.
<b>Network Interface:</b>	100/1000 Mbps.
<b>Disk Space:</b>	5 GB min. for installation; 75 GB min. for recording.
<b>Browser*:</b>	Must have Internet Explorer 11 or Firefox (must support Active X).
<b>Performance**:</b>	Recording Server with standard internal storage: Up to 200 Mbits or up to 70 cameras. Recording Server with internal RAID: Up to 300 Mbits or up to 100 cameras.

\*Additional browsers will be supported in future releases.

\*\*For exact numbers, use the Valerus storage calculator. Note that both the bandwidth (Mbits) and the number of cameras should be taken in consideration. Refer to the Valerus hardware data sheet for details on the various servers.

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Specifications subject to change without notice.

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