Teleste S-VMX Products

The strength of the system is in the support for open standards, which allows the operator to choose preferred components from open market while allowing at the same time integration towards complementary systems such as access control, fire alarm and telematics.

Security and high availability are virtues of the S-VMX system and thus makes it a natural choice for airports, railways, roads, prisons, police, industrial facilities and government institutes and departments.

Teleste S-VMX – Scalable Video Management System

Telesete’s S-VMX Video Management system is a powerful video surveillance solution for seamless management of video, audio and data over IP networks.

The ingeniously designed architecture supports installations from single site low camera count systems to distributed nationwide systems comprising of thousands of cameras.

The intuitive graphical user interface allows CCTV operators effortlessly to drag and drop video to decoding tiles, start and stop recordings, control PTZ cameras, and monitor system alarms. This and more is available via web based S-VMX Clients.
The S-VMX product family is a full suite of system appliances covering all major features needed in a modern management system for networked video. Based on distributed server/client architecture S-VMX is capable of controlling, streaming, switching and recording video and related data as well as seamlessly operating 3rd party system components. Any type of network topology from basic single server operation to complex multi-site system with redundancy can be designed, implemented and supported.

An ultimate user experience is fulfilled by the graphical user interface of the Client station that can be tailored individually to meet each operator’s expectations on how to efficiently use and control CCTV cameras, video recorders and related equipment.

The maximum uptime needed in a business critical operation is provided by intelligent fail safe operation of the software combined with hardware redundancy.

The system security is brought onboard by the dynamic resource arbitration and versatile system user management which both are imperative features in a multi-site and multi-user environment.

The stringent requirements for integrity of the content to be used in court of law can be secured and guaranteed for every piece of evidence exported from the system.

The S-VMX appliances consist of software and associated hardware for control, processing, viewing, distribution and recording of signals required in CCTV applications. The S-VMX software is supporting operation with standard based video, audio and data. The hardware assembly built on industry standard servers and workstations is thoroughly tested before deployment.

The flexible licensing scheme allows for an easy approach for later system extensions and upgrades.

As a result the S-VMX product family is simply said reliable, scalable and future-proof system for all video based security and monitoring system needs.

**S-VMX System Block**

**SVM Lite**
- 16/32 camera system
- 1...2 concurrent users (intra- & internet)

**S-VMX Lite**
- Stand-alone video management system in a single box
  - All basic Client, Server and Recording features included
  - Upgradeable to a full S-VMX system

**Level 1**
- ≤50 camera system
- 1...4 concurrent users (intra- & internet)

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**Level 2 add-ons**
- ≤200 camera system
- 1...20 concurrent users (intra- & internet)

**Level 3 add-ons**
- Unlimited number of cameras
- Unlimited number of concurrent users (intra- & internet)

- Additional NVR
- Device Controller
  - Universal communication and control gateway
- Video Wall
  - Video wall controller
- Stream Reflector
  - Video transcoder
- Metadata Server
  - Third party data access and processing
- Multistreamer
  - Video traffic converter, unicast to multicast and vice versa
- Database Server
  - Redundancy and higher security for system database
- Additional NVR
- Web Access Server
  - Gateway between the Video Management System and the Client
- Load Balancer
  - Implements redundant Web Access Server to the S-VMX system
- Multisite Gateway
  - Communication gateway between different systems

Modifying the system is easy with well-defined and simplified packages. This modularity also gives S-VMX an edge for easy scalability – “Pay as you grow”.
S-VMX System’s Main Components

**S-VMX System Server** – The Heart of the System
S-VMX Server provides the central control of the system while being responsible for real-time system monitoring and user management with access rights and prioritisations, video connections and integration to other systems (video and non-video) just to mention few of the main tasks.

**S-VMX Web Client** – Web browser based operator interface
S-VMX Client is an interactive graphical user interface (GUI) for operator use. Next to field devices like CCTV cameras operator can deal with other S-VMX system elements depending on authenticated operator’s user rights.

**S-VMX NVR** – Network Video Recorder
S-VMX NVR (Network Video Recorder) is responsible for recording of video and audio streams within the S-VMX system. S-VMX NVR can support both distributed and centralised recording. Distributed model saves network bandwidth while a centralised model may offer the efficient operation in terms of NVR cost. User-defined recording loops together with automated features ensure that all critical events are safely recorded. A specific toolset is provided for searching and handling of all recorded material.

**S-VMX System’s Additional Components**

- **Device Controller** – Universal communication and control gateway
  Translates the commands into suitable format for 3rd party devices.

- **Metadata Server** – Third party data access and processing
  Dedicated unit deployed when for example data from third party system such as Video Content Analysis is needed for later access and processing.

- **Stream Reflector** – Stream transcoding for web based solutions.
  Transcodes video streams into web browser compliant stream of JPEG pictures.

- **Multi Streamer** – Video traffic converter
  Converts incoming unicast video traffic into multicast video traffic and vice versa.

- **Database Server**
  Dedicated unit deployed when redundancy and higher security for system database is needed.

- **Web Access Server** – Gateway between VMS and Client
  Gateway between the Video Management System and the Client.

- **Multi-Site Gateway** – Communication gateway between different systems
  Dedicated unit deployed when multiple autonomous Video Management Systems islands are connected together under a unified umbrella.

- **Video Wall** – Video wall controller
  Cost efficient alternative for video wall systems. S-VMX Video Wall is a stand-alone node providing a video wall decoding functionality. (= SW video decoder with 2, 4 or 8 monitor outputs).

- **System Storage** – Storage capacity expansion
  External storage unit to increase storage capacity. The unit is based on SAS array featuring reliable high capacity 6.0 Gbps SAS interfaces.

- **S-VMX Lite** – Stand-alone video surveillance system
  A complete stand-alone video surveillance and monitoring system.

- **MPX Video Processors** – Video encoders
  H.264/MPEG-4/MJPEG/MPEG-2 temperature hardened encoders. 1, 2, 4 and 8 video channels.

- **S-VMX SDK** – S-VMX software development kit
  Allows developers to create the client interface software to control the S-VMX system.

**S-VMX System’s Additional Components**

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S-VMX system is available in different levels depending on choice for the maximum overall number of cameras, users and needed system functionalities. In its most basic level the S-VMX Lite is a complete, stand-alone video surveillance and monitoring system in a single box and it is upgradeable to a full S-VMX system. While its largest level, S-VMX United, is needed when multiple autonomous video management systems islands are connected together under an unified umbrella.

S-VMX Appliance

All S-VMX products are available as ready assembled and tested packages of application specific S-VMX software and IT friendly rack server.

The most commonly used PC platform for S-VMX components is based on 1U high rack server. 2U high rack server is used for S-VMX NVR installations. The unit supports up to 12 hot swap 3.5” hard drives.

The hardware is based on high performance server platform. It is available in different flavours depending on the level of resilience. Workstation in mini tower or rack version is available for graphical user interface and video wall controller.

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S-VMX System Benefits

» **Total freedom in system design**: System grows modularly as needed, add more cameras, other system components or clients, just add the respective amount of engine power to the system core.

» **Open architecture for smooth integration**: Open architecture provides top-notch system design flexibility.

» **A standardized**: Behind the intelligent user interfaces various communication layers are communicating on standard protocols and interfaces.

» **IT friendly solution**: Designed to operate in a modern IP networking environment by making the system startup, configuration and maintenance easy for IT professionals.

» **Easy configuration**: Simple system configuration and system startup are supported by configuration wizards. Simply choose add or edit to define any camera, encoder, NVR or even a user and you are ready.

» **Web services and mobility**: Client interface is available through a standard web browser without OS or hardware dependencies. The LAN environment supports the operator with multicast distributed real time video whereas the WAN offers valuable mobility by enabling system access with PDAs, smart phones or PADS.

» **GIS assisted operation**: Operator has a much better understanding of the monitored space and environment once the steady flow of video streams is linked with feature-rich location information.

» **VIA for automated analysis**: Support several scenarios for video image analysis.

» **Scalable**: From only a few cameras up to a network of thousands of video streams.

» **Automated tasks**: Several tasks and workflows around a VMS can be easily configured into automated routines by the built-in Event Manager.

» **Reliable**: System redundancy, resource arbitration, bandwidth management and intelligent server operations.

» **Adaptive**: Integration capability with most common analogue video matrixes, easy upgrade path to an IP-based video system.

» **Excellent video processing**: Low latency processing and selectable video parameters.

» **Recording**: Various recording functions to ensure capturing of all events, fast searching and uploading of video evidence. Encryption protection when exporting video to external devices.

» **Integration friendly**: Supports both analog and IP cameras, 3rd party device support over proxy operation as well as integration to non-video systems such as access control, fire alarm and telematics systems.

» **Flexible licensing**: “Pay as you grow” type licensing provides a cost-efficient way for various system sizes.

» **A safe investment**: The open platform ensures that the future extensions are easily implemented and therefore minimizes the required engineering effort. The simplified system architecture and the ease of deployment and maintenance provide a cost-efficient operation and ownership.

Screen layout is optimized for multi-monitor operation. Operators can choose between multiple GUI views. Operator can use personal settings for operation. Special video tools are available for fluent work flow.