


TELESTE

S-VMX Video Management System

A unified IP video solution for traffic, transport and public security video applications. Part of Teleste Video Networks surveillance solutions.

Video Networks by TELESTE

Right Picture.
Right Place.
Right Time.™



It's all changing fast. With today's surveillance needs expanding all the time, you're likely to want one solid platform to support all your daily operations. Furthermore, you'll want to ensure an intelligent investment and a long system lifetime, for effective and fluent operation for years to come. And you probably wouldn't mind an easy set of installing options backed with the possibility to customize them to your needs.

S-VMX is designed just for this. It's the new generation software platform designed in terms of high modularity, open architecture and the use of industry standards. S-VMX is especially fit in managing traffic, transport and public security tasks, and there's plenty more it can do. Take a tour with us to see what's it all about.

This is what you get

Total freedom in system design

S-VMX grows modularly as needed: should you add more cameras, other system components or clients, just add the respective amount of engine power to the system core. In a multisite environment video system islands with autonomous architecture can be federated to a unified system for common command and control. Reliable redundant operations in hardware, system logic and database backups, keep the system always available.

Open architecture for smooth integration

S-VMX's open architecture provides top-notch system design flexibility. 3rd party hardware components can talk through a system proxy. Software modules can be adopted to further enhance features next to video presentations. A heterogeneous environment of unicast and multicast streams is easily managed with specific multi-streamer or reflector modules.

A standardized, IT friendly solution

Behind the intelligent user interfaces various communication layers are communicating on standard protocols and interfaces. S-VMX has been carefully designed to operate in a modern IP networking environment by making the system startup, configuration and maintenance easy for IT professionals.

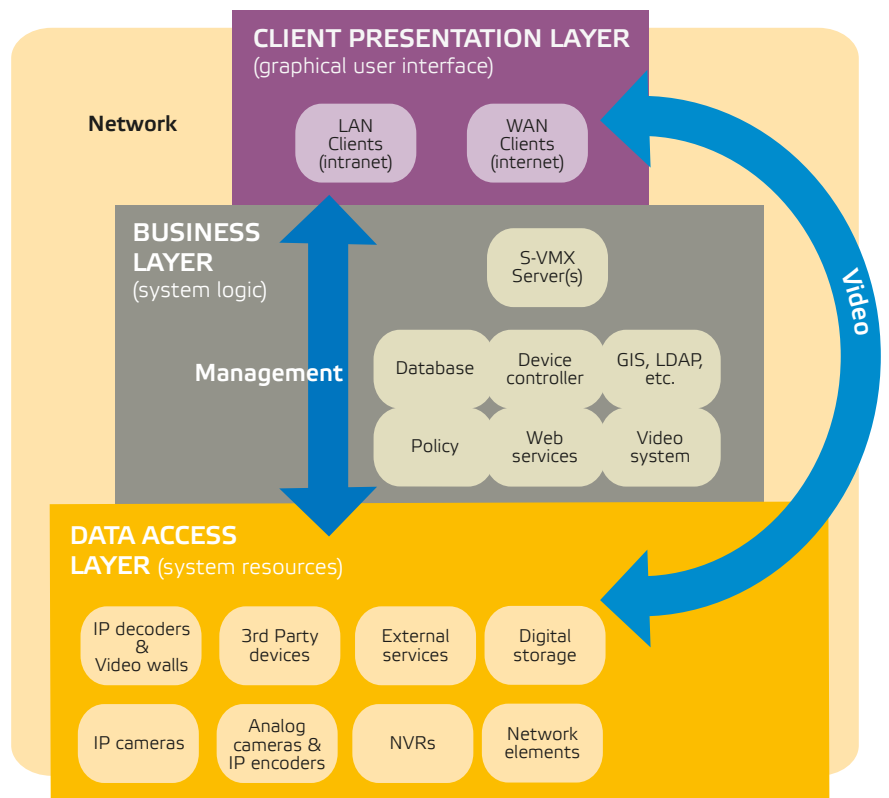
A Web based system

All clients whether internal or external are based on web browser. The users operating in the safe haven of Intranet (LAN) can enjoy a flow of multicast video stream on their desktops. In addition the mobile users who have been granted authorized access over an Internet connection (WAN) may follow the events by receiving unicast streams on their OS independent devices such as tablets and smartphones.

S-VMX architecture — Why 3 beats 2

A traditional video management system represents a two-layer architecture in which the client accesses the resources independently. This severely limits the system capacity, exposes difficulties on managing features and finally does not fully consume system resources. Teleste S-VMX is built on a three-layer architecture; resource layer, central management and control layer and finally the client layer. This enables:

- Easy expansion and integration with other systems
- Ensured redundancy for hardware and software
- Centralized configuration and management of access rights and user levels
- Arbitration and optimization of resources, especially for multisite and cross-organizational operation
- Better management of data flow
- Unification of communication protocols
- Monitoring system performance, early detection of defects and network bottlenecks
- Ability to perform scheduled tasks
- Secured operation complies with the highest standard requirements for user authorization, encryption, authentication and digital signature



Perfect for traffic, transport and public security cases

As we've seen it, good workflow and continuity are really of essence when it comes to movement of the masses. S-VMX is especially fit for traffic flow management, vehicle recognition, baggage and goods control, transport terminal operations and lane enforcement. Alert, automated tools help you spot things and keep a track on everything.

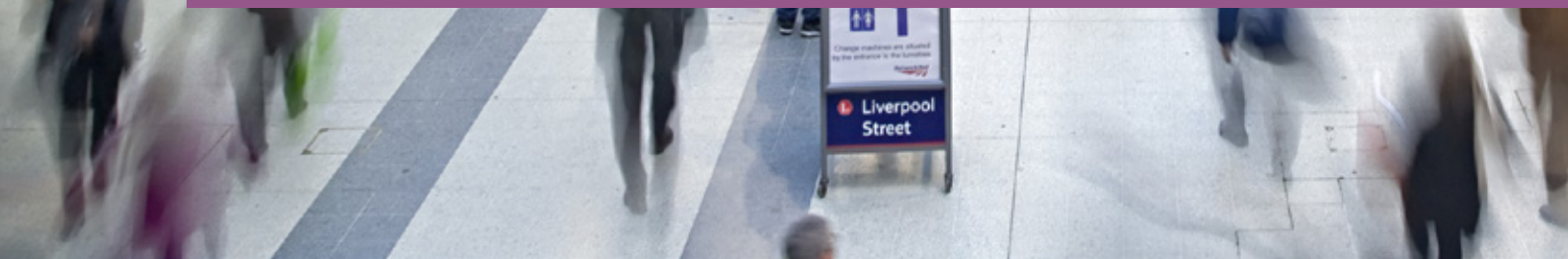
And when it comes to public safety, the possibility to detect situations rapidly and react to them is vital. Police officers, rescue workers, officials and guards are all facing the same challenges in securing the safety of citizens and property in an efficient manner. The S-VMX solution has been designed to help keep crowds and events in control, assist in rescue operations, provide precautionary actions based on perimeter control and keep the city in safe hands.



S-VMX means more than just video

Today a video management system is not only about the video. Though the accurate delivery of information is vital, a good system is not designed just for the operator bench. The ease of system commissioning, setup and

configuration and maintaining the system core to run without breaks or threat of lost data are even more valued assurances for the system owner. We've had these in mind in ensuring trouble-free system ownership:



Clever building blocks. Choosing and modifying the system is easy with well-defined and simplified packages. This modularity also gives S-VMX an edge for easy scalability. In its most basic level the S-VMX is based only on two modules; combo-server and NVR.

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. Teleste also provides excellent pre-configuration services so that every module or component delivered can be taken into use out of the box.

Web services and mobility. Web based services are bringing the S-VMX to the level of today's networked world where 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. Instead of managing hardware specific user connections the S-VMX is looking at the number of concurrent users regardless of the type of client.

GIS assisted operation. As an operator you'll have a much better understanding of the monitored space and environment once the steady flow of video streams is linked with feature-rich location information. S-VMX combo-server includes an embedded GIS server for this purpose. An S-VMX system can be delivered with offline OpenStreetMaps, and you're free to choose any other map material supporting standard OGC interface such as Google or Bing maps. The added value is that S-VMX can provide its own layer of animated, interactive resource elements like cameras over the map. The GIS interface can be even used as an alternative PTZ camera control.

Collective metadata handling. When a VMS expands and federates several subsystems such as access control, plate recognition, video image analytics, the common data management becomes an important asset. For this purpose S-VMX can assign separate metadata servers to improve and ensure quick internal device management. Furthermore these servers are crucial for indexing of recorded video material, improved event searches and providing forensics data.



VIA for automated analysis. S-VMX supports several scenarios for video image analysis. A standard function is to provide the real time video streaming to the customer while the actual VIA analysis is running either in the camera or in the dedicated VIA server/proxy. In triggered alarms this information is then presented to the client without loading the actual video presentation. In the future S-VMX will include an advanced functionality offering a VIA search tool based on post processing of recorded material.

Automated tasks. Several tasks and workflows around a VMS can be easily configured into automated routines by the built-in Event Manager. You can apply various scenarios that will lead into a specific output action once certain input condition (physical I/O, simple communication protocols, scheduler command etc.) terms are valid.

IT Friendliness. Today's systems are more and more an integral part of a standard IP based data network. For a successful system deployment both video specialist and IT professionals are needed. In this respect the S-VMX offers a set of tools to serve both worlds well. For fluent IT operation, deployment, upgrade and maintenance the S-VMX utilizes standard communication protocols such as XML, SOAP, OPC and SNMP. For directory and database operation it offers an option to open source tools like LDAP and PostgreSQL. Finally all information can be wrapped into a secured communication by using SSL or any other certification method.

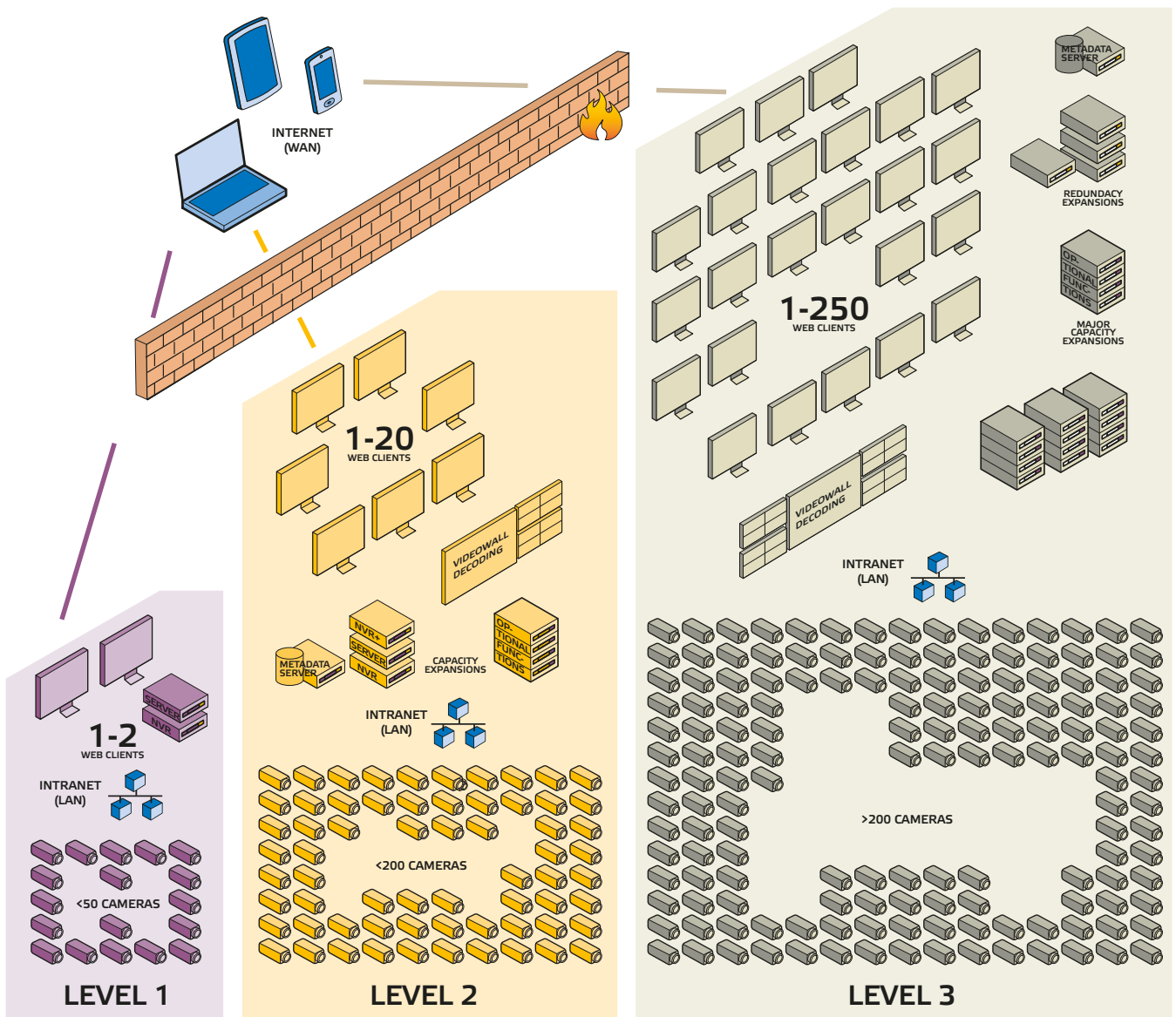
A safe investment. High system availability ensures that the services are always up and running. The data is kept safe and protected. The open platform ensures that the future extensions are easily adapted and therefore minimizes the required engineering effort. The simplified system architecture and the ease of deployment and maintenance provide a cost-efficient operation and ownership.



Teleste high performance 1U high rack server chassis.



S-VMX System levels



LEVEL 4, System Federation

Several autonomous system islands with variable architectures can be integrated together via an S-VMX multisite proxy. These system islands can be whatever type of level and even non S-VMX based. In this scenario the redundant central system has full knowledge of the island configurations, and also has a full access to them.

S-VMX Building Blocks

Basic functionalities

Combo Server

(level 1 embedded features)

- S-VMX Server
- Web Access Server
- Database Management
- Device controller
- Stream Reflector (transcoder)
- OGC Map Server

S-VMX Server is the core element providing the central control of the system. It is designed to operate in a multi-server environment as defined in various system architectures, The server is mainly responsible for system management, system status knowledge, client/user allocation and arbitration of resources and system users. S-VMX also controls the switching of video, audio and data streams between sources and stream destination devices. It maintains configuration database and

provides updates once configuration changes are validated.

A standard S-VMX server is delivered in 1U rack server mechanics which is available either in standard or high-availability optimized models. The high-availability version provides RAID1 support for operating system and S-VMX applications with hot-swappable HDDs as well as a redundant power supply.

Network Video Recorder

(all levels)

- Recorder for 50 streams
- Multistreamer (unicast to multicast, up to 40 streams)

S-VMX NVR is responsible for recording audio and video streams in an uninterrupted loop mode into a local storage ensuring that all events are recorded. Once an incident has been identified the NVR allows the operator to save the content for later forensics needs.

NVRs can be managed and diagnosed remotely, greatly reducing maintenance effort and cost.

S-VMX NVR is available in various hardware configurations to match with system specific requirement. A standard NVR is based on a 1U rack server with internal storage supporting two hard drives. The professional NVR comes with higher storage capacity on hot-swap hard drives, RAID support and redundant power supply. When the need exceeds the internal storage of up to twelve hard drives, then external storage arrays can be connected behind the NVR.

NVR provides media encryption as well as tamper evident watermarking. Effective indexing and timestamping provide fast material search and browsing. NVR supports multiple simultaneous client connections and views of recorded material. As with S-VMX servers also

Extended functionalities (per unit)

Video Wall Decoder (optional for levels 2 & 3)

- Up to 4 monitors and/or 20 local displays

Device Controller (optional for levels 2 & 3)

- Extension for device management
- Redundant operation

Metadata Server (optional for levels 2 & 3)

- Extension for database management
- Redundant operation

Multi-streamer (optional for levels 2 & 3)

- Extension for intranet unicast streams
- Up to 120 streams

Stream Reflector (optional for levels 2 & 3)

- Extension for internet unicast streams
- Up to 25 streams

Web Access Server (optional for level 3)

- Extension for more clients
- Up to 50 concurrent clients

Professional Web Access Server (optional for level 3)

- Extension for more clients
- Up to 250 concurrent clients

Load Balancer (optional for level 3)

- Integral part of professional Web Access Server

TELESTE

Teleste is an international technology group founded in 1954, specialized in broadband video and data communication systems and services.

Video Networks, as one of the business units of Teleste's operations, has long experience of creating value-added security solutions for its customers using fibre optics and increasingly digital and IP networks. A clear advantage in Teleste's offering is the synergy created by its expertise in broadband cable allied to a strong showing in video networks.

As Legacy CCTV systems have begun the technology shift towards digital and IP networks, Teleste Video Networks aims to be at the forefront of developments. With all the various technologies required for legacy, hybrid and new CCTV systems at its disposal Teleste is able to ensure smooth migration and system integration for anyone in need.

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