

Why Video Management Server?

ENTERPRISE VIDEO MANAGEMENT SYSTEM or SERVER?

Designing video surveillance solution for a large and multi-location organization is a different ball game altogether when compared to a simplistic video surveillance for any small organization. On one hand, large organizations demand robust security, centralized visibility, strong control, quick response, real-time triggers and intelligent analytics. On the other, enterprise size, structure, diversity, hierarchy and legal compliance pose formidable challenges in meeting these expectations. Finally, video surveillance budget and ROI depend on capital investment (software, servers, storage, networking and cameras) and recurring expenses (bandwidth, backup-archival and maintenance).

Obviously, any small, scattered, fixed and simplistic video surveillance solution cannot meet the needs of a large and growing organization.

To address such complex and diverse needs of large organizations, Matrix offers an enterprise-grade Video Management System designed, engineered and built specifically for the modern and growing organizations. Matrix SATATYA SAMAS is an Integrated Video Surveillance solution covering all the functions such as Capturing, Recording, Monitoring, Investigation, Real-time Notifications, Intelligent Video Analytics, System Management and integration with third party solutions.

All in all, Matrix SATATYA SAMAS is an integrated, intelligent, modular, flexible, scalable and robust video management system designed specifically for large and growing organizations.

BENEFITS OF CENTRALIZED VIDEO SURVEILLANCE

FUNCTIONS	LOCALIZED VIDEO SURVEILLANCE	CENTRALIZED VIDEO SURVEILLANCE (MATRIX SATATYA SAMAS)
Capturing	Difficult and costly to deploy, configure, monitor, upgrade and troubleshoot IP cameras at dispersed and remote locations.	Use Plug-n-Play, Auto Search, Status Monitoring and Remote Upgrade to install, monitor, upgrade and troubleshoot all cameras from a central location.
Monitoring	Monitoring at multiple locations require multiple people, equipment and space. Dispersed monitoring also restricts analytics, processing and integration possibilities.	Single dashboard for consolidated live view of video and events from multiple locations spread across the planet breaking distance and time barriers.
Storage Management	Localized recording with data scattered over multiple locations. Video with very little security, encryption and compression.	Centralized video surveillance offers flexibility of distributed, centralized as well as cloud based storage. It also provides higher security of data, scheduled backup with audio and video compression, latest encryption and higher RAID support to NAS.
Playback and Investigation	Difficulties and delays in investigation, conclusions and response. Requires transporting either video files or people.	Instant playback and investigation from the central location of all video files. Smart Investigation with Intelligent Video Analytics (IVA) designed to find specific events from the recorded videos instantly. Improves investigation accuracy and reduces response time and cost.
Intelligent Video Analytics (IVA)	Local video surveillance systems just dump the captured data making it difficult to monitor and take required actions.	Centralized solutions take data from disparate locations and perform analytics like Missing Object, Intrusion Detection, Vehicle Counting, Face Detection etc. for anomaly detection and video indexing.
Real-time Notifications	Limited notifications restrict ability to correlate and respond. Disconnected analytics and investigation confine such solutions to reactive security.	Centralized dashboard with real-time notifications for undesired events and exceptions help prevent accidents and security lapses.

Integration	Hardware integration only between local devices only for triggering local alarms. Software, API and database integrations not possible.	Seamless integration with diverse systems such as access control, fire-alarm, building management and IoT at physical, API and database layers to enhance effectiveness of all the systems.
Centralized System Management	Separate IT-NW-electrical teams to manage servers, devices, cameras, networks, power, etc. Each local system is designed for single user running on a single PC server. Real-time health status of all these scattered systems is not available.	Small central team can manage the entire video surveillance infrastructure. Real-time working status of entire video surveillance is system available on the central dashboard.
Organization Structure	Difficulty in mapping and aligning video surveillance rights and responsibilities with organization structure, hierarchy and physical layouts of campuses, buildings, plants and offices.	Users profiles exactly matching their titles, roles, responsibilities and rights. Hierarchical video surveillance system matching with organization's physical layout.
Interoperability and Open Standards	Most small (local) solutions are "closed" and lack open standards and compatibility to work with cameras and devices from multiple vendors.	Built on open ONVIF and other networking standards. Open platform having built-in compatibility with popular IP camera brands. Well documented API integration with other third party solutions.
Real life Business Applications	Largely an isolated appliance limited to capturing, monitoring, recording and occasional playback. Limited video analytics/interpretation lacking capabilities to address real life business applications.	Intelligent and integrated video surveillance system capable of interpreting video streams and thus offering solution for real life business problems such as integration with weighbridge, POS, etc.

WHY CENTRALIZED VIDEO MANAGEMENT SYSTEM (VMS)?

Matrix SATATYA SAMAS is a powerful software suite designed for large-scale and high-security deployments. It's modular and distributed architecture with centralized management ensures efficient deployment and system administration for any organization having large number of scattered locations irrespective of their size.

Centralized Video Management System such as Matrix SATATYA SAMAS not only integrates all functions of video surveillance but also enhances effectiveness of these functions ensuring better security, safety, visibility and control.

CAPTURING

Typically in a multi-location organization, video surveillance needs evolve bottom-up with localized people taking decisions about objectives, scope, solution design, camera locations-angles, resolution, etc. With such fragmented and ad hoc approach, people miss the big picture - broader objectives and bigger benefits. Scattered cameras are also difficult to deploy, configure, monitor, trouble-shoot and upgrade.

Matrix SAMAS with its top-down and hierarchical architecture allows centralized planning of the entire surveillance system. Besides determining the best possible location to mount the cameras, it can also suggest the type of camera required at a particular location, what should be the viewing angle of the camera and what resolution will fulfil the requirements. This ensures you cover every inch of your premises leaving no room for loop holes in your security system.

Matrix SATATYA SAMAS leads to optimum utilization of available resources, maximum area coverage, best view and easy trouble shooting of equipment.

MONITORING LIVE VIDEO

Monitoring multiple sites is a complex task. As the feed from camera is scattered over multiple locations, it requires multiple people, equipment and space. Dispersed monitoring also restricts analytics, processing capabilities, simultaneous views and possibility of integration with other systems. Moreover, this in turn leads to delay in information to the central location, and lack of coordinated response in case of any event.

Matrix SAMAS offers a single dashboard for consolidated live view of video streams and events from multiple locations spread across the planet. With prior authorization, multiple users can simultaneously view video feeds from different cameras on their TV screens, computer monitors or mobile phones. In case of higher number of cameras, users can also set up a Video Wall with multiple screens. Moreover, the users can select their own layouts, group cameras (entry/exit cameras, corridor cameras, etc.), carry out sequencing of cameras and zoom in on a particular feed by just a single click.

Matrix SATATYA SAMAS offers consolidated view from multiple locations, easy management, simplified monitoring and multiple login rights.

How to overcome Bandwidth challenge for Centralized Monitoring and Recording?

Every organization desires to centrally monitor their offices spread over multiple geographies but are often restrained by the high bandwidth requirement of existing solutions. Bandwidth is a priced resource and when it comes to choosing bandwidth intensive solution like video surveillance, one should be extra cautious. Moreover, when it comes to multiple locations, recurring cost of Public IP and static IP comes into picture. But traditional localized systems fail to provide you centralized control due to their bandwidth intensive requirements.

Matrix SATATYA SAMAS, through its smart and innovative features, helps you overcome these difficulties. Features like Adaptive Streaming, which drops frame rates during non-activity periods, Edge Recording that allows monitoring from central location of locally stored data, Event based Clip Export, Multi-stream support and TCP based notifications are designed to give you greater control while using minimum bandwidth. Also, the architecture being one of its kind, now allows you to monitor multiple locations without a public IP at each location.

All these features reduce your bandwidth costs by up to 30% while at the same time providing you with dual layer recording for more security.

STORAGE MANAGEMENT / RECORDING

With the advancement in video surveillance systems and advent of megapixel cameras, the storage requirement has increased exponentially. This combined with government norms mandating customers to store for higher number of days has made a dent in customers' pocket often forcing them to settle for low resolution analog systems leading to compromise in quality. Traditional systems focus on a localized storage and have limitations in terms of storage capacity and data security that is needed for enterprises.

While others are just focusing on increasing the resolution, Matrix SATATYA SAMAS has an equal focus on your storage. Storing data at a central location in addition to local storage provides dual layer of security. In the event of loss/theft, data backup is available centrally. Matrix SATATYA SAMAS comes with multiple backup options such as Scheduled Backup, Camera-wise Event Based Backup, etc. which facilitates easy backup over NAS/FTP/Cloud. Moreover, functionalities such as RAID support, Encryption, Bookmark, Evidence Lock, Failover Server, Hard disk Failure Notification, etc. ensures data is not lost due to manual tampering or external events. Also, features such as Adaptive Recording, which drops frames during non-activity period, Camera-wise Recording Flexibility, which allows you to assign storage space to individual camera, Two Level Data Compression and Archiving, which is an intelligent technique to compress stored data, now enable you to record for higher number of days.

These smart features keep your data secure at the same time reducing your storage cost by up to 50%. What's more? There is no cap on storage that can be added to the system.

PLAYBACK/ INVESTIGATION

Major and minor events are a part of daily routine for big multi-location organizations. Video surveillance solutions help you determine these events and take corrective actions. But finding video evidences for such events is a tedious and time-consuming task. Moreover, manual and human-driven playback and search is very slow, monotonous and error-prone.

To overcome this difficulty, Matrix SATATYA SAMAS provides you with Playback Investigator, for quick and automated investigation, using advanced and intelligent video analytics algorithms designed specifically to address specific incidents such as Intrusion, Face Detection, Trip Wire, Missing Object Detection and many more. Furthermore, you can Bookmark Events, View Day-highlights, Lock Evidences and export Videos/Snapshots in .AVI and .PDF formats with Date/time, etc.

This leads to Higher Accuracy, Improved Productivity and Quick Investigation.

INTELLIGENT VIDEO ANALYTICS

Traditional video surveillance systems are dumb solutions that just dump the captured data making it difficult to monitor and take required actions. Especially when the number of cameras to be monitored is high, monitoring through a human resource is neither convenient nor reliable. It lacks the intelligence to analyze video streams and identify specific events, which can be used to prevent possible damage. Even if they support one or two basic analytics such as Motion Detection, they lack the processing capability for multiple cameras. All this leads to delay in identification of events resulting in reactive security.

Matrix VMS SATATYA SAMAS comes with Intelligent Video Analytics such as Intrusion Detection, Tripwire, Motion Detection, No Motion Detection, Face Detection, People Counting, Loitering, Tailgating, License Plate Recognition, Vehicle Counting, Missing Object Detection, etc. These Analytics can identify specific events and notify the concerned person in real-time thus thwarting the threat of damage. Also analysis of frequency and pattern of such events helps the enterprise better manage future handling of events. For example, past data of footfall in a retail store can be used to forecast the expected customers during peak and slack hours, which in turn will help manage their services better and boost productivity.

Intelligent Video Analytics thus provide benefits such as preventive security, video indexing, anomaly detection, better forecasting and ease of monitoring.

REAL-TIME NOTIFICATIONS

Analyzing video streams and identifying dangerous events can help reduce the damage to a great extent. But that is just one part of the story. Stream analysis and event detection is of no value unless it is notified in real-time to the concerned person. Traditional Video Surveillance is only used to investigate the event hours after it has occurred, thus rendering your system of little use.

Matrix SATATYA SAMAS provides real-time notification via SMS, Calling from Mobile App, Video Pop-up, Audio alarm or buzzer. Apart from security threats, it also provides you with alerts for camera

disconnect, network failure, storage full, etc. Besides, it provides E-mail Notifications with Snapshot, which provides you with pictorial evidence even if someone tries to hamper with your device or storage.

This real-time notification leads to various benefits such as **Prevention of Hazards, Lower Cost of Manpower, Faster Response, and Reduction in Unwanted Alerts and False Notifications.**

INTEGRATION

Large organizations are a combination of numerous systems working in harmony to produce a desired outcome. Such organizations require security systems that can collate and co-relate information and events from diverse systems such as Access Control, Fire Alarm, Building Management, Telecom, etc. Traditional systems are disparate and non-integrated leaving the task of coordination for humans. This results in delayed response, ill-informed decisions and lack of coordinated action.

Matrix SATATYA SAMAS provides seamless integration of video surveillance with other security solutions such as Access Control, Fire Alarm, Intrusion Detection System, etc. **Moreover, this integration is at a database level leading to Better Control for End to End Security with Sharper Investigation and Faster Response.**

CENTRALIZED SYSTEM MANAGEMENT

System Security

Most video surveillance solutions don't differentiate their solutions according to diverse customer requirements. Due to this they end up providing the same level of security to enterprises as they provide to other clients. This lack of security makes enterprises reluctant towards installing video surveillance solutions especially in highly sensitive areas like Research & Development centres. Most traditional systems are designed for a single user running on a single PC/server which is not suitable for multi-location organizations with centralized control.

Matrix SATATYA SAMAS provides a centralized system management with well-defined user roles. Its distributed architecture allows Centralized Configuration, User-based Login Roles and Rights, Audit Trail of User Activities and IP Address/MAC Controlled System Access.

This multi-layer security provides you with **Higher Security for Internal Data/Patents/R&D/Strategy.**

System Monitoring and Alerts

Installing a video surveillance system is one thing and monitoring it another. Most video surveillance systems fail to provide real-time working status of cameras and devices. This leads to cases when clients find out they are not able to search the desired clip because camera/device was not working during crucial events. This lack of live status, events and alerts leads to fear of missing/losing video data during investigation and delays in finding and resolving IT infrastructure breakdowns.

Matrix SATATYA SAMAS provides live status of all system components with alerts at a central location in the event of any failure or exception. Besides centralized health status, it provides TCP Based notifications which require less than 5kbps bandwidth, and traditional alerts like SMS/Email/Video Pop-up in case of events such as recording failure, network disconnection, camera failure, etc. It also supports redundant servers and storage to ensure not even a single minute of recording is missing.

Real-time knowledge of system health status enables Faster Response to Failures, Surety of Data Availability during Investigation and Safeguarding of Important Details.

ORGANIZATION STRUCTURE

Alignment of security system with organization structure is a pre-requisite for smooth and glitch free operations. When an inflexible security system is imposed on a multi-hierarchy enterprise with complex physical layout, they fail to perform. It lacks necessary details and filter options for easy management and quick identification.

Matrix SATATYA SAMAS is a Hierarchical Video Surveillance solution with flexibility to associate with physical layout as well as logical layout of the organization. It gives the flexibility to assign user defined roles and rights, so that different people have differing levels of access to the system based on their roles in the organization. Also, it allows logical grouping of cameras (for e.g. Entry/Exit gates, corridors, etc.) as well as assign name, location and phone number to each camera for quick identification and ease of management.

This flexibility in Matrix SATATYA SAMAS allows you to mould Video Surveillance system according to Hierarchical structure and Physical Layout of the Organization.

INTEROPERABILITY

Scalability, Modularity and Flexibility

Hardware based video surveillance solutions, once installed are confined to their size. They fail to grow with the growing enterprises leaving limited headroom for future expansion and growth. Unless a video surveillance system has modular architecture and is designed for growth, it cannot grow beyond a point ultimately rendering itself redundant.

Matrix SATATYA SAMAS provides all features and functions based on the solution required irrespective of the number of cameras. The solution can grow from one camera to 1 Lac cameras with the same set of features. Moreover, it allows you to increase the number of recording servers/locations without purchasing additional license.

It also offers modularity and flexibility in terms of integrating with other security systems, IVAs, etc. when it is required to make your surveillance system future proof providing better Return on Investment.

OPEN ARCHITECTURE

Multi-location enterprises often have different brand systems installed at different locations. Or for that matter, enterprises prefer a mix of different brands to suit their requirements. Many video surveillance solutions are not supporting industry standards, and due to lack of tight integration and interoperability with other brands, they fail to deliver the expected output.

Matrix SATATYA SAMAS is an open platform allowing you to use existing infrastructure and also use its latest features over captured image. It supports analog cameras, IP cameras, all ONVIF cameras as well as third party special application cameras.

This way, Matrix SATATYA SAMAS gives you the freedom and flexibility to install **Different Systems to Best Suit your Requirements.**

REAL-LIFE BUSINESS APPLICATION

Enterprises nowadays require interpretation of video streams for offering solution to real life business challenges. Legacy and traditional video surveillance solutions cannot interpret and analyze video streams. They are limited to capturing, monitoring, recording and occasional playback.

Matrix SATATYA SAMAS is an Intelligent software that can interpret the video streams and offer solution for a real-life business challenge by integration with Weigh Bridge, POS system, etc.

Such tight integration with enterprise application gives you Better Visibility and Control which improves Efficiency and Prevents Losses and Leakages.

If you are looking for a video surveillance management server which provides you with more control, more flexibility, more security and is tailor-made for enterprises, look no further than Matrix SATATYA SAMAS.

ABOUT MATRIX

Established in 1991, Matrix is a leader in Telecom and Security solutions for modern businesses and enterprises. An innovative, technology driven and customer focused organization; Matrix is committed to keep pace with the revolutions in the telecom and security industries. With more than 40% of its human resources dedicated to the development of new products, Matrix has launched cutting-edge products like Video Surveillance solutions, Access Control, Time-Attendance, IP-PBX, Universal Gateways, Terminals, Convergence solution, VoIP Gateways and GSM Gateways. These solutions are feature-rich, reliable and conform to the international standards. Having global footprints in Asia, Europe, North America, South America and Africa through an extensive network of more than 500 channel partners, Matrix ensures that the products serve the needs of its customers faster and longer. Matrix has gained trust and admiration of customers representing the entire spectrum of industries. Matrix has won many international awards for its innovative products.