



## COSEC OVERVIEW

Matrix COSEC is an enterprise-grade people mobility management solution for organizations covering Time-Attendance, Access Control, Visitor Management, Employee Self Service Portal, Roster Management and Cafeteria Management. Matrix COSEC is an all-integrated solution including hardware devices and a suite of software application modules.

Matrix COSEC is a flexible, modular and scalable solution designed for large, medium and small enterprises encompassing up to 1 million users, 65,000 entry points scattered across 1,000 locations.



## MATRIX COSEC SOLUTIONS

### SOLUTION OVERVIEW

Matrix COSEC is modular in its architecture. The COSEC is built on layered, distributed processing architecture with intelligent components at each level.



## COSEC DEVICES

### Door Controllers

Door controllers and their readers are the front-end terminals guarding and monitoring the entry and exit points. These devices can read contact less proximity cards, smart cards, fingerprints and palm vein for identification. Door controllers can monitor and control additional readers, doors and auxiliary input and output ports. COSEC CENTRA PLATFORM controls and monitors these Door Controllers.

### Site Controller (Panel)

Site Controllers manage multiple door controllers and acts as a local bridge between the door controllers and the COSEC CENTRA application server. It is responsible for synchronizing all the door controllers, implementing advanced access control features and storing events.

## COSEC CENTRA PLATFORM

COSEC CENTRA PLATFORM is the heart of the entire COSEC solution. In addition to managing data of the organization, users and devices, the PLATFORM acts as the bridge between the applications and the devices. On the devices side, it facilitates the configuration of devices and communicates with site controllers and door controls to exchange events and commands and show them live on the monitor screen. On the applications side, the PLATFORM supports enrolling new users and manages organization and user data. Thus, PLATFORM is the foundation for Matrix COSEC CENTRA applications like Time-Attendance, Access-Control, Visitor Management, Roster Management, Cafeteria Management and others. For 3<sup>rd</sup> party application developers, the PLATFORM provides API functions to develop applications time-attendance, access-control, visitor management and many others.

## COSEC ADD-ON APPLICATION SOFTWARE MODULES

### Contract Workers Management (CWM)

Matrix COSEC CENTRA Contract Workers Management application is specifically designed for organizations dependent on contract workers. It allows managers and contractors to plan and manage their workforce efficiently to improve productivity and significantly reduce labor cost.

### Time-Attendance Module (TAM)

Matrix COSEC CENTRA Time-Attendance is an enterprise-grade solution for complex organizations with multiple locations spread-across geographic regions. It automates all Time-Attendance and Leave Management processes right from recoding entries and exits up to report generation and salary processing.

### Roster Management (RSM)

Matrix COSEC CENTRA Roster Management is an efficient tool to automate and plan workforce for improving productivity by proper forecasting and budgeting of staffing requirements. This system simplifies the process of defining and managing employee's duties.

### Employee Self Service Portal (ESS)

Matrix COSEC CENTRA ESS is a comprehensive web-based employee portal offering COSEC users to monitor and manage all their Time-Attendance and leave options. Employees and managers can access all their Time-Attendance information easily and perform related tasks intuitively reducing a significant amount of time they spent on these issues.

### Cafeteria Management Module (CMM)

Matrix COSEC CENTRA Cafeteria Management software is a completely automated solution starting from placing an order to delivery, including the payment. It allows item tracking, speedy transaction and prevents wastage of food and error in accounting.

### Access Control Module (ACM)

Matrix COSEC CENTRA Access Control protects organization assets and manpower by controlling user's entry based on their credentials (Palm Vein, Fingerprint and RF card) and advance access control policies on the door controller.



### Visitor Management Module (VMM)

Matrix COSEC CENTRA Visitor Management module automate the entire process of registering a visitor, printing a pass and capturing detailed information in few seconds and greet visitors in a professional manner.

## COSEC DIFFERENTIATORS

### Comprehensive

Matrix COSEC is a comprehensive and end-to-end solution for applications like Time-Attendance, Access Control, Visitor Management, Roster Management, Cafeteria Management and others. It includes all necessary hardware devices, application servers, database servers, web servers and mobile applications. This single-vendor approach resolves all the issues related with compatibility between products from disparate vendors, integration and interoperation. No wonder, there are few comparable in the marketplace matching Matrix COSEC its width and breadth.

### Modularity

Matrix COSEC architecture is modular in nature, allowing customers to pick and choose applications relevant to their business. Modules such as Time-Attendance, Access Control, Visitor Management, Roster Management, Cafeteria Management and Employee Self Service portal can be added anytime in future without disrupting the running application.

### Scalability

Matrix COSEC architecture is truly scalable, allowing a customer to start with small configuration and expand step-by-step as the organization grows. Beginning with as low as a single door and 100 users, the organization can scale up to 65,000 doors and 1million users.

### Flexibility

Matrix COSEC is designed to deliver high level of flexibility at various levels. Interfaces (Wi-Fi, 3G, Ethernet and RS-485), door controller connectivity with application server (direct or through site controller), readers (Card, Finger, Palm Vein and PIN) and pluggable card personality modules are few examples of flexibility. Further, attendance, leave and access control policies are flexible to satisfy the most demanding real-world enterprise needs.

### Range

Matrix COSEC offers a wide range of door controller devices to choose from to address specific needs. There are four series of devices - all varying in their sizes, aesthetics and interfaces to deliver required user-experience. A customer can pick and choose required numbers of these devices to build a complete solution. These devices work together seamlessly as a single solution.

### Adaptability

To sustain and grow, modern organizations need to adapt to the business environmental changes. Matrix COSEC is designed to adapt to the changing needs of the organizations. It can easily adapt to the changes in the organization structure, hierarchy, security and safety compliances, adding shifts, replacing internal manpower with contract manpower, international expansions, etc.

### Simplicity

Commissioning and operating Matrix COSEC is fairly simple thanks to its elegant design. Starting with hardware installation to all the way up to application deployment and 3rd party integration, all the steps are fairly simple. Ethernet/Wi-Fi/3G/4G interfaces simplify cabling and installation process. Auto device detection by the COSEC CENTRA eliminates the need of the tedious device configuration process. Discrepancies of time between multiple door controllers running independently are eliminated by synchronizing all the door controllers with the central server. Further, push-data technology makes admin free from routine event downloading from the device. A scheduler service performs certain tasks at a predefined time without need to open the application.

### Reliability

COSEC is designed for long term uninterrupted performance. It is designed to work in varying temperature, dusty and humid conditions (Touch-sense keypad, Ip65). Further, gold-flash PCBs, heavy duty components, wired and wireless architecture contribute to the reliable performance of the entire system.

### Technology

Matrix COSEC is built on a cutting-edge hardware and software technologies. On the hardware side, it employs powerful cortex A8 processor, NFC, palm vein, finger and contact less card readers. COSEC CENTRA application server is built on the Microsoft Windows with advanced RDBMS (MS SQL and Oracle) and Microsoft .NET technology.

### Hardware Integration

Matrix COSEC is an open system allowing integration with third party hardware. Using auxiliary input and output ports in COSEC devices, fire alarm system, video surveillance system, motion sensors and relay devices can be connected without any need for external hardware modules.

All in all, Matrix COSEC is an ideal people mobility management solution covering multiple applications like Time-Attendance, Access Control, Visitor Management, Roster Management, Cafeteria Management and many others. Matrix COSEC is a perfect fit for private and government organizations across industry sectors including BIFS, education, IT, manufacturing, retail, services, transportation, logistics and many others.

## COSEC DIFFERENTIATORS

IP based Architecture

Real Time Data Monitoring from Central Place

Automatic Credential Distribution from Server

Auto Push Events from Device to Server

Support Multiple Languages

Ethernet, PoE, Wi-Fi, 3G/4G/LTE Connectivity

Support Door Lock on PoE

Instant SMS and Email Notification

Scheduler Service for Important Functions

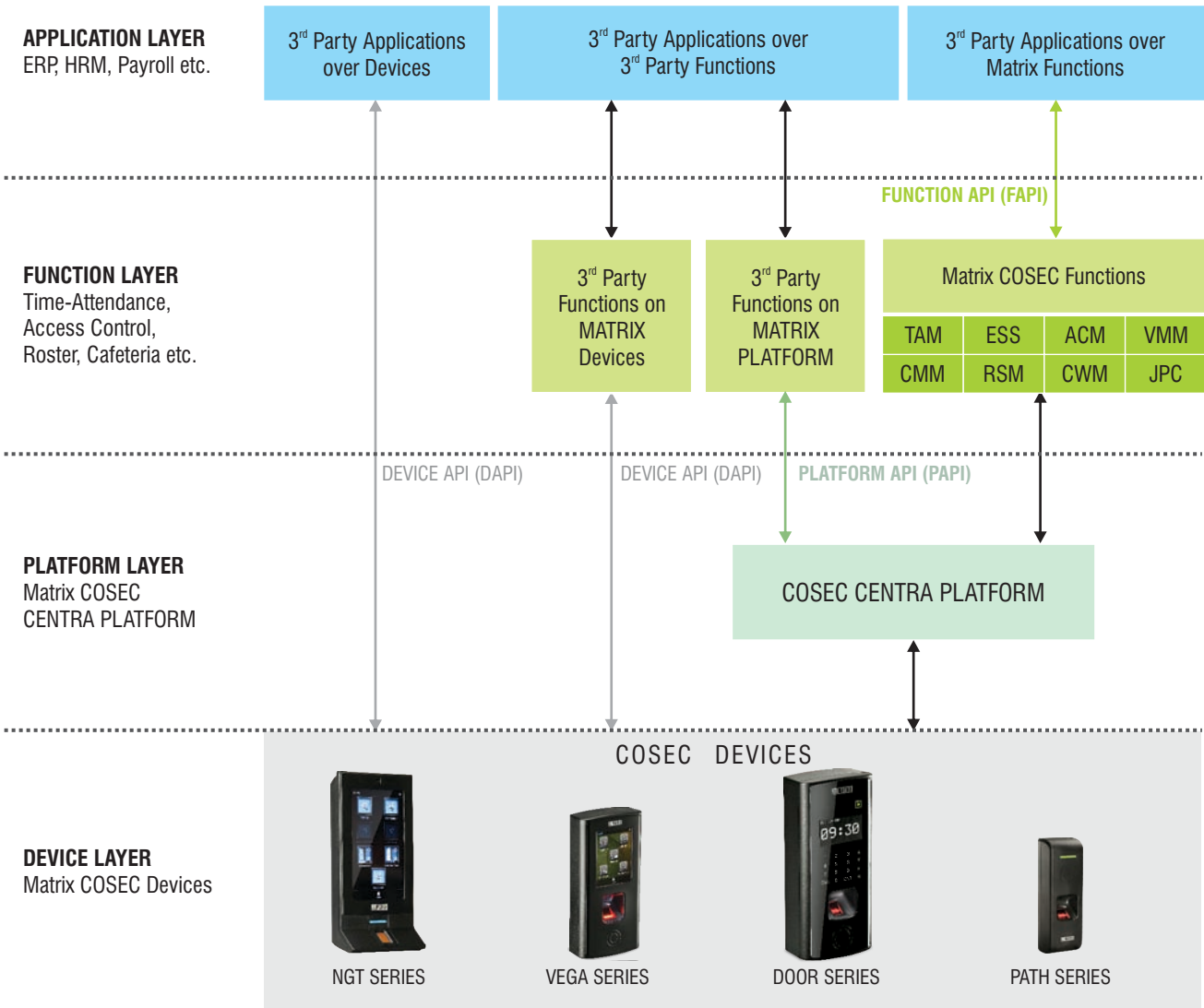
150+ Customised Reports

3<sup>rd</sup> Party Integration at Various Levels

IP65 for Outdoor Usage

## MATRIX COSEC INTEGRATION

Matrix COSEC offers flexibility to interface with any third-party applications at three different levels as shown in the diagram.



### Device Level Integration

Matrix COSEC devices come ready with Device API for 3<sup>rd</sup> party application developers to develop their applications using Matrix COSEC devices. Matrix COSEC Device APIs (DAPI) allows other third party applications to communicate directly with the COSEC devices without need for COSEC CENTRA PLATFORM.

### Platform Level Integration

Many application developers need application ready APIs. They expect the hardware vendors to manage device configuration, communication, enrollment and all such lower-level tasks. This saves them from the complexity of physical interfaces, network management, communication, device configuration, template distribution, etc. For such developers, Matrix COSEC CENTRA offers PLATFORM APIs (PAPI). Matrix COSEC CENTRA PLATFORM

manages all the lower level tasks shielding application developers from the tedious lower-level software engineering and offers them application-ready interfaces for simple and quick programming. Using PAPI, they can build their applications like time-attendance, access control, visitor management, cafeteria management, contract labor management and roster management on top of COSEC CENTRA PLATFORM.

### Function API

This is the highest level of interface Matrix COSEC offers for application to application integration. Using Function APIs (FAPI), Matrix COSEC applications like Time-Attendance can be integrated with other 3<sup>rd</sup> party applications like payroll, ERP, HRMS and CRM. Matrix COSEC is integrated with many widely popular applications like SAP, Oracle, Microsoft Dynamics NAV/AX, Tally and others.

## KEY FEATURES

### Multi-User Configuration

At times, HR assigns certain parameters to multiple users. Individual assignment for each user is very time-consuming and tedious. COSEC multi-user configuration facilitates HR to assign such parameters to all or group of users with few clicks. HR can assign new policies, ESS rights, new groups etc. to a group of users.

### User Profile

Proper user information with all required details at one central place can eliminate multiple spreadsheets and related chaos. Use COSEC to create full user profile with personal information, contact detail, photograph, user-wise attendance policy, access rights and other organizational information. HR can pull out this detail and get a report anytime with just few clicks.

### User Enrollment

COSEC facilitates HR to enroll each user with identification credentials like palm vein, fingerprint, card or PIN. He can enroll these credentials in multiple ways – using special function card, door controller keypad or from the desktop enrollment station.

### Dual Fingerprint Images

COSEC offers a unique feature of storing a copy of fingerprint image in the database during the enrollment process. Of these two images, one is stored as the original and another will keep on changing whenever any change is detected in the user fingerprint. This provides sureness of fingerprint acceptance on the reader. This is an important feature where the user's fingerprint image is changing because of seasonal changes or working environment.

### Credential Distribution

Matrix COSEC distributes user credentials (palm vein, fingerprint and RF card) automatically to all the door controllers assigned to the user. This eliminates the need of separate enrollment on each door controller, reduces administrative complexity and saves time.

### Fingerprint Verification

Using fingerprint verification feature, the administrator can check user's fingerprint presence in COSEC database by placing a finger on the enrollment station. If credential matches with any records in the database, COSEC show user's photograph, department, designation, user ID, etc. It is a very useful feature to identify criminals, patients, students etc. from the existing records.

### Login Roles and Rights

In large organizations, it is not possible for one person to manage all the tasks related to time-attendance, payroll, roster, cafeteria and visitor management. COSEC administrator can create multiple users with their own login and rights for each application. Now, these users can manage their assigned departments or applications.

### Special Function Cards

Late-in, early-out, official-in and enrollment are some of frequently used functions. Entering codes for such functions is tedious and time-consuming. The administrator can create special function cards for such predefined functions. Now, a user can show the special function card followed by his credential to use the special function. Administrator can assign up to four cards for each special function.

### Scheduler Service

COSEC Scheduler Service performs routine tasks automatically at a predefined time. Administrator can schedule report generation, database backup, monthly data processing, leave credit etc. Scheduler Service saves significant time of HR and admin teams allowing them to focus on other important tasks.

### Dashboard

COSEC offers separate dashboard for each application giving users a quick overview on the application home page. Click on an item takes users to the detail page for the item.

### SMS and Email Notifications

Instant SMS and email notifications on important events inform users to take necessary actions avoiding delays. COSEC monitors 32 types of events and sends notifications to users and managers using SMS and email gateways. Events include user events, leave application, approval/rejection, monthly attendance, missing in/out punch, database backup, door offline and many others.

### Reports and Charts

COSEC offers 160+ reports and colorful charts. User can apply filters like date selection, group selection, user selection and sorting type to generate a specific report. Users can easily export these reports to Excel, Word, XML, RPT, PDF and CSV for further analysis, action and record keeping.

### Import Data

Many organizations maintain their employee and organization data in text or spread-sheet format. Matrix COSEC allows importing this data, preventing errors and saving precious time. COSEC allows importing user information, policy details and organization hierarchy from Excel.

### Centralized Monitoring and Control

COSEC offers live monitoring and control to check the system in real-time. It shows the current status of all the site controllers, door-controllers, alarms, input ports and output ports. COSEC shows entries and exits with user photographs live as these events occur. Further, the administrator can control door alarms, lock or unlock doors, synchronize time, delete fingerprints and other performs other access control functions the monitor and control window.

### Time Trigger

Using Time Trigger, administrator can automate many often repeated tasks by scheduling them at desired times. Locking and unlocking of doors at specified times and blowing the siren to indicate shift-change are two examples of routine tasks that COSEC can automate using Time Trigger function.

### Auto Device Detection

Deployment of time-attendance or access-control solutions in a large and multi-location organization can take time and may require travel to distant locations which escalates deployment cost significantly adding to the overall project cost.

Matrix COSEC is designed to simplify deployment by searching, detecting and adding COSEC devices automatically. Any local electrician can manage physical installation by mounting the device and connecting power and the Ethernet cables to the device. As soon as the connection is established, COSEC CENTRA server detects and adds the device. Now, the administrator can configure and control the device remotely from the central location.

## ORDERING INFORMATION

SOFTWARE	
<b>COSEC CENTRA PE PLATFORM</b>	Application Server Platform with 100 Users for basic Access Control and Raw Event Data.
COSEC PE TAM	Time-Attendance Software Module for COSEC CENTRA PE Users
COSEC PE ESS	Employee Self Service Software Module for COSEC CENTRA PE Users
COSEC PE ACM	Access Control Software Module for COSEC CENTRA PE Users
COSEC PE VMM	Visitor Management Software Module for COSEC CENTRA PE Users
COSEC PE CMM	Cafeteria Management Software Module for COSEC CENTRA PE Users
COSEC PE RSM	Roster Management Software Module for COSEC CENTRA PE Users
COSEC PE CWM	Contract Workers Management Software Module for COSEC CENTRA PE Users
<b>COSEC CENTRA GE PLATFORM</b>	Application Server Platform with 100 Users and Expandable up to 500 Users for basic Access Control and Raw Event Data.
COSEC GE TAM	Time-Attendance Software Module for COSEC CENTRA GE Users
COSEC GE ESS	Employee Self Service Software Module for COSEC CENTRA GE Users
COSEC GE ACM	Access Control Software Module for COSEC CENTRA GE Users
COSEC GE VMM	Visitor Management Software Module for COSEC CENTRA GE Users
COSEC GE CMM	Cafeteria Management Software Module for COSEC CENTRA GE Users
COSEC GE RSM	Roster Management Software Module for COSEC CENTRA GE Users
COSEC GE CWM	Contract Workers Management Software Module for COSEC CENTRA GE Users
<b>COSEC CENTRA ME PLATFORM</b>	Application Server Platform with 500 Users and Expandable up to 1000 Users for basic Access Control and Raw Event Data
COSEC ME TAM	Time-Attendance Software Module for COSEC CENTRA ME Users
COSEC ME ESS	Employee Self Service Software Module for COSEC CENTRA ME Users
COSEC ME ACM	Access Control Software Module for COSEC CENTRA ME Users
COSEC ME VMM	Visitor Management Software Module for COSEC CENTRA ME Users
COSEC ME CMM	Cafeteria Management Software Module for COSEC CENTRA ME Users
COSEC ME RSM	Roster Management Software Module for COSEC CENTRA ME Users
COSEC ME CWM	Contract Workers Management Software Module for COSEC CENTRA ME Users
<b>COSEC CENTRA LE PLATFORM</b>	Application Server Platform with 1000 Users and Expandable up to 1 Million Users for basic Access Control and Raw Event Data
COSEC LE TAM	Time-Attendance Software Module for COSEC CENTRA LE Users
COSEC LE ESS	Employee Self Service Software Module for COSEC CENTRA LE Users
COSEC LE ACM	Access Control Software Module for COSEC CENTRA LE Users
COSEC LE VMM	Visitor Management Software Module for COSEC CENTRA LE Users
COSEC LE CMM	Cafeteria Management Software Module for COSEC CENTRA LE Users
COSEC LE RSM	Roster Management Software Module for COSEC CENTRA LE Users
COSEC LE CWM	Contract Workers Management Software Module for COSEC CENTRA LE Users
COSEC USER100	100 Users License for COSEC CENTRA GE, COSEC CENTRA ME and COSEC CENTRA LE PLATFORM
COSEC USER1000	1000 Users License for COSEC CENTRA LE PLATFORM

## SYSTEM RESOURCES

COSEC CENTRA APPLICATION STRUCTURAL TOOLS	
Application Framework	Microsoft .NET 4.0
Reporting Tool	Crystal Reports 13.0
Database	MSSQL EXPRESS 2005 or Higher & Oracle 8i or Higher
IIS Version	6.0 and Above
Microsoft .Net Frame Work	4.0

COSEC CENTRA CAPABILITIES	
Maximum Users	1 Million
Maximum Door Controllers	65,000

## AUTOMATIC FEATURES IN COSEC



### AUTO BACKUP

COSEC CENTRA will automatically run the backup at the scheduled date and time, so organizations have the benefits not only of having data protection, but also saving precious time.



### TASK SCHEDULER

COSEC enables organizations to perform tasks such as report generation and mail, leave credit in user account, attendance process automatically.



### DATA PUSH TO SERVER

COSEC door controllers push user transaction and event data to the central COSEC server in real time without any manual intervention.



### AUTOMATIC FINGERPRINT AND PALM TEMPLATE DISTRIBUTION

COSEC CENTRA server distributes user's fingerprint and palm templates on all devices assigned to him.



### SMS AND EMAIL NOTIFICATION

COSEC CENTRA sends SMS and email notifications to users on predefined events such as access control, attendance, visitor registration, etc.



### AUTOMATIC DEVICE IDENTIFICATION

COSEC CENTRA server automatically identifies and add new COSEC door controllers when connected to the network.

## 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 around 30% of its human resources dedicated to the development of new products, Matrix has launched cutting-edge products like IP-PBX, Universal Gateways, VoIP Gateways and Terminals, GSM Gateways, Access Control and Time-Attendance Systems, Video Surveillance System and Fire Alarm Systems. These solutions are feature-rich, reliable and conform to the international standards. Having global foot-prints 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.

For further information, please contact:



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