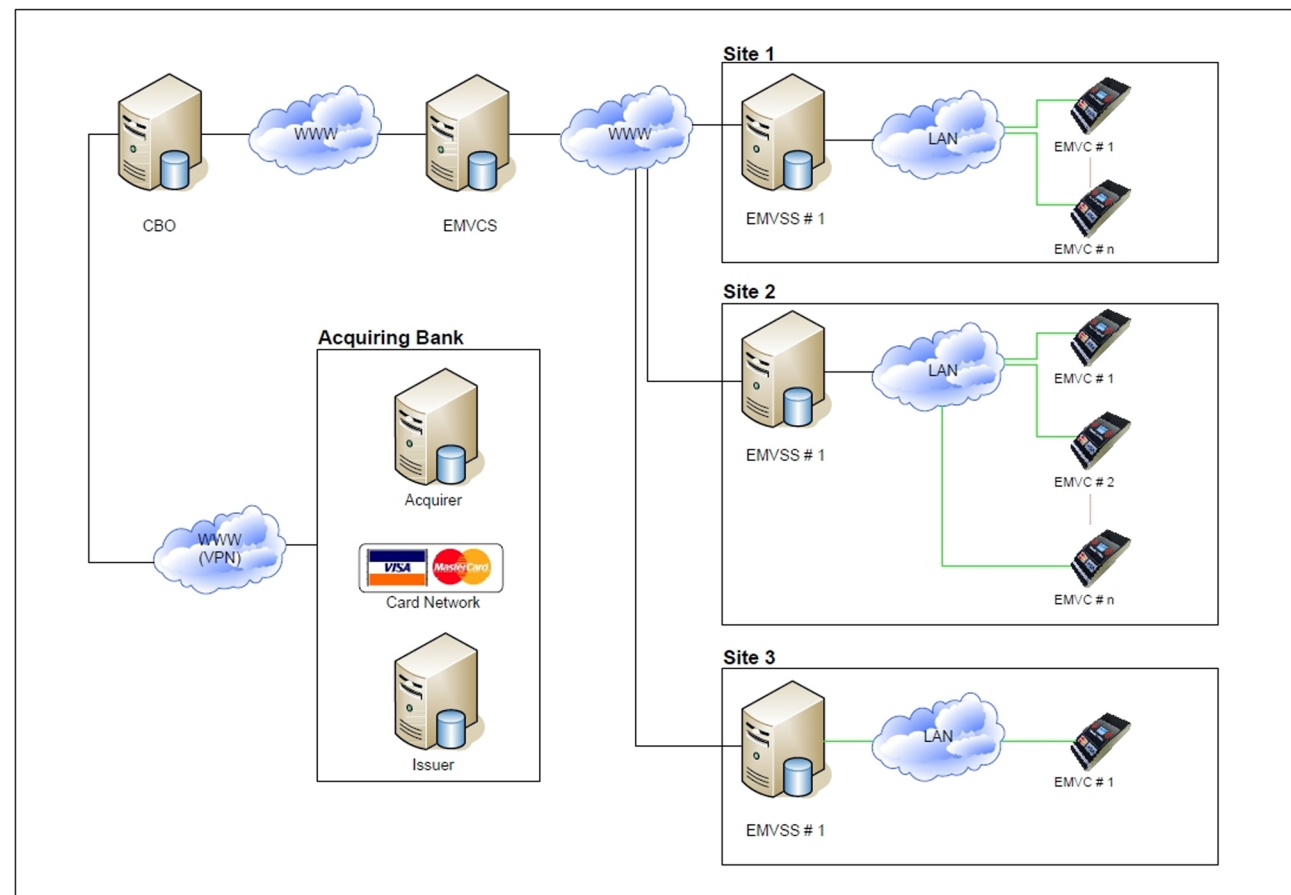


## SYSTEM DIAGRAM



## TECHNICAL SPECIFICATION

ITEM	DESCRIPTION
Controller Model	SAC8000
Core Processor SOC	32 Bit
Operating Frequency	300 MHz
Real Time Clock	Yes
Program Memory	MSTI Embedded Disk Module 1GB
Data Memory / RAM	128 MB DDR2 On Board
Power Supply	12 Volt 2 Amp
Communication Ports	<ul style="list-style-type: none"><li>- 1 x 10/100 Based-T Ethernet</li><li>- 1 x Enhanced IDE Port</li><li>- 1 x Parallel Port</li><li>- 3 x RS 232 Port</li><li>- 2 x USB Port (ver 2.0)</li><li>- 1 x Selectable RS 232/485</li><li>- 2 x 16 bit GPIO Port</li></ul>

For Further Information, please contact



# EMV

## Contactless Payment Solution

EMV (Europay, MasterCard and Visa) is a global standard for inter-operation of integrated circuit cards for credit and debit payment cards based on chip card technology. EMV contactless payment systems are credit cards and debit cards, key fobs, smartcards or other devices that use radio-frequency identification for making secure payments. Visa payWave and MasterCard PayPass are the enhanced contactless payment technology feature that allows cardholders to wave their card in front of contactless payment readers. Signature or PIN entry is only required for purchases above a specified amount.

The rapid technology of EMV contactless enhances the payment solution for transportation services. The solution contributes to a more efficient parking management and open or closed toll system. With the EMV technology equipped at the terminal for parking and toll system, payment for parking and toll fees can be paid instantaneously and conveniently with the available EMV cards thus reducing traffic congestion.

Using the Contactless EMV cards in the public transport ticketing offer great benefits whereby drivers will experience much shorter waiting times and no need to mishandle with change. For parking, toll or public transport operators, it is no longer necessary to dispense or process tickets, while the ticket vending and back-end infrastructure can be greatly simplified with a focus on cost-efficiency. With this new centralized payment approach, the performance of the system will be expanded and increased.

## Features

**Audit Trail**

**Encrypted**

**Dynamic Report**

**Real Time**

**Web - Based**



## KEY FEATURES

The system has a complete audit trail features whereby every login to the system, every change of database, every configuration setting changes, etc, will be tracked and traced.

Password and all sensitive data are stored in encrypted format.

EMVSS/EMVCS manages data transaction, manual update such as add, delete and update using MSSQL database.

EMVCS and EMVSS can produce dynamic report based on the user selection on the Reports Modules.

Both EMVSS and EMVCS are ready and able to have redundancy connectivity to CBO.

Every transaction will be updated online (real time) to EMVSS and at the same time it will be saved inside the controller's memory for at least 6 months (or more if memory still available).

Built-in Web-Based Platform that can be firmware configured and uploaded to the controller remotely.

## EMV CENTRAL BACK OFFICE (CBO)

EMV CBO is connected to EMVCS through the public network with secured data transmission.

- ➔ Manages the registration and maintenance of the EMVCS, EMVSS and EMVC for the purpose of clearing and settlement.
- ➔ Manages the synchronization of the card listing with EMVCS which includes Black List, Grey List and White List.
- ➔ Processes and responses the Pre-Authorization request from the EMVCS.
- ➔ Process and respond to the sales request from the EMVCS.
- ➔ Process and respond to the recurring authorization request from

## EMV SITE SERVER (EMVSS)



An application that monitors the EMVC activities and connectivity. EMVSS designed can be either Controller Based or PC Based. EMVSS is normally located at each site to control for multiple units of EMVC.

- ➔ Send and Receive card list, orphan list and transaction log to and from EMVCS.
- ➔ Send and Receive card list, orphan list and transaction log to and from EMVC

## EMV CENTRAL SERVER (EMVCS)

An application to manage the centralize monitoring of the EMV contactless payment solution component at the site which include EMVSS and EMVC. It is also able to control those components directly from a remote location through secure communication architecture. EMVCS provides relevant interface to 3rd party payment clearance back end system (CBO)

- ➔ Send and Receive card list, orphan list and transaction log to and from EMVSS.
- ➔ Send and Receive card list, orphan list and transaction log to and from CBO server.
- ➔ Receive and record card list, orphan list and transaction log from all sites (data from EMVSS) and process it.
- ➔ Receive card approval for transaction from CBO server.
- ➔ Able to generate settlement report in Excel and PDF format.

No	Site ID	Date	Time	Event	Location	Terminal Type	Terminal ID	PAN	MD	Amount (RM)	Status	Action
1	A151	01 Sep 15	17:45:54	Pre-Authorization Transaction	Basement	Entry Parking	A1510005	****713430****	1	100.0000	Success	Void Sale
2	A151	29 Jul 15	15:51:28	Pre-Authorization Transaction	Basement	Entry Parking	A1510005	****713430****	1	100.0000	Success	Void Sale
3	A151	29 Jul 15	15:51:19	Pre-Authorization Transaction	Basement	Entry Parking	A1510005	****713430****	1	100.0000	Success	Void Sale
4	A151	08 Jul 15	10:13:04	Pre-Authorization Transaction	Basement	Entry Parking	A1510005	****713430****	1	100.0000	Success	Void Sale
5	A151	08 Jul 15	10:12:38	Pre-Authorization Transaction	Basement	Entry Parking	A1510005	****713430****	1	100.0000	Success	Void Sale
6	A151	08 Jul 15	10:04:18	Pre-Authorization Transaction	Basement	Entry Parking	A1510005	****713430****	1	100.0000	Success	Void Sale
7	A151	08 Jul 15	09:28:07	Pre-Authorization Transaction	Basement	Entry Parking	A1510005	****713430****	1	100.0000	Success	Void Sale
8	A151	08 Jul 15	09:27:50	Sale Transaction	Basement	Exit Parking	A1510007	****713430****	2	442.5600	Success	Void Sale
9	A151	23 Jun 15	11:57:06	Pre-Authorization Transaction	Basement	Entry Parking	A1510005	****713430****	1	100.0000	Success	Void Sale

## EMV CONTROLLER (EMVC)

EMVC is located at a console at each entrance and exits of parking or on each toll lane. EMVC provides signal to parking and toll barrier controller as an indicator to allow access based on the transaction accepted upon patron touching their EMV card to the reader. It is connected to the EMV reader at site and communicates all transaction to the EMVCS and the EMVSS.

- ➔ Read and get supported card data from EMV Contactless reader.
- ➔ Has internal 3DES (3 Data Encryption Standard) cryptography algorithm. Data send to EMVCS will be encrypted.
- ➔ EMVC complies with all relevant Malaysia Electrical, EMI and related regulations.
- ➔ Able to integrate with parking and toll solution.
- ➔ Send and Receive card list, orphan list and transaction log to and from EMVSS.
- ➔ Use session key that will be generated and changed daily for authentication with EMVC.
- ➔ Communicate with EMVSS using secured TCP/IP connectivity.

