
AMC CONVERGENT IT
AIRPORT RETAIL MANAGEMENT SYSTEMS

Future Solutions Now

***Retail Management System
Solutions:***

Airport Operations

Front end Operations

Back end Operations

Retail Management Portal

Airport Kiosks

AIMS & AOP connectivity



Kuala Lumpur International Airport – Sepang, Selangor



Kuala Lumpur International Airport

AIRPORT RETAILING ACCOUNTS FOR 7% OF THE TOTAL RETAIL INDUSTRY

A Retail System to the public usually refers to the cash registers at the check-out counters that customers see at the retail outlets. To a retailer, depending on their business, the Retail System is really nothing more than a cash register or calculator that counts the money coming in or change given out. However, the trend in retailing & the highly competitive nature of the retailing industry requires a *good* retailing strategy & management techniques as well as a retail system to assist the management keep track of the daily routine retail functions such as revenue management, sales analysis & inventory tracking. Speed is of the essence in assisting the retailer in queue management & obtaining up to date sales information using the least back office resources. With this, the retailer is able to maximise profits.

The AMC Retail Management System (RMS) is tailor made for the retailer supporting many different retailing businesses but also for the Airport Operator or Retail Shopping Complex.

The RMS is a set of commercialisation strategies, & AMC's RMS solution consists of:

1. Retailing Business Model
2. Retailing Strategies
3. Concessionaire Management
4. Retail Management System

RMS AOP Solution – Enables

1. the main operator or airport operator to know at any point in time what revenues are being generated by the retailers (concessionaires).
2. the main operator or airport operator to collect the accurate amount of royalty in a timely & efficient manner.
3. the main operator or airport operator to monitor the performance of retailers, thereby ensuring that only the best & most effective retailers are operators at the airport or complex.
4. the retailers to manage all aspects of their retailing functions conveniently, efficiently & effectively.
5. the relevant statutory bodies such as Customs & Statistics Departments with effective immediate information.
6. the retailer to manage their operations using approved strategies, direction & policies.
7. the retailer to have dynamic control in retailing system whereby they can have centralised buying, warehouse receiving, item creation & pricing control in the Head Office with secure *remote* Intranet or Internet access of all functionality.

RMS Solution – Retailing Business Model

This is a business modelling technique called Structured Information Method that helps the retailer setup their business structure by using the Strategy Tactical & Operational Levels.

RMS Solution – Retailing Strategies

The retailing strategies provide *tactical* direction to middle management & instructions to the operational staff.

RMS Solution – Concessionaires Management Manual

This is a living document. It consists of all the commercialisation strategies, tactical directions, operational policies, government policies & other parties requirements impacting on their business.

RMS Solution – Retail Management System

This is a total solution that suits different types of environments namely airport environment, normal shopping chain environment or food & beverage environment.

With the AMC RMS System the Operator or Management is able to monitor & plan the performance, as well as the direction, of the entire retail outlet to maximise revenue.

RMS is able to provide the Retailers with customer / passenger buying trends to enable the retailers to effectively plan their shop floor stocks & displays to maximise revenue & minimise the cost of stock holding thereby increasing the profitability of each shop at the airport or complex.

RMS – System Overview

The AMC Retail Management System (RMS) consists of 5 major components:

1. AOP Portal RMS
2. Head Office RMS
3. Back office RMS
4. Front end RMS
5. Kiosk RMS
6. AIMS RMS access

AOP Portal RMS

A centralised airport operator application that reports on concessionaire sales, passenger volumes & interfaces into airport system health status applications. The AOP portal is an online updated database incorporating secure access & is shared with other AOP users including concessionaires. This architecture enables use of very basic & cheaper terminal equipment at concessionaire & other user points. Data collected by online processes is immediately updated into the AOP portal database. The AOP database can be either Oracle 9i or MySQL.

The AOP Portal updates all concessionaire systems simultaneously with foreign exchange rates periodically during the day & Customs By Law information.

Head Office RMS

This is a *portal*/based application providing the airport operator or retail management operator with either consolidated or individual sales & other performance information views of the retailing activities of the airport or retail complex. The Head Office RMS system resides on a centralised computer with access to & from the retailers & other approved persons or groups through either an *Intranet* or *the Internet*.

The Head Office RMS provides *instantaneous* sales & other performance information to the retailers or the airport or complex operator. Redundancy capabilities enable retailers to continue to trade in the face of any system failure. The structure facilitates an architecture that is very fast, flexible & extremely powerful with a minimum of maintenance at either equipment or information levels.

Each retailer has an area on the HORMS portal, accessed by user id & password. This restricts their access to their own shop or shops information. Retailers who operate more than one store at the airport or complex can be given an *access* which enables them to visualise their particular stores either one at a time or by grouping yielding overall totals.

The airport operator need not perform item file maintenance as each time a retailer alters an item in or adds one to their inventory master file the change is already made at the airport operator level (AOP). This ensures the AOP Portal RMS system is always up to date & sales information is always collected.

Item deletions cannot be performed by concessionaires avoiding fraudulent activities relating to the Airport Operator.

The *portal* means the concessionaire, the AOP, the Statutory Authority (Customs/Statistics) or Retailer Management can *always* have access to the information of their interest 24 hours a day & 7 days a week. The access can be via the Intranet on the local or wide area network or via the Internet through either RAS dial or ADSL connections.

This architecture provides many system architecture efficiencies & flexibility in both the FEPRMS & BERMS systems.

RMS – Front End (FERMS)

The FERMS is the source of *all* RMS information. The FERMS collects not only sales information but also in an airport environment collects the basic passenger centric information such as nationality, gender, age, carrier, destination/arrival information for sales analysis & statutory purposes.

FERMS accepts multiple tender types such as cash, foreign currencies, credit cards, vouchers & any other type of tender accepted by the retailer.

FERMS equipment can be very simple & cost effective with the Intranet / portal / Internet approach. The equipment needs to hold small files & programs with all other information residing on the portal. Such equipment is flexible, of small footprint & relatively cheaper. The FERMS system can be either a thick or thin client. A thick client is where the FERMS is connected to a BERMS server via a local area network, which is then in turn connected to the AOPRMS.

The FERMS can be as simple as a screen, a small PC with or without a hard disk drive & connected to receipt/journal / slip printers, if required.

Back office RMS (BERMS)

The structure or even the existence in a retailer's store of the BERMS is dependent upon the choice of the specific retailer.

BERMS equipment can be a PC server connecting the FERMS terminals in a single or multiple stores if owned by the same retailer. Alternatively, a BERMS may connect a series of FERMS terminals solely for the purpose of providing continuing operation in the face of the portal being unavailable.

BERMS systems can contain either just sufficient applications to continue operations or a complete suite of applications concerned with stock management incorporating stock receipts, purchase order management, stock taking & reporting, in the face of a WAN/Internet or AOP failure.

Irrespective of which BERMS configuration is selected the sales & product master or passenger centric related information reaches the AOP portal. This updating occurs either as an *online* immediate one or in a batch mode where there has been a failure. No concessionaire sales or product master file information is ever lost. Sophisticated store & forward technology makes sure the relevant data arrives at the appropriate destination.

RMS Kiosk Management

Passenger or information kiosks spread throughout the Airport terminals are managed by the AOP Portal. These kiosks can be downloaded with advertising material, passenger aids & airport facility directories. The kiosks are connected to the AOP RMS by the Intranet or Internet

RMS EFTPOS

An *enterprise EFTPOS server* resides at the AOP Portal site and all EFTPOS transactions are routed via it. The system is multiple acquirer allowing each concessionaire to choose their banking partner. The system is a financial transaction switch. This enables the AOP to charge a fee for providing the bank financial transaction switching service.

RMS – the complete solution to airport & shopping complex retail management

AMC RMS Solution provides a complete “turn key” solution. AMCCIT is committed to working closely with the airport operator to develop its commercialisation strategies, determine & implement the system & tools that best suit its businesses which will enable you as the Airport Operator (AOP) or Shopping Complex Operator (SCOP) or retailer to realise your maximum revenue for the future growth & competitiveness of your airport or retail outlet.

AMC RMS provides portal access from or to:

1. FERMS terminals
2. BERMS systems
3. AOP terminals
4. External authorised terminals or systems such as Customs or Statistics Departments or other sanctioned users.
5. Kiosks
6. Support
7. Airport & Concessionaire Operational Manuals
8. Newsletters from the AOP to airport personnel or departments and concessionaires of either an internal or airport wide basis
9. Software distribution to concessionaires
10. Virtually limitless opportunity to expand functionality

RMS Solution – Pricing Flexibility

The AMC portal approach with its distinct & multiple component options of FERMS & BERMS provides scope to the Airport Operator or Shopping Complex Operator to a previously not available pricing flexibility that encourages the proper retailer mixture within the airport or shopping complex but empowers the operator to have varying pricing or royalty arrangements based upon the strategic importance of the specific retailer to the enterprise. Not all retailer types are high volume or high profit generation in nature but they maybe of high importance in attracting customers who in turn do shop at the other retailers stores.

The portal approach allows a matching of service supply to retailers’ desires but ensuring all operator required information is collected for central or statutory functions.

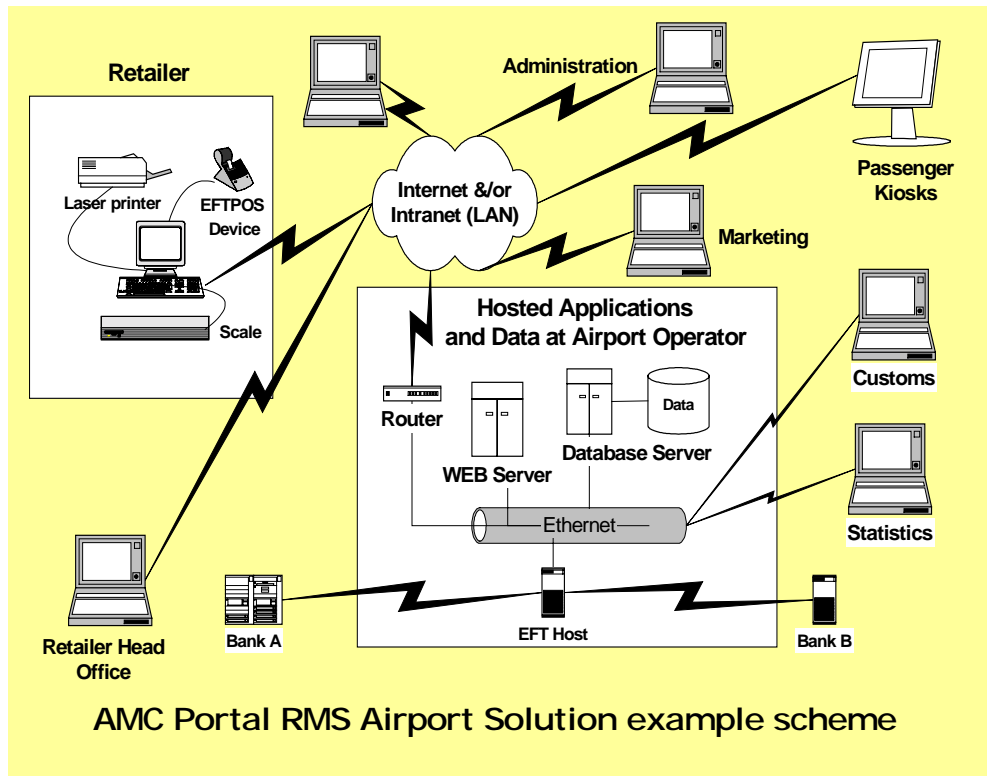
FERMS & BERMS modules can be rented on a monthly or period basis to the retailers, reducing their start-up costs & maximising the airport or shopping complex operators revenue opportunities.

RMS Solution – multi lingual

All RMS solution components are *multilingual* enabled technologies. Localisation requires translation of a dictionary of words & phrases that are automatically incorporated into the applications.

The AMC RMS Solution multilingual capabilities mean that on the same terminal within a single retailer any operator may select English or Bahasa Malay or Chinese or Thai. The actual data is stored in the national local language or English depending upon the database platform the enterprise selects.

In some cases the language of choice can place requirements for modification to the screen layouts due to the size of the language words.



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RMS Solution architecture schema

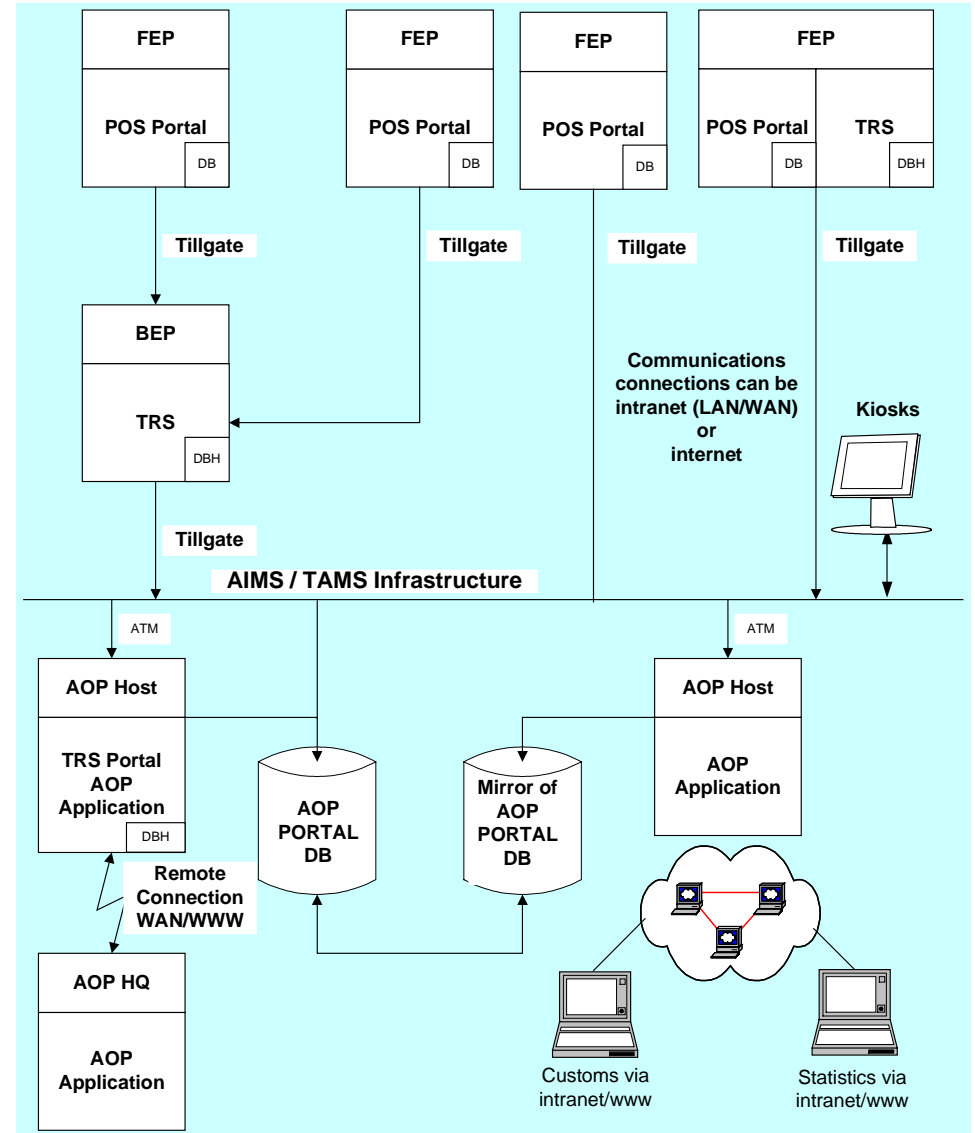


Figure 1-1 POS Portal AOP Retail Management Sub-system Overview Diagram

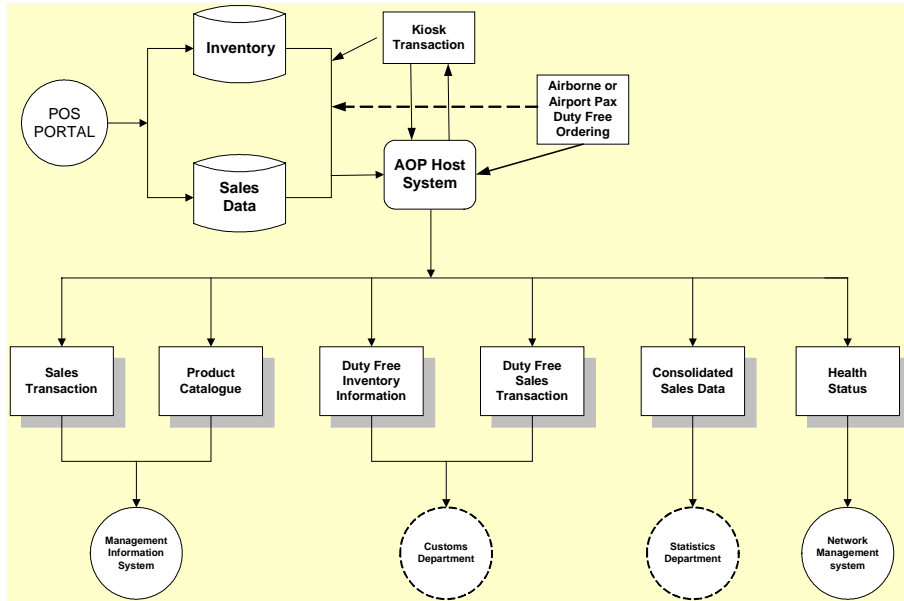


Figure 1-2 AOP Host System Data Flow Diagram

The **RMS** design specifically caters for the *specialised* data flow requirements of airports, with its multi access & multi information destination needs to meet airline, passenger, retailer, customs & statutory authority & airport operator needs.

RMS redundancy

The **RMS** architecture facilitates continued operation in the face of adversity & is highly robust & self-monitoring. In the event of a failure in the WAN or LAN, Internet or Intranet, the RMS stores the AOP information & continually monitors for the presence of the connection. When the connection is available again the RMS component forwards all the information stored since the failure to the AOP – **nothing is lost!**

Future Opportunity

Duty Free shopping, airborne and airport, using a secure portal based ordering platform *directly* linking into the AOP RMS system collecting passenger details and delivery address with connection to the fulfilment organisation.

Table 1-1 POS Sub-system Interactions with other sub-systems

Destination Sub-system	Data Flow Description	Message Description	VIA
Management Information System	Sales Transaction	Detail sales transaction from concessionaire using the Point of Sales System	PORTAL XML INFORMATION BROKER
Management Information System	Product Catalogue	Product information for advertisement at kiosk stations	PORTAL XML INFORMATION BROKER
Customs Department	Duty Free Inventory Information	Report on the inventory items in the duty free warehouse	AOP PORTAL
Customs Department	Duty Free Sales Transaction	Detail transaction information on duty free sales	AOP PORTAL
Statistics Department	Consolidated Sales Data	Consolidated report of sales information	AOP PORTAL
Network Management Centre	Health Status	Report on the health of all airport application systems that the Network Management System monitors	NETWORK (INTRANET) OR (INTERNET)
Kiosk Management	Pax Services or aids	Airport Directory & information	AOP PORTAL

Some Recent AMC Convergent IT experience



The recently opened, April 2001, **Harare International Terminal** Operational Readiness & Transfer was successfully performed by AMC staff. AMC has a wide &

diverse experience in the commercialisation of modern airports & their infrastructure. AMCCIT performed a transfer of technology to local Zimbabwean companies under this project.

The **Kuala Lumpur International Airport**, Sepang, Selangor is a user of



AMC Retail Management Systems. Developed to cater for passenger volumes of up to 80 million per annum. Commissioned in 1998 & continuing to provide efficient service to the Airport Operator & Concessionaires. Provides 24 hour a day, 7 days a week operations. AMC provided AOP RMS elements, AOP consolidation using

ORACLE, Concessionaire POS & back office software. Additional services included specification, implementation, commissioning & train the trainer. AMC performed a transfer of technology to XYBASE a Malaysian company under this project.

Sultan Center – Kuwait is a group of eleven 24 hour, 7 day retail & wholesale supermarkets with over 100 FERMS terminals located in Kuwait & Oman. These supermarkets not infrequently individually sell in a single 75,000 different items. The RMS provided by AMC includes the FERMS running on IBM POS equipment and interfaces to warehousing & distribution enterprise systems (SCMADS) and Oracle Financials. The AMC system is *mission critical* for the Sultan Center and must have a better than 99.9% availability, which it achieves. AMC uses its remote support tools for this site. In the near future the Sultan Center will move to the AMC Portal RMS. Sultan Center has



recently embarked upon an acquisition of 70 convenience stores, which are to be driven by a central AMC Portal RMS system with a FERMS in each of the stores. A technology transfer was performed to local Kuwait organisations to provide first & second level support.



The **Meat & Livestock Australia**, an industry wide government organisation, commissioned AMC to provide its nearly 3,000 member butcher organisations with access to a retail portal. MLA gain valuable marketing performance information collected on the sales at butchers. Their aim being to direct strategic marketing & promotions using data modelling provided by AMC.

AMC providing:

1. Development of the retail portal
2. Development of Customer Loyalty & Frequent Shopper schemes
3. Provision of the communications infrastructure
4. Maintenance & Support services for 2003 to 2006
5. Hosting services, including enterprise EFTPOS, for 2003 to 2006
6. Train the trainers services
7. Partner support

The system provides financial reporting, cash control, user access & supply chain management functions to the red meat industry throughout Australia. MLA's ultimate aim is to integrate the National Livestock Identification Scheme (NLIS) with carcass classification schemes producing a seamless information flow from producer to consumer. The AMC retail portal is the critical delivery point for the integrated services. AMC was contracted to provide this service because of its retail & systems experience & succeeded where previous attempts had failed.

Some Recent AMC Convergent IT experience

Store Trader is an Internet portal developed for the general retailing industry. It provides collection & transmission of information to a wide variety of different POS manufacturers systems. Provides comprehensive reporting and functionality encompassing:



1. Product file maintenance
2. Catalogue maintenance
3. Frequent Shopper schemes
4. Specials & Promotions implementation & control
5. Cash control of the business
6. Supply chain management
7. Purchase orders for individual store(s) & consolidation
8. Allocations of stock to stores
9. Stock transfers
10. Interbranch transfers
11. B2B functionality
12. B2C functionality
13. Secure transaction processing including EFTPOS servers

Specific Internet B2B links were provided between various tobacco retail chains & *British American Tobacco Australia* upon which store rebates were calculated.

AMC Convergent IT Retail Management Solutions provide the power, flexibility and cost efficiency your airport operator or shopping complex operator needs in the future. For more detailed information or a demonstration of capability contact AMC Convergent IT.



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