

EMV Enabling Legacy Systems on Forecourts

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Abstract

Major credit card companies are instigating a shift from traditional magnetic stripe cards to smartcards in order to reduce their risk of fraud. Replacing entire retail automation systems on oil forecourts is traditionally considered to be a high risk, high cost and laborious process.

R&D Technology Solutionz offer a cost effective alternative solution, using the ITL Enabler and specific software applications to allow the existing payment terminals to be replaced without affecting the remainder of the POS (Point of Sale) and automation systems on a retail oil site.

The solution suggested will reduce fraud problems while providing a cost effective, scalable method of EMV enabling a forecourt.

EMV And Smartcards

The ease with which traditional magnetic stripe cards are subject to fraud has led to a worldwide initiative from the major credit card companies. Europay, Mastercard and Visa (EMV) have developed a common standard for smartcards and have defined and announced timelines for liability shift. Those merchants not supporting the standard within the appropriate timeframe will then be liable for fraud, as opposed to the credit card companies.

The liability shift makes the migration to EMV smartcards effectively mandatory, due to the sheer level of costs involved from fraudulent behaviour. This represents the largest single upheaval in methods of payment since the widespread introduction of magnetic stripe cards.

In a forecourt environment, the EMV mandates require smartcard processing capability at the pump. This raises the issue of being forced to replace the entire retail automation system, just to enable EMV card processing at the pump. Such a cost, even across a relatively small site base is expensive both in terms of new systems and in the lost investment in existing equipment.

The ideal solution, then, is to deploy new EMV payment systems on the forecourt and within the C-store – while at the same time

preserving the legacy pump control, C-store management systems and back office reporting.

Migration With Minimum Upheaval

Many legacy POS systems provide support for Driveway Card Acceptors (DCA) on the forecourt that take control of the pump communications when required. An example of such a system is the PEC Autoserve that was widely deployed on commercial forecourts across Australasia in the 80s and 90s. The PEC pump protocol messages have special fields within them that facilitate the joint control of the dispensers on the forecourt by both a DCA and an integrated POS system.

Utilising this latent capability, it is practical to deploy a pump control system such as the ITL Enabler to service the needs of the EMV payment terminals, while preserving the C-store systems, POS with integrated fuel post pay and back office reporting with little or no modifications to the legacy systems.

SmartPay@ Pump

R&D Technology Solutionz have developed a solution utilising the ITL Enabler to allow the introduction of EMV terminals on to a forecourt. The solution, known under the brand name “SmartPay@Pump” consists of the EMV terminals on either a LON or TCP/IP network, with an R&D Technology Solutionz RF Manager providing the connectivity to the POS.

An application for the ITL Enabler provides PEC Pump Control emulation to the legacy pump controller, while providing access to the pump control via the Enabler itself. Under POS control, the pump commands are routed via the PEC Pump control emulator to the Enabler that provides the pump control services required by the POS system. Under EMV terminal control, the EMV terminal interacts directly with the Enabler for the pump control – with the PEC Pump Control emulator setting the “On Autoserve” status in the pump control message. With the “On Autoserve” status set, the legacy pump controller is able provide feedback to the

POS operator as to the activity on the forecourt and to reconcile the pump delivery totals both from the EMV terminals and from its own POS operation.

Under this solution, the only change required at the legacy system is to configure the pumps, regardless of actual type, as PEC dispensers. Please refer to Figure 1.

SmartPay@Pump Benefits

The SmartPay@Pump approach represents a number of significant benefits:

1. A rapid and low risk means of deploying EMV payment systems with legacy POS systems.
2. The original investment made in POS, C Store Management, and Back Office systems is preserved. Changes to these areas of operation are minimised and effectually “uncoupled” from the EMV migration strategy.
3. The phasing of the total systems change can be achieved and implemented over an extended period of time. Not only allowing for the sweating of existing retail automation assets, but also minimising the risk associated with the deployment of complex solutions and the subsequent changes required to both training and support infrastructure.

Rapid Smartcard Solutionz

Rapid Smartcard Solutionz (RSS) is a wholly owned subsidiary of R&D Solutionz. RSS has been established to commercialise the intellectual property and experience of R&D Solutionz in contactless card payment systems including EMV.

RSS’ focus is on innovative solutions for new and legacy oil industry technologies, including POS and Pay@Pump strategies.

RSS has a suite of market proven products and interoperable components that can be used on forecourts globally.

Contact

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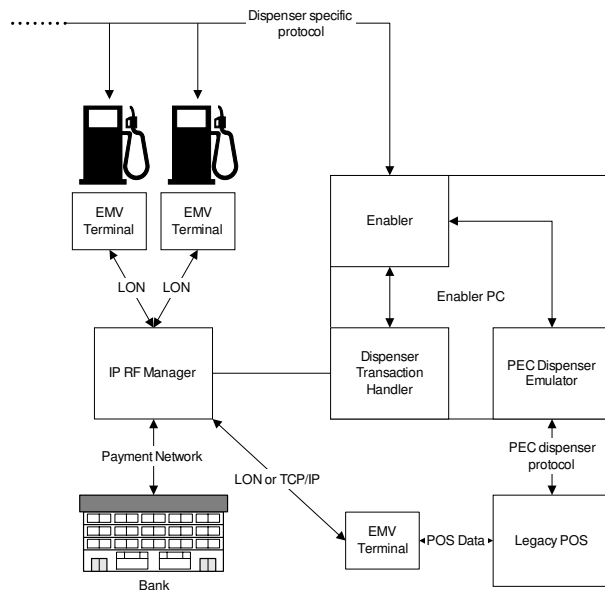


Figure 1 – EMV Architecture