

# Pine Labs

## Fleet Card Management System

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### **Solution Overview**

Version 1.0

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## Introduction

### The advent of fleet cards

Fleet card programs originated in the 1970s as a way for fleet operators to extract fuel price discounts from a preferred network of filling stations. Fleet owners issued a signature card to their drivers, and the pump operator would record transactions manually, submitting a consolidated bill to the fleet owner at the end of the month.

In the 1980s, fleet card systems shifted to electronic management networks, utilizing magnetic stripe cards for greater speed and efficiency. The introduction of smart chip technology further expanded the reach of fleet card systems to offline filling stations, and enhanced the security of transactions. Modern fleet card management systems offer a host of value-added benefits to fleet owners. Yet the basic premise of tying large fleet owners to a preferred petroleum company still holds.

### Key Benefits of Fleet Cards

#### Price Discounts

- Discounted fuel prices for high aggregate volumes
- Additional reward schemes can provide additional incentives for fleet operators and/or drivers

#### Enhanced Security

- No need for driver to carry cash, reducing driver fraud
- Electronic authorization reduces pump operator fraud
- Operator can set limits to enforce fueling strategy
- Driver privileges can be revoked or reset in real-time

#### Reduced Administrative Burden

- Real-time alerts of suspicious transactions, break down, low balances etc.
- Consolidated statements facilitates tax recovery
- Scheduled vehicle maintenance reminders
- Reporting of vehicle utilization, fuel consumption
- Prevents Driver disputes and automates reconciliation

## Advantages of Pine Labs Fleet Card Management System

Choosing the right fleet card system is therefore a critical decision for any petroleum company. As *Fleet News* reported in its July 2008 issue, over a quarter of fleet managers are unhappy with the level of service offered by their fuel card supplier.

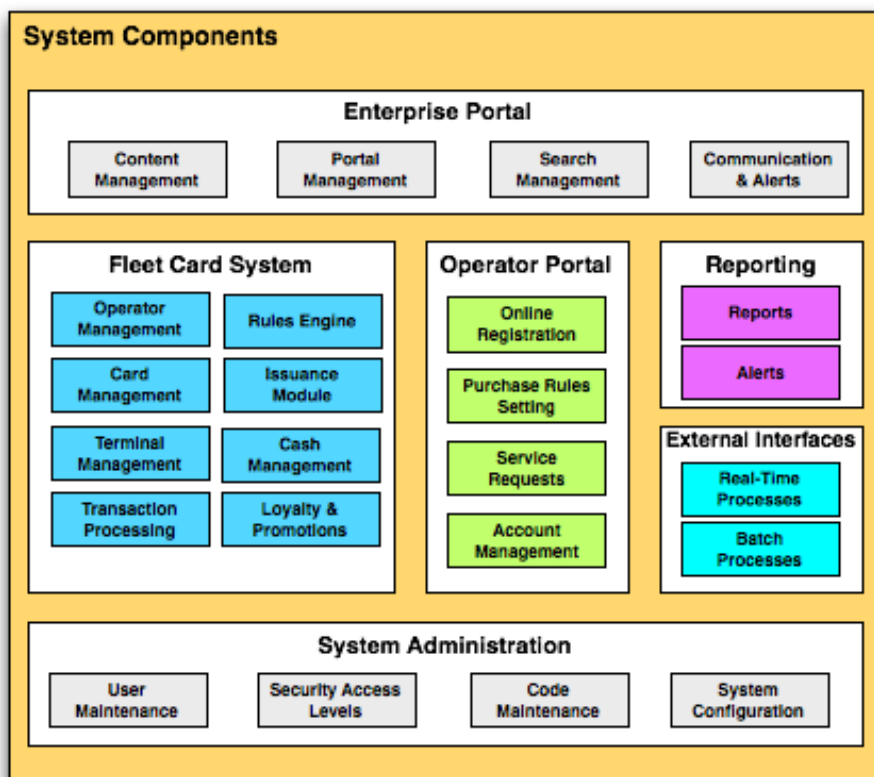
Pine Labs *Fleet Card Management System* is a best-in-class solution for any large or small petroleum company. Operating since 2004, Pine Labs provides both fleet and consumer fuel card systems for the largest Fuel Card programs in India. We have deep expertise in building and maintaining a comprehensive solution for national haulage companies, government organizations, as well as small independent operators.

Pine Labs currently manages the Fleet Card System for 3.5 million cardholders, at 10,000 outlets, processing 80 million transactions annually. As the Indian market leader, we combine a track record of installing and managing a robust technology platform in the challenging environment of an emerging market with unparalleled feature richness demanded by our end-users.

- **Online account management system**
- **Purchase control limits – driver level**
- **Vehicle identification and tracking**
- **Easy-to-use web interfaces**
- **Automated daily, weekly and monthly Fleet Operator sales reporting**
- **Real-time alerts on driver and vehicle status**
- **Flexible architecture supports magnetic stripe cards, smartcards, vehicle RFID tag**
- **Integrates with any fuel station architecture – offline and online; EDC or OPT or CRIND**
- **Extensible to Loyalty and Promotion Program**
- **Integrated with SAP for automation of accounting reconciliation**

## Features and Functionality

Pine Labs Fleet Card Management System is a holistic platform, providing an end-to-end solution on flexible technology architecture.



### Account Management System

The Account Management module is at the core of the Fleet Card Management System. It simplifies and secures the management of payments between Fleet Operator, Driver and Petroleum Company.

The Petroleum Company authorizes registration of a new Fleet Operator account, and controls fuel discounts. Fuel discounts can be set and configured based on aggregate monthly volumes, types of transaction (fuel grade, oil, lubricants), transaction amount, and driver or driver group.

Cash management can be administered on a postpaid model, wherein each Fleet Operator receives consolidated billing invoice at the end of a predefined billing cycle.

Alternatively, the system supports the prepaid model, wherein each registered Fleet Operator funds their primary account through check, credit card or ECS payment, and then distributes funds to individual driver sub accounts. The system maintains the driver-level balance, and proactively alerts the Fleet Operator when a driver's account slips below

a configurable balance limit. Funds can be shifted between accounts as necessary to respond to changing fleet requirements.

Every administrative accounting action is controlled user maker/checker rules, which ensures that supervisors have final authorization for any fund flows.

Fleet Operators can erect multiple hierarchies of account structures at the national, regional, state or divisional level to delegate account administration to the proper locality, and to align fleet card reporting with internal accounting structures.

As mentioned in Transaction Processing below, the system automatically applies applicable local taxation rules and issues statements with separate line item records for each.

### Centralized Purchase Controls

In addition to cash management, the Fuel Operator can configure transaction rules at the driver level to ensure fueling efficiency. Fueling limits can be set by:

- Geographic location of petrol outlet

- Volume allowed per transaction
- Volume allowed per day
- Volume allowed per week
- Number of transactions allowed per day
- Number of transactions allowed per week
- Days of the week card can be used
- Times of the day card can be used
- Fuel grade and product type
- Number of incorrect PIN entries allowed
- Card lock-out period after incorrect PINs

## Cardholder Lifecycle Management

Pine Labs provides end-to-end cardholder management, from customer enrollment and card production, through account management and termination. Recognizing the need to adapt technology to local circumstances, our system is designed to run on either magnetic stripe cards or smartchip cards – depending on the needs of each customer.

In markets enjoying connectivity at the petrol station (TCP/IP, GPRS, VSAT), a online solution using magnetic stripe cards is optimal. It reduces the card of issuance, and provides secure transaction processing between the card and the central transaction processing Host.

If however online connectivity cannot be guaranteed at outlets, a smartcard program provides secure offline transaction processing between the Card and the Reader Terminal.

At enrolment, driver and vehicle personalization data is registered on the Host system and loaded onto magnetic stripe card or smartcard. Smartcard security is sustained using SAM (Secure Access Module) cards with 16 digit key injection, personal PIN issuance, and 3DES algorithmic encoding is used to secure transaction communication between Card and Reader.

The system provides Driver account management via online interfaces. Users can conveniently perform various administrative actions, either in real-time (online system) or in near real-time (offline system):

- Temporary hotlisting and dehotlisting of lost or stolen cards
- Driver and vehicle profile data updation
- Card re-issuance
- Permanent hotlisting

In the case of an offline smartchip solution, rules are set such that both the Card and the Terminal Reader are required to synch with the Host in regular intervals; unsynched Cards and Terminals are blocked from completing further transactions. This ensures that Hotlist lists, Balance transfers, and Driver rules are updated in near real-time.

## Secure Transaction Processing

Pine Labs Fleet Card Management System controls various transaction types at the petrol station. The transaction can be processed offline (transaction processed between Card and Reader Terminal) or online (transaction processed between Card and central Host), depending on outlet infrastructure.

Smartcard transactions are processed using 3DES encryption and two-way key identification between Card and Reader to eliminate risk of “sniffing” and data breach.

The system utilizes automatic reversal logic to handle exceptions between Card, Reader or Host, thereby eliminating need for manual reconciliation and settlement.

The following transactions are supported:

- Sale
- Pre-authorization
- Void
- Balance Enquiry
- Offline reload (driver initiated reload)
- Online reload (Fleet Operator initiated reload using cash management system)
- User PIN Change
- Balance Transfer
- Point Enquiry, Point Award and Point Redemption (if paired with Loyalty Program)

Each transaction records fuel grade, product type, price, volume, and taxation, based on petrol station location and configuration.

## Terminal Management

In our experience, Petroleum Companies operate various technology architectures across their network for fuel stations. Therefore, our Fleet Card Management System is designed for interoperability with any architecture. It supports card acceptance via stand-alone EDC-based Reader Terminals; integrated EDC Terminal with Outdoor Payment Terminals; and integrated Card Reader in Dispenser set ups.

Once a fuel station is registered on the network, the Petroleum Company user sets price, taxation, velocity checks and limit setting on the central Host. At the same time, the Fleet Operator can set card acceptance at that outlet - at the program level, sub group or individual driver level.

Each Terminal can only be accessed by an authorized pump operator using login and PIN – this ensures every transaction can be traced back to an individual operator. Permissions can be set at the operator level, to ensure exceptional transactions (for example, Void, Point Redemption) are handled by appropriate operator.

Terminals regularly synch with the Host, either at daily settlement (offline mode with daily dial up for settlement) or

in real-time (online mode) to receive updated rules regarding price, limit setting, and card acceptance.

### Real-Time Alerts and Velocity Checks

One critical advantage of an electronic fleet card management system is the ability to streamline operations and administrative tasks. These alerts serve both the Petroleum Company's operating team, as well as the Fleet Owners participating in the program.

Real-time alerts play a critical differentiator. Our system supports SMS, email and web interface alerts that are tailored to each Users responsibilities. Alerts are configured to User requirements and typically include:

- Suspicious behavior – any velocity check invoked
- Low balance on Card
- Low balance on Account
- Vehicle status change
- Scheduled maintenance reminders

Moreover, Fleet Operators can deliver messages to drivers printed directly on the next charge slip delivered to the driver. This provides an additional fail-safe communication channel to drivers out of reliable mobile network range.

Velocity checks are system-imposed rules that block suspicious Card, Terminal or User activity. Checks are configurable parameters and include:

- Terminal settlement – block if not settled after specified number of transactions and after specified number of hours
- Card synch – block if not synched with Host after specified number of transactions and after specified number of hours
- Card usage – block if transactions exceed specified volume and specified number of transactions
- User access – block if User has not logged in specified time period

### In-Depth Reporting

Reports are generated by the system both for Petroleum Company and for Fleet Operators. Reports can be on-demand (triggered by a User using web interface) or static (delivered via email at specified intervals). Static reports include:

- Daily reports
  - Daily sale by Fuel Station
  - Transaction report by Fuel Operator for sale and load
  - Balance report by Fuel Operator
  - Open batch and closed settlement report by Fuel Station and Terminal
  - Open and processed issuance report
- Weekly and Monthly Reports

- Sales data by Fleet Operator, by Fuel Station, by Product
- Fleet Operator statement, consolidated and by Card
- Fuel Station sales report by Product and by Fleet Operator
- Hotlist entities data
- Enrollment fee refund
- Card Issuance count

- Miscellaneous

- Quarterly Statements
- Quarterly Balance by Card
- Inactive Card report
- Fee Refund report

### Customer Contact Centre

Service is a key differentiator in any fleet card program. The ability to quickly and accurately respond to queries and requests from valuable customers is critical. Pine Labs Fleet Card Management System provides a complete Contact Centre management module, using intuitive web interfaces to the central Host and quick retrieval of relevant data. User access is defined based on permission levels, which ensures that responsibilities are allocated only to authorized Users.

### Vehicle RFID Tagging for Secure Dispensing

Pine Labs Fleet Card Management System supports the most advanced fueling solution, a closed-loop "locked" dispensing system based on vehicle RFID identification.

The challenge is to identify and fuel each vehicle automatically, without possibility of human intervention and tampering. This is accomplished through unique tagging of each vehicle and each pump nozzle: The Vehicle is identified using an RFID tag that is secured to the fuel tank inlet. This tag records all pertinent data about that particular vehicle. The Dispenser is identified using a similar tag that sits on the nozzle of the fuel pump. To complete the fueling process, a wireless reader is inserted between the nozzle and vehicle tags – this reads the tags and authenticates the 'lock' between pump and vehicle. The wireless reader transmits data back to the forecourt controller, essentially the 'brain' of the petrol station. The controller sets the price, fuel grade, and enforces limits based on each vehicle, and links up back to a central Host System.

Based on each vehicle's unique identifier, fuel is priced, dispensed and billed, with complete transparency for the Driver and the Fleet Owner.

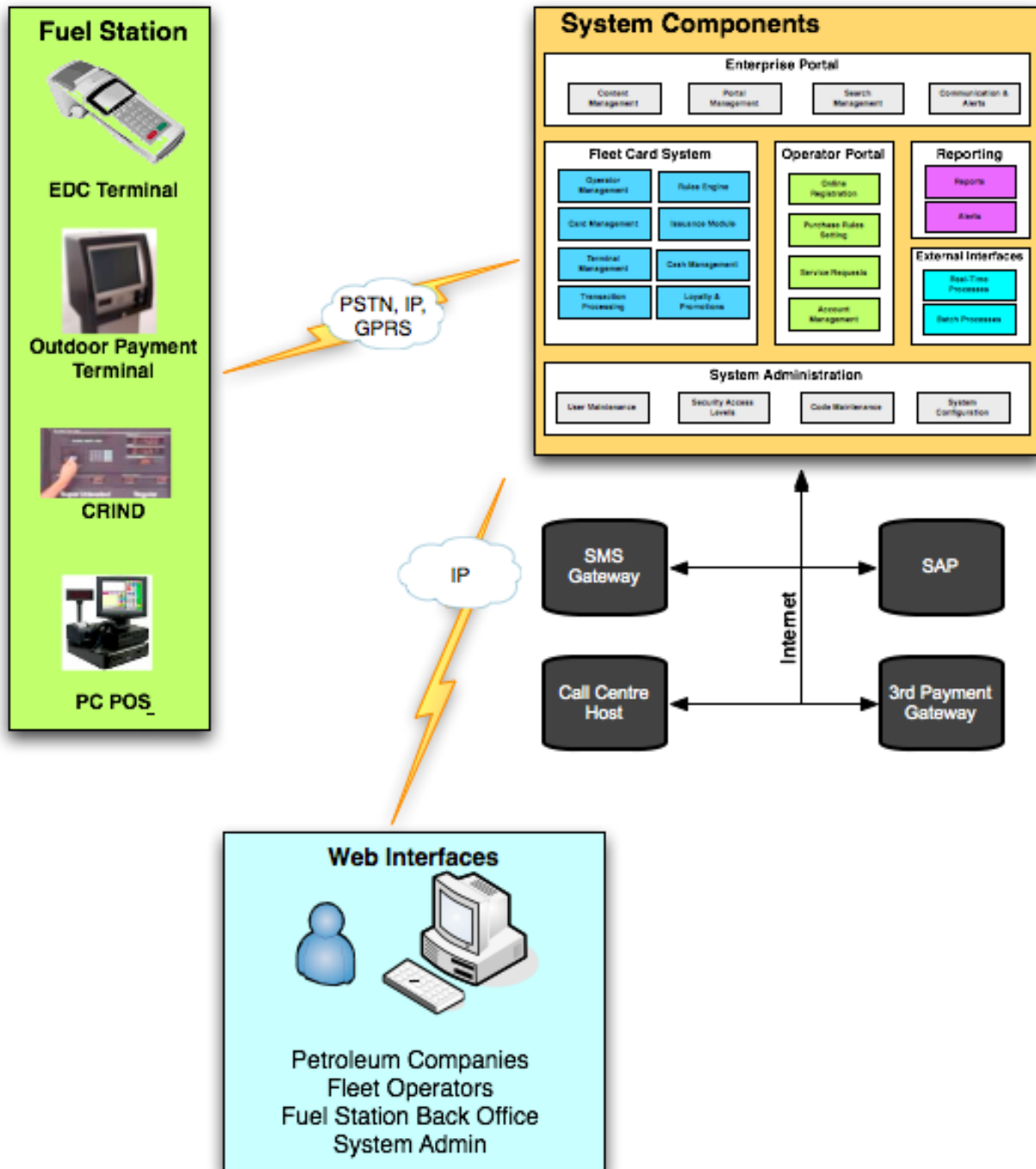
### Integrated Loyalty and Promotions Program

Pine Labs Fleet Card Management System is integrated with a holistic loyalty and promotion program. This enables Petroleum Companies to extend extra value to their preferred Fleet Operator customers – either at the Operator or the Driver level.

Petroleum Companies can choose from point reward programs, discount programs or promotional messages. Each transaction can generate award based on Card, Customer Segment, Cumulative Purchases, Location, Transaction Amount, Product Type, Fuel Grade, Time of Day, etc. This helps the Petroleum Company to extract the most profitable behavior from Drivers, for example, fueling in particular times of the day, or frequenting new fuel stations. Drivers can redeem points either at the fuel station or through a backend reward catalogue, managed by Pine Labs.

Moreover, Petroleum Companies can deliver targeted promotions to drivers. Messages can be sent either via SMS or printed directly on the Driver's next charge slip. This opens another channel of communication with Drivers, for example to advertise new fuel stations or promote new product lines. Promotions are redeemed securely at the Fuel Station via the Driver's Card.

## Fleet Card Management System Architecture



## Technical Specifications

<b>Server:</b>	
Operating System	Windows 2003 Enterprise or Solaris 8
Processor	Quad processor upwards of 3 GHz each
Memory	8GB and above
Disk Space	100 GB and above
<b>Client:</b>	
Operating System	Windows 2000/XP
Processor	500 MHZ or above
Memory	128 MB or above
Disk Space	50MB or above
Software	Internet Explorer 6.0
<b>POS:</b>	
Hardware	EDC: Gemalto MagiCube; Ingenico UniCapt; Verifone Vx PC POS: Windows OS with Card Reader and Windows generic printer OPT: Verifone OP 4100
Memory	2 MB or above
<b>Smart Cards:</b>	
Standard	Smartcard: ISO 7816 1-5
Memory	4KB or above
<b>Network Connectivity:</b>	
PC POS Or EDC Terminal Or OPT	PSTN Or LAN Or GPRS Or CDMA
Server	TCP/IP

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