GASBOY

Advanced technology

Proven solutions.

Islander PLUS

Fuel Point PLUS

Gasboy® PLUS Series Fleet Management Systems

The Gasboy PLUS series is a new generation of fleet management systems for today's operators. They're the heart of your turnkey Gasboy fleet solution, with choices to get what you need today and build your system as your operation grows. Gasboy and technology partner Orpak® bring you world class performance in the PLUS series fleet management systems. All Gasboy products are supported by the world's largest network of fleet product distributors and authorized service contractors. Superior technology and proven solutions add up to a better tomorrow.

Complete solutions from a single supplier.

You don't have to construct your own system from different suppliers and take chances on compatibility and responsibility. Success is simple with turnkey solutions from Gasboy, a trusted supplier to fleet operators for more than 80 years.

Fleet Head Office is Gasboy's web-based, enterprise-wide software that consolidates data from multiple sites and generates superior management reports.

- > Manage your operation from anywhere: the office, home or on the road.
- > Customizable reports are easy to configure to your specific needs.
- > Schedule proactive vehicle maintenance based on accurate and timely information.
- > Set restrictions for specific vehicles or drivers per day/week/month, geographic location, fuel type and more

CFN™ PLUS is Gasboy's new generation web-based site controller. It's the heart of your total, turnkey Gasboy solution for fleet and commercial (non-payment) applications.

- > Interfaces seamlessly to Fleet Head Office, Gasboy Atlas® dispensers, ICR PLUS, FuelPoint® PLUS and more
- > Hardened for the tough outdoor or indoor environment of fleet operations

ICR PLUS is Gasboy's island card reader for use with CFN PLUS. It supports multiple access technologies, including web-based and contactless systems.

- > Lighted terminals available 24/7/365 for unattended sites
- > Cost-effective way to offer functionality at multiple fuels islands at the same location

Islander™ PLUS combines the functionality of CFN PLUS and ICR PLUS in a single package hardened for the fuel island.

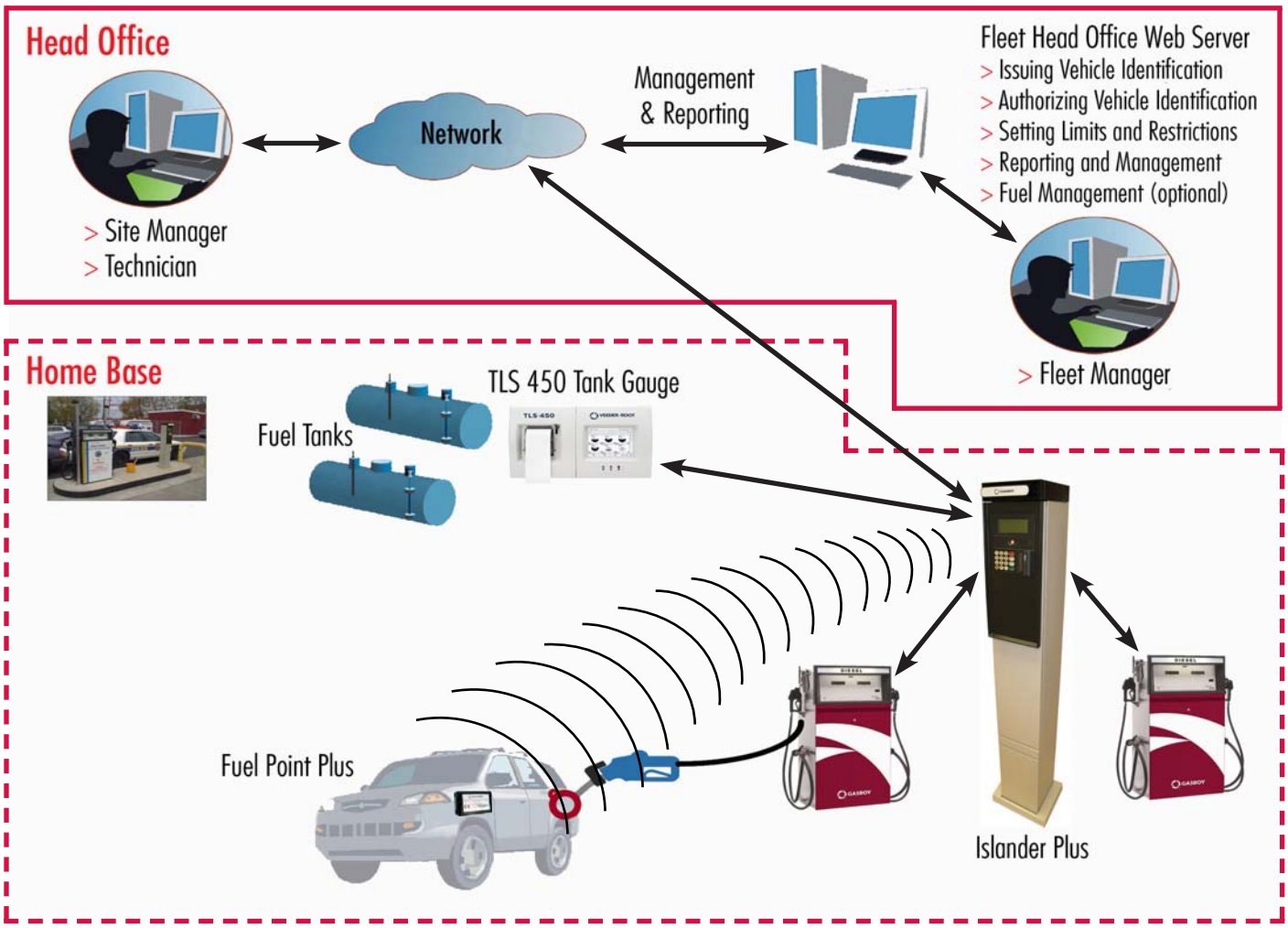
> Cost-effective way to offer functionality at sites with a single fuel island
> Lighted terminals available 24/7/365 for unattended sites
> Supports multiple access technologies, including web-based and contactless systems

FuelPoint® PLUS is the industry's only truly wireless vehicle identification system. Gasboy's highly secure, hands free, wireless vehicle identification, authorization and control system uses radio frequency identification.

> Tamper resistant components assure nozzle is inserted into an authorized vehicle before fueling
> Vehicle module provides accurate odometer readings and other information directly from the vehicle bus, eliminating human error
> Eliminates the need for keys, cards, or vouchers that can get lost or be misused

Fuel Truck Controller is a mobile fueling system that brings fleet fueling to heavy or stationary equipment from a tanker truck. It's fully compatible with the other Gasboy PLUS series so that transaction information stored on the Fuel Truck Controller uploads into the Fleet Head Office when the tanker truck returns to the fuel island.

> Extends your fleet management system to stationary equipment
> Adds mobility to your system
> Fully compatible with site controller and fuel island parts of the system



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See it. Analyze it.
Optimize it.

Control every detail, every day with Islander PLUS.

Data is your most powerful tool for building efficiency, creating consistency, and keeping costs down. So we built Islander PLUS to deliver it all, combining the CFN PLUS fuel controller and the ICR PLUS fleet card reader into one powerful package that gives you precisely the connectivity and control you need. But we didn't stop there.

Islander PLUS can also process that data in just about any way you choose and deliver it to you and your staff wherever you happen to be. So you'll get the whole picture. Not to mention a whole new level of efficiency and savings.

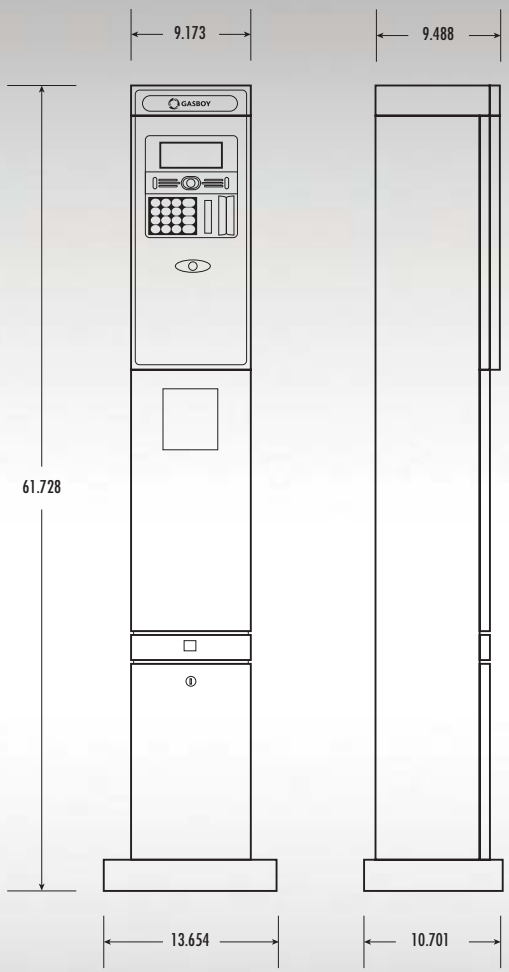
Track costs more precisely with a seamless connection to Gasboy Fleet Head Office.

Collect data without slowing down your operation with support for multiple access technologies, including web-based and contactless systems.

Stay up and running 24-7 with lighted terminals and secured access for unattended sites.

Are you ready to see more? Talk to your sales rep or visit **www.gasboy.com** to see what Islander PLUS could do for you.

Hardware



Dimensions are in inches.

Data Entry Options/Access Control

Piezoelectric keypad, magnetic card reader, mifare card/tag reader, HID reader, Vehicle/Driver Identification System (Fuel Point PLUS), and dual Fleetkey readers. Available optional ruggedized thermal printer for purchase receipts printout.

Dispenser Connection Options

Islander PLUS can control up to 8 mechanical hoses or up to 64 electronic hoses. Supports over 50 different types of dispensers in use in many countries.

Communication Options

Support of large variety of communication links: cellular, dial-in modem, VPN, satellite, ADSL, wireless ethernet and more.

Central Controller

Embedded hardware platform designed to withstand the harsh fueling environment. It runs on an embedded operating system and uses a solid state Flash disk and RTC (Real Time Clock) with back-up, along with surge suppressors for transient and noise immunity. Power fail recovery mechanisms included.

Additional Hardware Features

- Weather-proof enclosure in order to sustain the harsh environment of a Home Base Station
- Secured remote capabilities for monitoring, management and maintenance activities
- Serial and Ethernet interface to Automatic Tank Gauge systems using the Veeder-Root Serial Interface Command Protocol
- Advanced electronic support of mechanical dispensers, enabling pump with totalized, preset and price update

Software

Remote Web Access
Monitor, manage and maintain the Islander PLUS from anywhere. Web Access makes remote and secure management possible. No special management software is necessary. All you need is a standard PC with Internet. The technology is already integrated into the station controller.

Head Office
Fleet Head Office consolidates the data from multiple sites, centralizes management and generates reports, including exception reports. It also enables control of the limits and restrictions placed on the various fleet vehicles. And authorized fleet personnel are able to log-in remotely so they have the ability to control and manage wet stock inventory on all stations including orders, deliveries and reports.

Restrictions and Limits
We make it easy to control a fleet's fuel expenses. By defining limits (day, week, month), maximum number of refueling (day, week, month) and setting restrictions (days of the week, fuel type, stations, time intervals), you can maximize profitability. And when you have multiple sites, the centralized Fleet Head Office can synchronize data so that the limits can be applied to all of your sites. Even in the case of communication failure, a site will be able to refuel for a predefined grace period (parameter) using the most recent limits stored in its database.

System Reports

The Islander PLUS application provides a highly flexible report utility for producing a wide range of data reports. So fleet managers and head office managers can review fueling transactions from different aspects and ascertain balance between sales and buys, fleet expenses, vehicle performance and more.

Two different types of reports are available:

Custom Reports
Enable the user to generate reports performed in the location by the following profiles:
- **Transactions:** Sums up transaction details in order and broken down by the selected field
- **Products:** Sums up all data in the report by product, containing total transactions amount and quantity sold
- **Payment Mode:** Sums up all data by payment whether Customer, Credit or Cash depending on the application settings

Export Reports
Enable the user to generate and export records of the transactions performed in the location by the following parameters:
- **Date range**
- **Transactions:** Differentiate by field name, format, width and precision
- **From last export**

Users can transfer the report in CSV, text or XML. They can set the delimiter, the decimal point notation and column names. The format column enables users to define specific formats, such as: date and time, left justification and zero padding for numbers. The reports can run manually or automatically. If they run automatically, the storage location is either FTP or Local Directory.

Real Time Fueling

Real Time Tank Level

Real Time Reporting

ISLANDER PLUS - PEDESTAL WITH UP TO:	ELECTRONIC; 4 MECHANICAL PUMPS	8 MECHANICAL PUMPS
Name	Islander PLUS	Islander PLUS
Supply voltage	100/240 VAC	120/240 VAC
Power consumption	2A max	2A-1A max
Operating temperature	-22 °F to +113 °F (-30 °C to +45 °C) -4 °F to +113 °F (-20 °C to +45 °C) (Option with printer)	-40 °F to +104 °F (-40 °C to +40 °C) -4 °F to +104 °F (-20 °C to +40 °C) (Option with printer)
Storage temperature	-40 °F to +158 °F (-40°C to +70 °C)	-40 °F to +158 °F (-40°C to +70 °C)
Humidity	80% non-condensing	80% non-condensing
Dimensions	9.45"W x 61.02"H x 9.45"D (24x155x24 cm)	9.45"W x 61.02"H x 9.45"D (24x155x24 cm)
Communication interface	RS-485 – 9600bps, Half-Duplex RS-232 Ethernet RJ-45 – 10 Mbps EIA 802.15.4	RS-485 – 9600bps, Half-Duplex RS-232 Ethernet RJ-45 – 10 Mbps EIA 802.15.4
Pump control maximum current (4 solid state Relay Channels)	Motor maximum: 1 HP at 115 VAC or 2 HP at 230 VAC. Additional external relay must be used if pump motor exceeds these limitations.	Motor maximum: 3/4 HP at 115 VAC or 1.5 HP at 230 VAC. Additional external relay must be used if pump motor exceeds these limitations.
Power supply output voltage to pulsar unit	12 VDC +/- 20%	12 VDC +/- 20%
Pulsar supply maximum output current	80 mA max	30 mA max
Pulsar input high level voltage	9 to 15 VDC	9 to 15 VDC
Pulsar input high level sink current (@15V)	3 mA	3 mA
In-use "on" level (input)	100-240 VAC, 50/60Hz, 2 W (20 mA)	100-240 VAC, 50/60Hz, 2 W (20 mA)
In use "off" level (input)	0 to 20 VAC	0 to 20 VAC

*Download full bid & spec on **www.gasboy.com**.*
View Islander PLUS video demo.

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Real control.
In real time.

Fleet Head Office

In the fleet environment, information is power. It's the key driver that enables you to solve problems instead of reacting to them, to make an informed decision instead of an educated guess. And Fleet Head Office gives you access to more information in more places than any other fuel and fleet management application. It's the only system that provides remote, web-based access to real-time data and reporting. Every site, every vehicle, every minute of every day.

Fleet Head Office also gives you more ways to take action. A powerful, secure web interface lets you manage your fleet, fuel and sites, and set rules for individual components or the entire operation—anytime, anywhere.

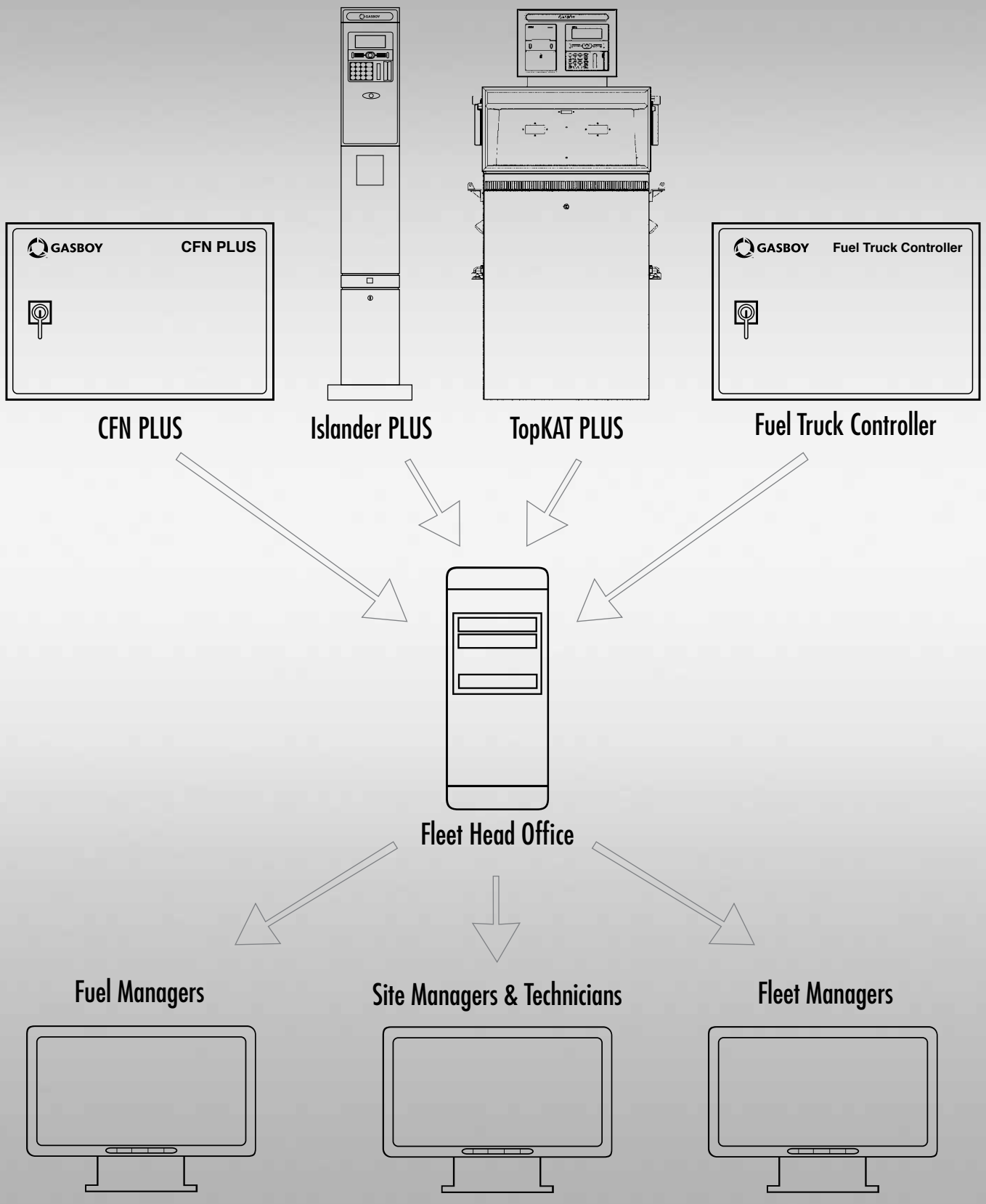
Real-time monitoring and reporting provides centralized access to up-to-the minute data and reports for each fleet, including vehicle and driver reports, efficiency performance, exception reports, usage reports, transaction reports and more.

Complete control from anywhere enables managers to set detailed limits and restrictions, authorize vehicles and components, and more. All with tight, customizable control over system permissions and access levels.

Unbeatable data security and reliability, that keeps your data safe by transmitting it to the head office in real time. A secure login process and architecture that uses your existing LAN system instead of dial-up modems provide additional peace of mind.

Are you ready to see what the power of real-time data could do for your fleet? Talk to your sales rep or visit **www.gasboy.com** to see what Fleet Head Office could do for you.

System Architecture



Fleet Management

The main Fleet Head Office module provides a centralized point of control for fleet managers, including:

- **Centralized reporting per fleet** that includes vehicle and driver reports, exception reports, usage reports, transaction reports and more
- **A secure web interface** that provides administrators with detailed control over access and permissions for each fleet manager
- **System administrator mode** that enables administrators to control the entire application, including setting up new accounts, new fleets and new vehicles using a single, central database
- **Advanced authorization mode** enables selected fleet managers to perform detailed management over the web, including the ability to:
  - Limit volume, dollar amount and number of fueling visits by day, week or month
  - Restrict fueling to specific times of day, specific days of the week, specific locations, and each vehicle's required fuel type
  - Create and enforce positive (white) and negative (black) lists
- **Online or offline operation** offers maximum flexibility and enables administrators to limit the time period during which a facility can authorize vehicles in offline mode
- **Advanced third-party integration** makes it easy to transfer data between Fleet Head Office and third-party systems

Fuel Management

The Fuel Management System (FMS) module collects data from a variety of sources, then combines it into a central point of control for fuel managers. The data collected by the FMS includes:

- **Fuel alarms** from tank level gauges and location controllers
- **Fuel transactions** from location controllers
- **Fuel deliveries** from tank level gauges and location controllers, as well as manual entries from fuel management modules
- **Periodic readings from pumps and tanks,** which can be taken at preset intervals of minutes or hours
- **Location controller end-of-shift data** (mandatory for some reconciliation reports)

The FMS combines this data into a complete overview of fuel status and fuel levels from every tank across every location, then displays it using an easy-to-read, color-coded grid system. The display is easy to customize to each user's needs, with features like:

- **Overview mode**, which enables users to view information about several locations in one screen. Users can filter to view only the locations in a specific group, only locations with alarms, and more
- **Detail mode**, which displays detailed information about a single location, including temperature, water level, density, and more

The FMS also uses the collected data to perform a variety of automated management functions, including:

- **Fuel inventory management** using an automatic feed of wet inventory data at each location, including fuel level, water level, temperature and tank density for each tank. The FMS also monitors for new tanks, new fuel types, and more
- **Reconciling of fuel orders to deliveries,** which enables detailed tracking to minimize losses and maximize efficiency
- **Online alarms** to alert managers to critical fuel levels, leaks, overfills and other events. Alerts can be sent through email or SMS, and alert screens can be linked directly to fuel order forms
- **Reporting and management** provides access to a variety of sales, stock and reconciliation reports at either the company or location level

Specifications

SINGLE LOCATION

ITEM	REQUIREMENT
CPU	Intel Core Duo 2200 MHz
Memory	2 GB min.
Hard Disk	1 x 120 GB IDE/SATA min.
Network Card	10/100 Mbps
Display	SVGA 1024 x 768 pixels min.
Network	10/100 Ethernet Interface Card
Operating System	Windows XP SP3 Windows 7 32-/64-bit Windows 8 32-/64-bit
Ports	1 x USB Port
Applications	Microsoft Internet Explorer 7 or above Adobe Flash Player 9 or above .NET Framework 4.0 or above Java – current version Windows Installer 3.5 or above

Specifications

UP TO 20 LOCATIONS	
ITEM	**REQUIREMENT**
CPU	Intel Core 2 Duo 3000 MHz
Memory	4 GB min.
Hard Disk	2 x 120 GB IDE/SATA (10,000 rpm) min.
Network Card	10/100 Mbps
Display	SVGA 1024 x 768 pixels min.
Network	10/100 Ethernet Interface Card
Operating System	Windows Server 2003 SP2 32-bit Windows Server 2008 SP1 32-/64-bit Windows Server 2012
Database	a) Microsoft SQL Server 2005/2008/2012 Standard Edition b) Client license per user
Applications	Microsoft Internet Explorer 7 or above Adobe Flash Player 9 or above .NET Framework 4.0 or above Java – current version Windows Installer 3.5 or above
Ports	1 x USB Port
Backup	As defined by client IT management

Specifications

MORE THAN 20 LOCATIONS (DATABASE SERVER HARDWARE CONFIGURATION)

ITEM	REQUIREMENT
CPU	Intel® Xeon® E5-2620 4 Core – 2.0 GHz
Memory	32 GB – DDR3
Hard Disk	500 GB – RAID 0+1
Display	SVGA 1024 x 768 pixels min.
Network Card	1G
Operating System	Windows Server 2008 – 64-bit Windows Server 2012 – 64-bit
Database	a) SQL Server 2008 R2 – 64-bit edition or SQL Server 2012 b) Client license per user
Backup	As defined by client IT management
Ports	1 x USB Port
Virtual Machine	The applications can be installed on a virtual machine. Due to HASP limitations, one copy of the software may be installed on a single server

Specifications

MORE THAN 20 LOCATIONS (APPLICATION SERVER HARDWARE CONFIGURATION)

ITEM	REQUIREMENT
CPU	Intel® Xeon® E5-2620 4 Core – 2.0 GHz
Memory	8 GB – DDR3
Hard Disk	250 GB
Network Card	1G
Display	SVGA 1024 x 768 pixels min.
Operating System	Windows Server 2008 – 64-bit Windows Server 2012 – 64-bit
Applications	Microsoft Internet Explorer 7 or above Adobe Flash Player 9 or above .NET Framework 4.0 or above Java – current version Windows Installer 3.5 or above
Backup	As defined by client IT management
Ports	1 x USB Port
Virtual Machine	The applications can be installed on a virtual machine. Due to HASP limitations, one copy of the software may be installed on a single server

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GASBOY Fleet and Fuel Management BID SPECIFICATIONS

1.0 General Requirements

System manufacturer must have a minimum of ten (10) years' experience in the design and manufacture of fuel management equipment.

The proposed system must conform to ISO 9001:2000 standards for quality management systems. System shall be UL and cUL approved.

The system must be expandable for future expansions in the number of: fuel sites, vehicles, drivers, dispensers and nozzles.

System shall be Gasboy PLUS System or approved equal

2.0 Fueling Procedure

The system shall allow automated and manual fueling.

In the fully automated mode, all control, authorization and accounting operations will be conducted automatically by the fuel management system with no manual input required by the operator using the fuel facility.
The automated fueling procedure shall be as follows:
The system shall automatically identify the vehicle when the fuel nozzle is inserted into the vehicle's fuel inlet.

The system shall turn on the corresponding fuel dispenser only if the vehicle is authorized for fueling as determined by the site controller set of conditions as described hereafter.

The system shall automatically suspend fueling if the nozzle is removed from the vehicle fuel inlet or no pulses are detected from the fueling pump. The system shall append to the same transaction if the nozzle is re-inserted into the same vehicle within a specified period of time. The transaction shall be terminated if the specified period of time elapses or if the dispenser is turned off.
When vehicle data modules are installed, the controller shall store the fuel transactions, odometer reading and engine hour.

The system shall also have the capability to capture other vehicle data such as idle time, speeding, distance, PTO, oil level and pressure, two auxiliary engine hour timers, engine temperature, tire pressure, fuel consumption and fuel level, a sudden drop in fuel level, and other On-Board Diagnostic (OBD) vehicle error codes into a centralized management and reporting system.

In manual fueling, a contactless Mifare tag or Mifare card and/or Magnetic stripe card and a keypad shall be available as alternative method for initiating a fueling transaction. HID reader and Gasboy Fleet Keys shall be available as an option.

A two stage authorization process shall be provided by identifying both the vehicle and the driver prior to refueling. Both driver and vehicles IDs should be stored in the transaction. The two stage authorization process should be flexible enough to link the vehicle device either to a specific driver or to a list of drivers.

3.0 System Description

3.1 System Configuration

The site controller shall be a stand-alone unit comprising all required peripherals including the central processing unit, display panel, pump control module, communication modules, and optional receipt printer.
The site controller shall be web enabled to allow independent real-time control, monitoring and reporting via the web using user ID with password and SSL protected link (https://).
In the automated mode, the passive fuel ring installed in the vehicle shall be used for automated fuel authorization.
The site controller shall have a wireless gateway terminal to communicate to all forecourt devices including the wireless nozzle readers and vehicle data modules.

The wireless nozzle reader shall communicate with the passive fuel ring for fuel authorization
The wireless gateway shall communicate with the wireless vehicle data modules to retrieve data such as odometer reading, engine hours, and other OBD codes.
The site controller shall communicate with a central high performance server or dedicated host PC computer for the purpose of centralized control and monitoring of multiple sites.
Refueling shall take place regardless of the connectivity to the host computer. Refueling limits and restrictions shall be 'pushed' from the host computer to all fuel site controllers enabling off-line refueling with limits and restrictions also when communication is not available. A time limit should be provided for off-line activity to block possible 'break' of the limits by refueling in several sites through the off-line mode.

3.2 System Operation

Upon insertion of the nozzle into the vehicle fuel inlet the wireless nozzle reader shall communicate with the passive fuel ring, retrieve data for fuel authorization, and transmit the data to the wireless gateway.

If the vehicle has a vehicle data module installed, the wireless gateway shall detect the vehicle within 45 ft. and retrieve data such as an odometer reading, engine hours, and OBD codes from the vehicle data module.
The wireless gateway shall append the fuel ring data to the vehicle module data and transfer it to the site controller.
The site controller shall authenticate the data retrieved from the vehicle and check it against the existing set of limits and restrictions.
If all conditions are met, the site controller shall authorize immediate refueling.

If the nozzle is removed during the refueling process, the wireless nozzle reader shall detect the removal and shall send an indication through the wireless gateway to suspend refueling. When the nozzle is reinserted within a specified (configurable) period of time, refueling shall resume.

The site controller shall authenticate the data retrieved from the vehicle and check it against the existing set of limits and restrictions.
If all conditions are met, the site controller shall authorize immediate refueling.
If the nozzle is removed during the refueling process, the wireless nozzle reader shall detect the removal and shall send an indication through the wireless gateway to suspend refueling. When the nozzle is reinserted within a specified (configurable) period of time, refueling shall resume.

At the end of the refueling process, the nozzle is reinserted into the dispenser cradle and the transaction data is sent from the site controller to the host computer.
Vehicle not installed with passive fuel ring shall have the possibility to use manual authorizing devices including Mifare cards or tags, Magnetic cards, keypad entry, and optional HID cards and Gasboy Fleet Keys.

4.0 Site Controller - Islander PLUS/CFN PLUS

4.1 General

. The site controller shall control up to 8 mechanical hoses in one terminal. Hose extension controls shall be available in modules of 4 hoses. The site controller must be capable of controlling up to 32 hoses at a single site and through one single terminal, either mechanical or electronic registration.
. The site controller shall store up to 25,000 transactions and 50,000 vehicles/devices with the ability to set limitations and restrictions.
The site controller shall be available for refueling 24/7.
Site controller shall work in online and off-line modes, in case of communication failures with the FHO software. When communication is established again, the system shall synchronize data automatically.
The site controller shall have an embedded hardware platform designed to survive the harsh fueling depot environment.

The site controller shall use a solid state Flash disk and RTC (Real Time Clock) with back up, along with surge suppressors for transient and noise immunity.
The system shall include a power fail recovery mechanism.
The CPU shall have no edge connectors and no hard disk (no moving parts)

The site controller shall have a high level data protection through two separate isolated TCP/IP Ethernet network ports. One port shall be used for site peripherals interface and the second port for external communication to the network (Remote access, host computer and 3rd party systems) protected by SSL security. The outside link could use a local modem connection through PPP protocol for TCP/IP communication, cellular, or dial-in type modems.
The site controller shall have the following additional capabilities:

- Secured remote capabilities for monitoring, management and maintenance activities
- Flexible with all types of communication including TCP/IP, wireless Ethernet bridge modems, satellite communications, and dial-up analog modem.
- Web enabled reporting and alarms for Tank Level Sensing (TLS) systems (Veeder Root-350 and VR-450 protocols)
- Fuel management software for reconciliation reports
- Accessible via Internet browser to control and monitor the system. No requirement to install dedicated software.
- Real time web-based dynamic graphical monitoring and control of dispensers
- Remotely open a pump and limit the quantity to a specific transaction
- Able to update fuel price at a specific time
- Remote maintenance, remote troubleshoot and remote software upgrades of the various components of the system

The following physical, electrical and environmental specifications shall be provided:

- Supply voltage: 100 – 240 VAC
- Power consumption: 2A max.
- Operating temperature: -22 F to +158 F (-30 C to +70 C)
- Communication interface: RS-485–9600 bps, Half-Duplex, RS-232, Ethernet RJ-45-10 Mbps, EIA 802.15.4

4.2 Tank Level Sensing (TLS) Interface

The site controller shall support Veeder Root TLS 350 and Veeder Root TLS 450 protocols
The TLS will be connected to the site controller via TCP/IP communication port or the RS-232 port to allow fuel management capabilities
The site controller shall have the possibility to define the following communication parameters; Baud rate, Parity, Data bit, Stop bit, Flow control
The site controller shall collect the following data from TLS equipment:

- 12:00 midnight shift inventory volume for tanks
- Tank inventory level ; CSLD (Leak Detection) status – Pass/Fail
- Fuel delivery information; Water Level
- Water levels, Temperature, Alarms (Leak, Overfill, Sump, Sensor, etc)
- Alarms shall flash continuously on the main screen and could be sent via email

4.3 The Pedestal

The pedestal shall be a slim (9.5”x9.5”x61”) powder coated metal designed for easy installation and service. The paint application for the entire pedestal terminal shall consist of a positive/negative charged ionization process for superior bonding. All materials shall be tested to sustain Oil, Fuel, Sun, Water and Salt.

The pedestal shall allow front door access for maintenance and wiring and shall enable flexible installation on the fueling island.

The pedestal display panel shall consist of:

- Top illumination utilizing an array of high intensity blue LED's
- 5" wide x 1.6" high display window
- 4 lines, 20 characters (1/4" height) each, or optional graphic LCD
- LCD operates well in all lightening conditions
- 16 functional keys. The keys shall be rugged and made of metal for higher reliability and longer life (flexible plastic key caps will not be acceptable).
- The key's sensors shall use piezoelectric technology for highest reliability
- Magnetic Card Reader
- Mifare Card/Tag Reader

4.4 Receipt Printer (optional)

Optional outdoor receipt printer with 1,000 ft. paper roll including automatic paper cutter and alarms indicating low-paper and paper-out (alarms shall be available via email and displayed online with secured access)

4.5 Site Controller Software

The system shall be based on web server technology and enable easy secured (SSL) remote access through the network using a standard PC with an internet browser, without the need for any other software application.
The browser interface shall allow control and monitoring, maintenance activities, report generation with advanced filters and templates, graphical monitoring of fuel levels, on-line pump monitoring and more.
The system shall provide flexibility when searching for data within the system without the need for prior knowledge in SQL or other query languages.
The site controller shall support mechanical and electronic dispensers. All links shall be protected and isolated for maximum reliability.
The system shall store transaction data as well as driver and vehicle records into its database using FLASH disk. Other critical data such as fueling limits and restrictions shall also be stored in the database.

The system shall use the following authorization devices:

- Passive fuel rings
- Vehicle data modules
- Mifare cards or tags
- Mag. Cards (track 2 and 3)
- Keyboard entry authorization
- Optional HID reader

Optional heritage Gasboy Fleetkeys

-

Authorization schemes shall include the following scenarios:

- Single device authorization
- Two stage authorization (based on two authorization devices)
- Add-on keyboard entries: PIN code, vehicle ID, odometer reading, engine hours

The system shall have the option to collect data from driver before refueling, such as: PIN, Odometer, vehicle ID, etc.
The system shall provide odometer reasonability checks
The site controller shall allow the possibility to work offline with all limits and restrictions

The site controller and the Fleet Head Office software shall allow heritage Gasboy Series 1000 Magnetic cards and Gasboy Fleetkey devices from existing systems to be read and fully integrated into the database of the site controller and FHO software. The 1000 series card and Fleetkey device data – for example, card or key format, fuel limits, fuel authorizations, System ID, PIN key, etc.- shall be read at first use and placed into a Negative list. When the site controller automatically uploads the transaction to the database, a new Positive device list table will be created in the site controller's and FHO's database. Once the device list is created then all future refueling will be fully automatic based upon the Positive list of accepted devices.

System shall have the option to approve or decline refueling according to pre-defined limits and restrictions for the specific unit. Such limitations shall include:

- Limit of daily, weekly and monthly refueling volume or sales amount.
- Enable or disable vehicle refueling on specific days (weekdays for example) and/or specific time slots within a day (night time for example)
- Limit the maximum refueling sessions for a specific vehicle per day, week or month.
- Block specific stations for a specific vehicle (if vehicle is restricted for operation in a specific zone).
- Restriction of specific fuel types for refueling of a specific vehicle.

5.0 Wireless Gateway - WGT

The wireless gateway shall be installed in the site controller.
The wireless gateway shall retrieve data from the passive fuel ring and the vehicle data modules.
The wireless gateway shall decrypt the protected data and send the complete vehicle information to the site controller using a TCP/IP Ethernet link.
The wireless gateway shall include two wireless channels (802.15.4) with two antennas that work simultaneously to overcome possible blocking of the RF or channel
The wireless gateway shall communicate with the wireless nozzle reader and the vehicle data modules using a short range 2.4 GHz wireless communication.
The wireless gateway shall identify the vehicle within 45 feet

6.0 Wireless Nozzle Reader - WNR

The wireless nozzle reader shall not have any wires

The wireless nozzle reader shall read the data off the passive fuel ring (mounted around the vehicle fuel inlet) and transmit the encrypted data over wireless link to the wireless gateway
The wireless nozzle reader shall read the passive fuel ring using contact-less technology with anti-spoofing mechanism to protect against cloning of vehicle devices (recording the pattern that is transmitted by a specific vehicle and creating a clone).
The wireless nozzle reader shall transmit the encrypted fuel ring data to the wireless gateway installed in the fuel island using a 2.4 GHz encrypted wireless network communication

The wireless nozzle reader shall be a self-contained unit installed on the nozzle. No wires shall be connected to the wireless nozzle reader.
The wireless nozzle reader shall have a customized design for most common nozzle types. A special version shall be available to fit high speed nozzles such as Posilock and Wiggins.
The wireless nozzle reader shall fit onto existing fueling nozzles and cradles of most common dispensers.
The wireless nozzle reader shall be designed from glass-reinforced nylon enabling it to survive harsh fuel environment, mechanical impacts and to withstand ozone, UV and strokes.
The wireless nozzle reader shall survive multiple 4 feet drop test on concrete, fuel and oil materials, IP-54 rain and solar radiation.
The wireless nozzle reader shall have a green LED light to indicate:

- The wireless nozzle reader has detected a passive fuel ring
- The wireless nozzle reader is in operation

7.0 Passive Fuel Ring - FuelOpass

The passive fuel ring shall be mounted around the vehicle fuel inlet.
The passive fuel ring encrypted data shall be read by the wireless nozzle reader using RFID contact-less technology.
The passive fuel ring shall be a low cost device designed for vehicle identification and fuel transaction recording only.
The fuel ring shall be made of an electrical coil encased in a molded plastic and attached to an ID chip.
The fuel ring shall have the following characteristics:

- Does not require a hard-wire connection to vehicle module
- Passive transponder (No power source required)
- No wiring
- No RF interferences.
- Easy to install (No professional man power shall be required)
- Install within a few minutes
- Available in various sizes to meet most vehicle requirements
- The ID chip shall have an anti-theft and tamper resistant design that will destroy the ID chip when it is removed from the vehicle

The passive fuel ring shall have the following environmental specifications:

- Operating temperature range: -40C to +85C
- Bounce and vibration to meet automotive requirements

8.0 Vehicle Data Modules - DataPass+

The following vehicle data modules shall be available:

8.1 Vehicle data module for OBDII – DataPass+

The following types shall be available:

Type 1: Plug-in vehicle data bus module for CAN/OBD interface
Type 2: Plug-in vehicle data bus module for K-Line/OBD interface

Type 1 and Type 2 shall be miniature plug-in wireless devices requiring no external power connection. The micro modules shall plug in into the vehicle diagnostic connector (OBD) intended for light duty vehicles.
Software updates to the vehicle data bus modules shall be accomplished through the site controller.
The vehicle module shall be capable to be installed on any vehicle type

The vehicle data bus modules shall be easily installed by non-technical personnel.

8.2 Vehicle data module for J1708 and J1939 – DataPass+

The vehicle module shall be a miniature wireless device. The module shall be wired to the vehicle diagnostic connector (J1708 or J1939) intended for heavy vehicles and trucks and will also be able to connect to older vehicle which have vehicle speed sensor (VSS) for odometer reading and engine hour reading.

9.0 Wireless Programmer

Only one wireless programmer shall be required to program all the system devices.
Shall be capable of programming the wireless nozzle reader, passive fuel ring and vehicle data modules.
The Programmer shall have a menu driven alphanumeric and character keypad with display.
The Programmer shall be powered by rechargeable batteries with power supply
Shall be able to check, in easy English text, correct information transmitted from the various devices.

10.0 Host Software

10.1 General

The software shall support multiple fuel site controllers and allow data consolidation.

The software shall support multiple fleets and multiple departments.
The software shall synchronize data with all sites.
The software shall be used as a centralized issuing and programming facility for passive fuel rings, vehicle data modules and Mifare tags.
The software shall be installed on the host computer running Windows operating system and SQL database that supports ODBC connectivity.

The system shall be a centralized web server communicating with all sites to provide centralized data base and on-line network access for fleet managers, key personnel and remote maintenance entities.
The software shall communicate with all sites to provide 24/7 on-line access through the network.
The software shall create and control several fleets and departments and support different privilege levels for limited access for different users (for example, a specific Fleet manager shall only be able to manage only his fleet vehicles).
The software shall provide advanced on-line services for multiple sites and multiple fleets in a region.
The host software web interface shall use SSL security.
The software shall provide secure log-in through the Web for each fleet manager, for monitoring & control and report generation including exception reports.
The host software application can interface to other applications via Web Services, import and export of files to FTP and ODBC standard.
The software shall allow Exporting data to different file formats (using a dropdown menu) such as CSV, TXT, and XML.
The user interface for all software components shall be a web browser.
Mifare tags, fuel ring and vehicle modules shall be defined and associated with unique numbers to the fleet vehicles.

11.2 Limits and Restrictions

Host software shall allow limits and restrictions to be configured either by an authorized user or imported from a different external system (using the import/export).
The rules shall be transferred to every site controller to enable off-line activity in case of communication failure; hence a fuel site will be able to refuel a vehicle within its set of limits and restrictions, when communication is down.
The limits shall be 'pushed' into the site controller at a predefined time or for a predefined period of time. Site controllers can also use the limits in an off-line mode (in case of communication failure). There shall be a graceful period of time (parametric) for this off-line mode since the vehicle could refuel also in other sites (above its limits) while the sites are disconnected from the host computer.
Customizable vehicle and driver limits and restrictions shall include:

- Limit of daily, weekly and monthly refueling volume in gallons as well as in currency.
- Enable or disable vehicle refueling on specific days (weekdays for example) and / or specific time slots within a day (night time for example)
- Limit the maximum refueling sessions for a specific vehicle per transaction, per day, week or month.

- Limit the maximum refueling sessions for a specific vehicle per transaction, per day, week or month.
- Block specific stations for a specific vehicle (if vehicle is restricted for operation in a specific zone).
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- Restriction of specific fuel types for refueling of a specific vehicle

11.3 Fuel Management System Software

The host computer shall collect the transactions and TLS information from all fuel sites for centralized fuel management activities including required deliveries, forecasting, reconciliation and more for optimal usage of fuel.
The system shall provide the following capabilities:

- Reports regarding fuel consumption with filters of sites, dates, volumes and more
- Customized templates for specific reports
- History of fuel consumption from every product with graphical representation
- Forecasting consumption for every product based on the consumption history with graphical representation
- Reconciliation
- Manual entry or editing of fueling transactions
- Provide unified view of ALL stations with regards to fuel level status
- Provide consolidated view of each specific fuel tank, per station
- Provide a centralized system for maintenance reporting and reporting of different system alarms, per station
- Provide an interface for managing of manual stations (without Fuel Controllers)

Tanks status screen from TLS system per site with graphical representation of the tanks
Alarms (High/Low tanks level, Leak detection, No communication, Etc.)
Export capabilities to other systems (ERP)

11.4 Reporting System

Consolidate data from multiple stations and generate reports, including exception reports, reconciliation reports, trends, forecast, consumption, tank capacity and more.There shall be two types of Reports:

- Custom Reports
- Fuel Management System Reports (built-in)

Custom Reports

The software shall provide a highly flexible custom reporting utility. Data elements can be selected and put in any order by the user to create their own custom report.
This report shall have the ability to be saved as a template for later use.

Must have advanced customized reporting capabilities with filters and templates (Web based). The custom reports feature shall enable report generation of transactions performed in the fuel station in various profiles.

The following field names shall be used to generate custom reports tables:
Station, Date, Time, Fleet, Transaction Type, Vehicle #, Product, Quantity, Total Sale, Receipt No., Fleet Code, Pay Mode, Transaction Id, Authorized By, Department, PPV, Odometer, Engine Hour, Pump, Tank, Nozzle, Density, Temperature, Vehicle Type, Ref/Slip No., Driver name, Dept code, Card number, Device name.

The custom report shall allow summary by the following fields (Break by):
Date, Plate, Pump, Product, Pay Mode, Station name, Fleet code, Authorized by, driver name, Dept. code, or a selection of any of the above fields

The custom reports shall allow sorting by the following fields (Sort by):
Date & Time (Ascending/Descending), Pump, Transaction ID, Product, Amount (Ascending/Descending), Qty, Plate, Pay mode, Station name, fleet code, Receipt ID, Driver name, Dept. code or a selection of any of the above fields.

The above powerful capabilities shall allow flexible reporting such as:
Summary Report – summarizing all transactions of a specific fleet of vehicles.
Vehicle Report – offering the Fleet Manager a detailed transaction report of vehicles pertaining to his fleet, in three cross sections:

> Transactions - providing information regarding each transaction, including the vehicles license plate number, odometer reading, engine hours, fuel type, fuel volume and the transaction ID.
> Consumption - listing information regarding each vehicle (device) providing a summation of data (volume consumption, fuel cost, other costs) for each vehicle in a specified time frame.
> OBD Vehicle Data – provide OBD statistics report which displays On-Board Diagnostics error codes from vehicles equipped with DataPass+ components. The report will present statistics for the selected period (Distance, EH, PTO, idle time, over speeding, fuel level, etc.) and the latest error codes from the vehicle. Data from both light duty vehicles with OBD11 and heavy duty vehicles with J1708/J1939/J1587 protocol will be supported in the reports.

Exception Reports
The software shall provide Exception Reports for the Fleet Manager. It must provide the ability to spot any abnormal incidents that occurred within his fleet. The following exception reports are required for each fleet:
Volume Exception Report – shall list noted exceptions relating to the fuel volume consumed in the transactions compared with the related vehicle's fuel tank volume.
Mileage Exception Report – shall list the exceptions related to the elapsed distance of the vehicles, according to odometer readings.

OBD Exception Report – shall list the vehicles which crossed the over speed, RPM or idling limits specified for the device, according to OBD readings.
Consumption Exception Report – shall list the exceptions related to the fuel consumption of the vehicles, according to odometer readings and the specified fuel consumption ratio of the vehicle.
Mileage Exception Report – shall list the exceptions related to the elapsed distance of the vehicles, according to odometer readings.
Consumption Exception Report – shall list the exceptions related to the fuel consumption of the vehicles, according to odometer readings and the specified fuel consumption ratio of the vehicle.
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Consumption Exception Report – shall list the exceptions related to the fuel consumption of the vehicles, according to odometer readings and the specified fuel consumption ratio of the vehicle.
Not Used Exception Report – shall list the vehicles which did not carry out any transaction in a specified time frame. The report should include the license plate number, the odometer reading and the date and time of the last transaction performed by the vehicle.

b) Fuel Management System Reports (Built-in)

Sales Reports
- Sales by Tanks Report
- Local Account Transactions
- Pump-wise Delivery Report
- Product-wise Dispenser Delivery
- Fuel Sales Trends Graph
- Fuel Volume Forecast Report

Stock Data Reports
- Tanks by Sites
- Tanks Trends Graph
- Total Wet Stock Report

Reconciliation Report
- Shift Report
- Environmental Report
- Tank Reconciliation Trends

Maintenance Reports
- Exception Log Reports
- Alarm Duration Reports

11.5 Back-up

The system shall provide several back-up mechanisms for maximal data protection as follows:
The database is transmitted periodically to a remote server. The backup can be for the entire database or differential.
Built-in data base back-up mechanism (Customer FTP).
All transactions are exported to a Customer FTP site through an Export Module.
RAID mechanism at the host computer

12.0 Warranty
- 12 months system Parts and Labor warranty
- 5 year warranty for the Mifare Tags