



Voyager Fare Collection System

Integration Solutions

From Fare Logistics Corp.

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General Information: **1-250-360-0012**

E-Mail Addresses:

Sales Information.....sales@farelogistics.com
Customer Service.....customerservice@farelogistics.com

Fare Logistics
#10 – 4223 Commerce Circle
Victoria, BC V8Z 6N6 Canada
Tel: + (250) 360-0012
Fax: + (250) 360-0066

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1 Integration Solutions

This document will outline some of the exciting integration solutions that have been implemented for our latest generation of the Electronic Fare Collection System and the Voyager suite of products.

1.1 Loyalty Program

Many different industries offer their customers a loyalty program. The Voyager Fare Collection System extends these program capabilities to the transit industry enabling transit organization to reward some of their most loyal customers.

The loyalty program is split into two classes of programs – Smart card based and magnetic card based. The Smart card based program is similar to a frequent flyer program. The consumer will accumulate points for each purchase. The points can be redeemed for:

1. Local community based coupons
2. Reduction in core ticket price, free rides, extension of pass expiry date
3. Other retail products as marketed and redeemed on a website.
4. Etc...

Additional options:

1. Track ridership so that frequent riders can be rewarded with a discount or free ride after a certain number have been purchased and used.
2. Enable a point system where accumulated points can be used to purchase other products or amenities. i.e. t-shirts, discounted movie passes, access to local recreation facilities, etc.
3. Support the potential of adding further “purses” to the system.
4. The magnetic card program could be random in nature; every so many riders that pass a farebox will have a printed coupon for local community events or services.

Fare Logistics Voyager System can support loyalty programs that fall into the following collection categories:

1. Usage based, and
2. Point based

Redemption Models:

1. External merchandise
2. Internal changes to cards (expiry dates, etc...)

1.1.1 Implementation

The loyalty program can utilize a secondary “card” used only for accumulating points. The implication of this is that the riders will need to swipe two cards (one to pay and one to collect). Or the loyalty program can utilize only one card (payment and collection). The second option is less flexible from a payment and redemption point of view but reduces the swipe time.

1.1.2 Architecture

Every card whether it is a magnetic card or smart card will have a unique ID. This ID is associated with the consumer. The consumer will collect points based cash expense and/or usage. The point will accumulate in a “purse”. Fare Logistics will maintain a public API to the purse. The API will be used by third parties that enable redemption of points. Points can be redeemed from approved devices and/or approved websites. The farebox will store usage data associated with the card holder. The farebox will support:

1. Redemption of free ride and
2. Extension of expiry date

Both of these require the card holder’s data to be synchronized, so the reward will never be realized until the farebox data is up to date.

1.2 Public API

In order to allow for as much flexibility with other service providers as possible, Fare Logistics is creating a public API to allow data to freely pass in and out of the database without additional software or unique interfaces to be created. This public API will allow for exchanges of data between the farebox software, the reporting/configuration software and the Reload Station software. The public API will allow for communication between AVL products and the Fare Logistics Farebox and software.

1.3 POS Functionality

The Voyager farebox provides for the reloading of smart cards and tickets directly at the farebox. Daily riders usually prefer to pay using a pre-loaded card – that card can be either time-based (i.e. daily, weekly, monthly pass) or ride-based. In either case, the rider will need to reload the pass when the card expires or runs out of rides. Fare Logistics offers two methods of reloading Smart media. The first is via an attended Reload Station; the second is on the bus via the farebox, utilizing its inherent POS functionality itself. Magnetic media can be reloaded via the Reload Station.

1.4 U-Pass Program

Many organizations already have magnetic stripe cards in use as identification for their students or employees. The Voyager farebox can enable these cards to be recognized and accepted as valid fare media. These magnetic passes offer a ready-made solution for the transit industry to track by individual card serial number, enabling the generation of usage reports, and the ability to bill based on usage. The system permits the creation of blacklists ensuring expired or invalid cards are rejected.

1.5 J1708 Integration

The Voyager Farebox is J1708 compliant in order to provide the ability to communicate with CAD/AVL products, such as passenger counters, bus diagnostic systems, etc. In addition, the J1708 capability allows for the usage of on-bus single-sign on – this means that a driver only has to sign in once to the driver’s display and the relative login information will be passed to all J1708-compliant CAD/AVL systems also installed on the bus. This makes driver logon/logoff much simpler and ensures accurate usage of the on-bus equipment.