

JSC INGENIUM DEVELOPS A MULTI- SERVICE AND MULTI- OPERATOR TOP-UP PLATFORM FOR LOGISTA

Case study

Challenge

Logista, the leading integrated logistics operator in Spain and Portugal, and one of the principal logistics operators in southern Europe, needed to implement a Multi-product and Multi-operator Top-up Platform from which to serve its network of sales outlets (10,000 in Spain, 12,000 in France and 3,000 in Portugal) and other associated Platforms.

Solution

JSC Ingenium developed a Transactional System for Logista's online and offline sales of intangible services. This System permits Logista's integration with different Operators at both the national and international levels, easily incorporates new services and also manages the network of sales outlets and the point of sale terminals assigned to each of them.

Challenge

Logista needed to implement a **top-up system** which would fulfill the following requirements:

- 1) Integration with the main Operators, in order to enable the sale of their services:

- Top-ups for national and international Mobile Operators.
 - Top-ups for fixed telephony Operators
 - Top-ups for transport tickets and passes
- 2) Reception and management of all top-up requests received from the terminals in their sales outlets, and from other top-up Platforms.
 - 3) Management of its network of sales outlets.
 - 4) Development of the software for the sales terminals, and also of the management module to control the updates with the different versions of the software

Solution

The solution implemented by JSC consists of a central NODE which connects to all the service providers, for the online and offline sales of their different products on the one hand, and with different sales devices - attended, self-service, host, etc. - on the other, in order to sell these services, in such a way that incorporating a new service does not require new software to be developed for the sales terminals.

The system processes all the top-up requests, querying either the risk or the credit - this will depend on whether the Point of Sale is working in prepaid or post-paid mode - and effecting a credit reserve which will guarantee security against fraud, as well as confirming with the Operator that this service is available for the subscriber. If the response is positive, the sales assistant will be able to charge the customer and confirm the credit reserve. All operations are recorded for later analysis.

JSC developed the software for Logista's POS terminals. This permits any top-up request, cancellation or query to be configured and requested from the Top-up Platform. The software for the terminals has been developed as a single application for all the deployments/services provided by its basic functionalities (menus, communications, receipts, etc). This software also works as a script interpreter. For each deployment, a script is developed which the application can interpret, and which contains the instructions for performing top-ups for that service/operator. The characteristics of this application are:

- Easily extensible, since each deployment/service only requires a small script to be developed and there is no need to change the application.
- Since the same application is always used, the system is very stable.
- Using these scripts, it is possible to configure terminals with different service menus.

The terminal application has the following common functions:

- Background downloading of new software versions
- User management from the terminal
- Management of the status of the terminal and its peripherals: installing, replacing and removing terminals.
- Sales reports

The top-up system developed by JSC consists of:

- two Frontend machines which receive the communications from the top-up terminals via GSM, GPRS or PSTN, (depending on the cover available in the establishment). Manages the transactions received from Logista-approved terminals - both attended and self-service - and also from other Platforms (host) which have their own sales terminals.

Functions:

- Balanced reception of top-up requests
 - Request queuing
 - Passes on the requests to the Backend
 - Replies to the top-up terminal
- two Backend machines, which process the top up requests for the different services. Each of the Backends is connected to each of the two Frontend

machines, and they are connected redundantly to each other.

Functions:

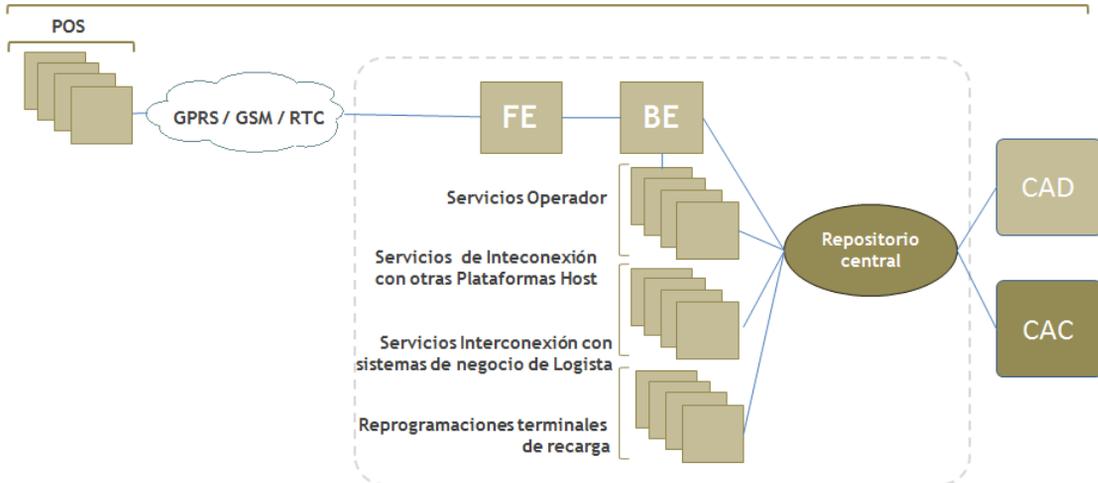
- Validate the terminal/status/assignment
- Carries out risk control
- Records the transaction
- In the case of Offline transactions, completes the transaction
- In the case of Online transactions, notifies the operator/consortium service of the pending transaction

They also allow four types of service:

1. Services interconnecting with the service Operators
2. Interconnection with other Host Platforms
3. Interconnection with the customer's business systems
4. Updates to the top-up terminals

- a database (ORACLE), which is the information repository and stores the details and status of each and every one of the transactions carried out by each point of sale terminal, so that it ensures service continuity, even when faults occur, and prevents any transactions being lost.

Sistema de recargas JSC INGENIUM



Management tools:

- CAD - this is a desktop application to manage the Distributor Service Centre. From this, Logista can manage and control:
 - all its sales outlets
 - all the top-up terminals assigned to each sales outlet and the status of these terminals
 - the sales carried out by the terminal/sales outlet
 - the services available and the tariffs by type of customer
 - the credit or risk assigned to each sales outlet
- CAC - this is the application for the Customer Service Centre, from which any problems with the Offline sale of services can be managed.

Technologies

Microsoft

1. .Net Framework
2. Windows 2003 R2 Servers

ORACLE

1. Database

Advantages

The main advantages of the solution provided by JSC Ingenium are:

1. **High availability:** there is redundancy for all the elements of the system, ensuring continued operation
2. **Low cost:** because, with just a small hardware deployment, the terminals can connect to all the top-up companies
3. **Modularity:** has the capacity to include new companies, and modify the software for existing ones, without affecting the other systems
4. This solution records a considerable amount of information about the top-ups, and so can act as a platform for **generating reports** without the need to access the operator's external systems.

About Logista

The Logista Group is the leading integrated logistics operator in Spain and Portugal and has a strong presence in Southern Europe, especially in Italy and France. Logista not only has highly specialised knowledge of its sector, but also integrates the flows of information, goods and finances, and so can offer an integrated logistics service with complete product traceability and control. For this, Logista has an extensive and far-reaching network with significant local presence, and

therefore regularly reaches more than 270,000 delivery points, to which it makes 36 million deliveries a year.

For more information: www.logista.es

About Microsoft

Microsoft Corporation (NASDAQ: MSFT) is a US company, founded 1975 by Bill Gates and Paul Allen. It operates in the IT sector, developing, manufacturing, licensing and producing software and electronic equipment. Microsoft annually invests 14% of its worldwide turnover in R&D, making it the biggest international investor in research. It also works with more than 700,000 partner companies which provide products and services based on Microsoft technology, and with a very extensive eco-system of partners who generate wealth in the 158 local markets in which it operates.

For more information: www.microsoft.com

About JSC Ingenium

JSC is the division of the Ingenium Telecom Group which specialises in developing and implementing software components for Mobile Networks. JSC Ingenium provides all the "core" components required for MVNO, and together with their partners we also supply all the billing and management software, thus offering complete solutions. Most of these components have been developed by JSC Ingenium, on a common communications platform.

For more information: www.jscingenium.com