

InfraGen Functionality

Contents

1. FUNCTIONAL OVERVIEW	3
1.1 Configuration	3
1.2 Download Phase	3
1.3 Calculate Phase	4
1.4 Update Database Phase	4
1.5 Performance Monitoring	4
1.6 Rollback	4
1.7 Multithread design	4
1.8 Easy to Use GUI	5
2. INFRAGEN CUSTOMIZABLE FEATURES.....	6
2.1 Hot Billing.....	6
2.2 Hierarchies.....	6
2.3 Discounts.....	6
2.4 Taxation	7
2.5 Installments.....	8
2.6 Thresholds.....	8

1. FUNCTIONAL OVERVIEW

The InfraGen solution addresses invoice generation. Invoice generation is the process of compiling and calculating charges on a customer invoice. The invoice generation process receives usage, rating, and other temporary invoice data and calculates and creates customer invoices. InfraGen creates an open invoice for each customer in a billing cycle. Temporary invoices in the database with *Unbilled* status are converted to *Open*. Services and taxes are calculated and billed according to business rules.

InfraGen consists of the following phases:

1. **Configuration** – Set startup parameters for InfraGen processing.
2. **Download** – InfraGen takes the data from the database and filters the data that will be processed.
3. **Calculate** – InfraGen reads input text files, performs invoicing calculations and stores results in the temporary database.
4. **Update database** – InfraGen updates the billing database using stored temporary data.

1.1 CONFIGURATION

InfraGen is able to use special run-time libraries for each phase. InfraGen requires that the database, user name, and password be specified. In addition, InfraGen allows you to specify a temporary data path to store temporary data.

1.2 DOWNLOAD PHASE

InfraGen takes the data from the database and filters the data that will be processed.

1.2.1 BILL CYCLE

InfraGen supports multiple bill cycles. InfraGen is run on invoices of a specific bill cycle, and therefore the bill cycle needs to be specified.

1.2.2 END OF PERIOD

The cut-off date for the invoices is configurable (if necessary). Usually the date is the end of the billing period.

1.2.3 GENERATION DATE

The date that the generation takes place is stored in the invoice record.

1.2.4 DUE DATE

The due date of the invoice is configurable.

1.2.5 FILTERS

Filters can be used to generate invoices for specific groups. By using a filter InfraGen will only generate invoices for a specific range or type of customer in a bill cycle.

1.3 CALCULATE PHASE

This is the phase in which InfraGen calculates special invoice charges such as discounts and taxes.

1.4 UPDATE DATABASE PHASE

InfraGen uploads the stored data to the database.

1.5 PERFORMANCE MONITORING

InfraGen performance is monitored using the InfraGen GUI and log files. Log files record performance statistics and records that were unable to be properly processed.

1.5.1 LOG FILES

InfraGen creates detailed log files, which allow service providers to quickly find and correct problem invoices. It supports several debug information levels. In addition, calculation in debug mode can be initiated using a saved temporary directory, even after a database update.

1.5.2 INFRAGEN GUI OUTPUT TAB

The Output tab InfraGen GUI can is used for real-time monitoring of InfraGen processing progress and performance statistics. Statistics and progress are displayed for each phase of InfraGen.

1.6 ROLLBACK

InfraGen has a rollback capability that allows for fast and robust rollback of invoice generations enabling great flexibility and control over business processes. Rollbacks can be for an entire bill generation or for a specific range of customers.

1.7 MULTITHREAD DESIGN

One advantage of InfraGen is it that it has a multithread design. This design allows InfraGen to utilize all available hardware resources in a multiprocessor or cluster environment. This means that extremely high volumes of invoices are processed in a short period of time.

1.8 EASY TO USE GUI

InfraGen contains a Java-based GUI with a modern unified cross platform look and feel. The GUI allows easy management of filters, configuration, and other generation preferences. The GUI also is used to perform rollbacks. Processing and performance statistics are available via the GUI.

2. INFRAGEN CUSTOMIZABLE FEATURES

InfraGen has many customizable features that allow service providers many different billing options.

2.1 HOT BILLING

InfraGen supports hot billing. InfraGen can create bills on the fly for customer termination and special customer requests.

2.2 HIERARCHIES

InfraGen can apply special invoicing business rules using hierarchical data relationships stored in the Customer Care database. Discounts can be applied based on hierarchies; usage and other charges can be transferred between customers based on hierarchies; charges can be distributed based on hierarchies.

2.3 DISCOUNTS

The calculation phase of InfraGen can be used for many different discounting schemes. Some of the popular types of discounts are listed below.

2.3.1 TIERED RATE

Discounts can be used to implement tiered rate plans.

2.3.2 VOLUME DISCOUNTS

InfraGen can be used to calculate volume discounts.

2.3.3 CROSS-SERVICE AND CROSS-PRODUCT DISCOUNTS

Cross-product services and discounts are supported completely and seamlessly. The system supports cross-product discounts, including all parameters (static and computed) that are available in the database, during the discount computation that takes place during the invoicing. Cross-service discounts and promotions have a limited lifetime (from date -> to date), and are computed during the invoice billing procedure in the same way as services. Loyalty programs can easily be implemented by computing a special discount during the loyalty period.

2.3.4 CUSTOMER-SELECTED OR AUTOMATIC ("OPTIMIZED") DISCOUNTS

Customers can pre-select discounts and rules can be defined that enable the system to compute multiple discount plans and optimize the choice for the customer according to various possibilities.

2.3.5 LIMITED TIME DISCOUNTS

InfraGen uses a method of defining discounts and promotions as services that are attributed to customers. These can have a limited lifetime (from date -> to date) and are computed during the invoice billing procedure in a similar manner as services.

2.3.6 PRORATED DISCOUNTS

Discount services can be prorated and partially computed before and after the service has been delivered.

2.3.7 MULTI-LEVEL DISCOUNTS

Utilizing the solution's flexible hierarchy functionality, multi-level discounts that access the relations between customers can be easily defined. For example, customers of an association can have a discount computed based on their aggregate charges and the total discount can be divided among them.

2.3.8 MULTIPLE CRITERIA FOR DISCOUNTS

Any discount can access all information in the database. There is no limit to the amount or complexity of the equation for computing the discounted sum, including dollar amount, usage volume, etc.

2.3.9 QUALIFICATION FOR DISCOUNTS

Customers can qualify for discounts and promotions according to any criteria in the database, both existing and computed, using business rules that define qualification terms.

2.3.9.1 Historical Discounts

Historical discounts based upon the amount spent by the customer in the previous month are possible.

2.3.9.2 Loyalty Discounts

It is possible to configure customer loyalty discounts.

2.4 TAXATION

InfraGen is used to apply taxation to customer invoices. InfraGen's customizable taxation features can be used to conform the system to local laws and taxation requirements.

2.4.1 MULTIPLE TAXATION PLANS

InfraGen is able to apply different taxation plans for different customers.

2.4.1.1 Location-based Tax Plans

The tax plan applied can be based on the customer location. This is useful for multi-national service providers.

2.4.1.2 Customer Type Tax Plans

InfraGen can apply different tax plans based on the customer type. Residential customers can have one tax plan and businesses another.

2.4.1.3 Customer Size Tax Plan

Tax plans can be based on the customer size. Large corporations can have a different tax plan than small businesses.

2.4.1.4 Service Based-Tax Plans

Tax plans can be configured based on the type of service used. Tax can be applied only to certain types of services.

2.4.1.5 Combination Tax Plans

Tax plans can be configured for any combination of the above. For example, special tax rules can be applied to corporate customer voice mail services for all corporations in a specific country.

2.5 INSTALLMENTS

To distribute a certain charge over several customer invoices, InfraGen uses installments.

2.6 THRESHOLDS

InfraGen can use thresholds to determine when an invoice should be generated.

2.6.1 INVOICE AMOUNT THRESHOLDS

A positive invoice amount threshold can be defined to remove invoices with a small charge amount from the generation. A negative invoice amount threshold allows generating invoices with a large negative amount. It is also possible to generate zero amount invoices.

2.6.2 INVOICE DAYS THRESHOLD

The *Invoice Days* threshold defines the minimum period of time between invoice generations.

2.6.3 PRORATING SERVICES

Recurring charges can be prorated according to the resource activity periods or price changes.

2.6.4 BILLING IN ADVANCE

InfraGen can generate recurring charges in advance.

2.6.5 CUT-OFF FUNCTIONALITY

InfraGen includes usage charges into the invoice according to billing period restrictions.