cellfind

vSMSC PLATFORM

Overview Document

A high-performance least cost routing virtual SMSC platform that delivers superior global mobile messaging and customer management.

SUMMARY OF FEATURES

Messaging
High-speed batch processor
Least cost routing
Priority routing
Routing filters
Two way message tagging
Short Code management

System
Highly optimised Kannel
Access Control (User Permissions)
User Audit Logs
Network, country and currency agnostic
Billing Management
Extensive performance optimisations
Real-time database replication
DRBD file replication

Reporting
Activity Overview
Report Builder
Payment Reports
Service monitoring
Queue monitoring
Gateway monitoring

Customer Accounts
Full customer interface
Billing Management
SMPP & HTTP APIs
Global currency management
E-commerce enabled

Additional Components
HLR Lookup (Live & Batch)
Online Billing Services

HIGH PERFORMANCE

The Cellfind vSMSC Platform is a carrier-grade SMSC system that is used by WASPS, banks and enterprises around the world to deliver global least cost SMS routing solutions.

Built on a Kannel foundation, with extensive performance enhancements, the vSMSC is capable of processing more than 1000 messages per second, and is designed to handle tailored message routing, priorities, billing and reporting for over 50 million messages across multiple customer accounts in a single day.

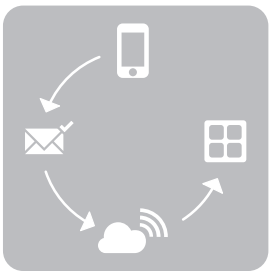
The powerful and robust SMSC architecture has an extensive range of features for message routing, system management, customer accounts and reporting built in that extend far beyond any comparable SMSC solution.

ROUTING ENGINE

Least Cost & Priority Routing

The key feature of the vSMSC Platform is its flexible routing capabilities. Multiple SMSCs can be added to the platform and least cost routing profiles can be configured to take advantage of the least cost for each network across all SMSCs. Message traffic is load balanced across multiple binds for an SMSC and can be prioritized to enable time-sensitive traffic (e.g. one time pins) to bypass large bulk messaging queues allowing quality of service to maintained across customer accounts.

Inbound Routing



In addition to the outbound routing features the vSMSC Platform has extremely powerful inbound (MO) routing. Numbers or number ranges can be configured per gateway (operator/SMSC) and then these can be delegated to a particular user for delivery either via SMPP or HTTP.
Numbers can also be shared amongst many users, but differentiated by keywords. As messages are received with a matching keyword attached, these will then be routed to the correct user as before. Inbound (MO) messages can also be billed if desired.

USER MANAGEMENT

Customer Account Management

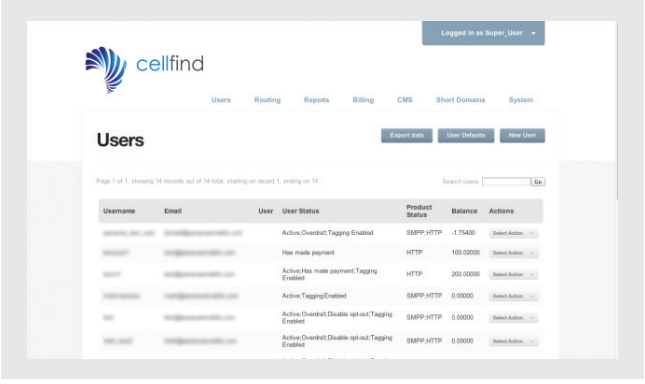
Extensive customer account configurations are available including currency, country, default prefixes, allowed protocols (HTTP & SMPP), throughput and overdraft facilities.
Routing profiles and filters can then be applied to customer accounts to control network level traffic routing, network pricing, traffic priority and more. Billing management tools and reporting make managing hundreds of global customers significantly easier. All of these tools allow for flexible account configurations to be applied to each customer account.

User Access Control

System users who have access to the vSMSC backend can have limited access enabled to prevent them from changing or viewing sensitive areas of the vSMSC system. This is done by creating 'system roles' that have granular permissions throughout the system and then applying the roles to the system user accounts. Permissions can be allowed on specific customer accounts only, if desired, and applying multiple system roles to a backend system user can allow for a highly tailored level of access for different operational, development, customer service, routing, support and finance department system users.

User Audit Logging

The vSMSC logs all system user actions and changes made to the system. This allows for transparent accountability for any operational issues that may arise. Audit logs can be searched by date and user.



ADVANCED REPORTING

Report Builder

The Report Builder can create and save custom reports using any outbound messaging data in the system. Quickly identify which gateways and countries have underperforming message delivery, compare your total gateway and customer costs, see your top customers for the year and create any other reports you could possibly want. Report results can be grouped, ordered, graphed and exported as CSV files for further processing.

The Report Builder can construct reports using the following data over a specified time period.

- Volume Processed, Delivered, Pending or Failed.
- Success Percentage (Delivery)
- Total HLR Volume
- Total Gateway Cost
- Total User Cost
- Average Delivery Time
- Average Queue Time
- Countries
- Networks
- SMSCs
- HLR Gateways
- Customer Accounts
- SMS Gateway Currencies
- HLR Gateway Currencies
- User Currencies

Activity Overview

The Activity Overview page gives a dashboard overview of key system indicators, such as:

- Messages sent for last 3 hours, the current day, the current week.
- Number of active users for current day and week
- Top five users for the day, by volume
- Top five users for the week, volume
- Users and networks experiencing impaired delivery experience
- Recent system actions
- Currently active batches (system wide)
- Scheduled batches (system wide)
- List of all active users on the current day, with volumes listed

Cacti Monitoring

Advanced Cacti monitoring with custom reports can be setup to measure key system performance metrics such as server memory and CPU usage, database I/O speeds, gateway queues and more.

Nagios Alerts

Traffic delivery is proactively monitored. If a specified delivery threshold is not met for an account within a specified time frame or an SMSC becomes unavailable, a service issue is automatically created and SMS / Email notifications are triggered to the support team to resolve the issue.

Additional Reports

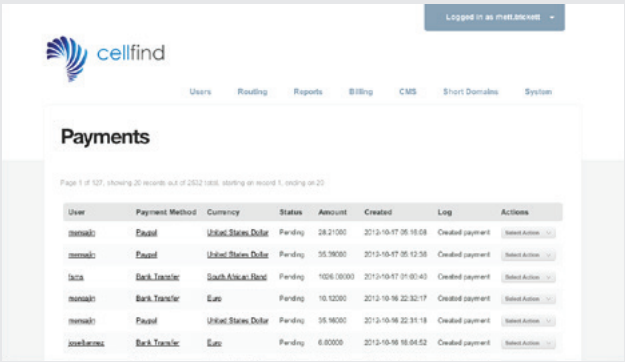
Additional reports allow for the searching of payments, messages, blocked numbers.

BILLING MANAGEMENT

The vSMSC Platform has a tightly integrated billing system, managing all processes within the gateway. Accounts can be set to allow an overdraft or work on a strictly prepaid basis. The billing process can be used for management of E-commerce transactions or internal budget allocation across multiple departments.

Billing points which can be set:

- Pre/post paid billing on outbound (MT) messages, defined per destination, per operator.
- Post paid billing on inbound (MO) messages, defined per number, per
- Post paid billing on inbound (MO) numbers, which can be billed per day, week, month, quarter or year.
- For users to deposit funds into their accounts, there are some pre-built modules available, such as
- Bank Transfer (manual approval)
- 2 Checkout (Credit Card)
- PayPal
- These can be approved via the administration console, or transactions can be manually added to user accounts.

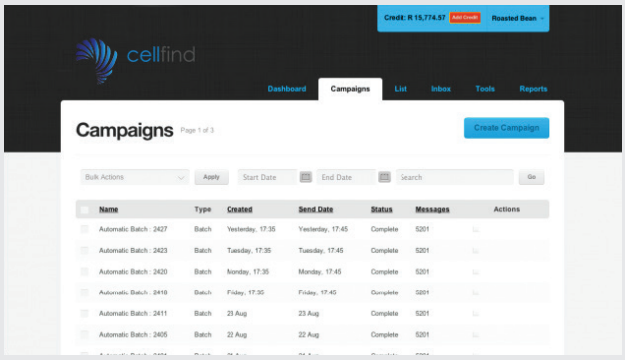


USER FEATURES

Customers have access their own web accounts where they can send messages, manage contact lists, view inbound messages and account reports.

Customer Accounts

Users can send messages using their online account interface or HTTP and SMPP APIs. Message sending throughput speed can be configured to send at maximum allowed speed or be throttled incrementally down to 5 messages per second. This can be useful to avoid flooding certain systems when data is returned. Macros allow for personalised data such as First name and Surname to be included in messages giving your messages a personal touch. Batch messages can be created by uploading a CSV file containing the number and unique message for each intended recipient. Sends are executed by a dedicated background process and can be monitored, paused or resumed during processing.



Payments

The Platform allows for payments to be made by end-users. This can either be a fully automated process, or require payment approval by an administrator. An end-user can simply login to their control panel, and select the 'add credits' link, which will then allow them to proceed to payment. Administrators will be notified of all payments, which they can then approve or decline via the billing section in the administration console.

Notifications

The Platform provides email and SMS notifications to end-users as well as administrative users. User's can elect to be notified when their account balance drops below a certain level, so that they can top up. In addition to this they can receive their daily costing reports via email.

Sub-Users

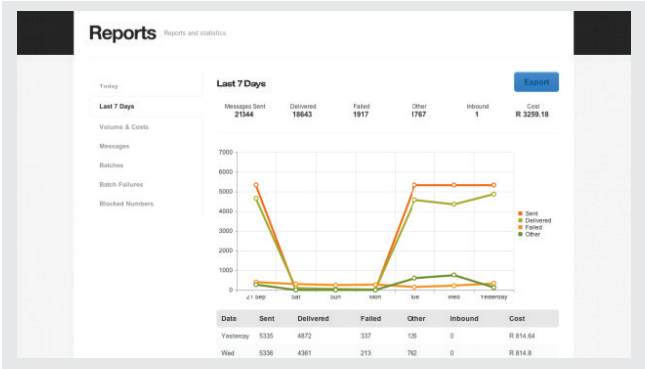
To keep things simple the Platform allows existing users to create sub-users. This could be to organise divisions within a company for easier tracking of information. Sub-users can either have completely separate billing, or they can be billed from the owner account.

The administrator can also to set certain users as 'resellers'. Resellers have their own pricing (as per normal) but in addition to this, resellers can set their own custom pricing for their sub-users. When messages are sent, both the reseller and the sub-user are billed at the applicable rates. This allows for easy franchise businesses to start up and create other revenue possibilities.

Reporting

There are numerous reports available in the customer accounts. These reports give the user enough information about their messaging activity without putting any severe load or impact on systems.
The reports available include:

- Messages sent, delivered, failed, pending and received for the current day.
- Messages sent, delivered, failed, pending and received for the last 7 days.
- Network volume and cost reports
- Message logs including time, status, content, cost.
- Batch Campaign reports
- Blocked Numbers



TECHNICAL OVERVIEW

DATABASE SYSTEM

The Platform described has been designed to run on a MySQL 4.1 or higher database system. It takes advantage of the binary logging features, InnoDB data space and various other capabilities of MySQL to ensure maximum performance and stability. The Platform uses table and data partitioning strategies to ensure large data sets do not compromise the speed of the system.

OPEN SOURCE COMPONENTS

The core Platform itself is a heavily customised version of Kannel, which makes use of a number of open source libraries such as MySQL, LibXML and OpenSSL. We are fully compliant with the licensing of Kannel even though many of our competitors choose to ignore it.

SUPPORTED OPERATING SYSTEMS

The system runs on any POSIX.1 compliant Platform. These include FreeBSD, Linux, Solaris, Mac OS X and others. We do however recommend using RedHat Enterprise Linux and/or CentOS distributions due to their increased stability.

3RD PARTY COMPONENT LICENSING

We have partnered with Tolj system architecture of Germany to provide a carrier grade SMPP solution, which will have licensing fees due should the SMPP componentry be needed.

GET IN TOUCH

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