

[ENABLING ENDLESS POSSIBILITIES]

fractalcom



FRACTALCOM
fractalcom.net

Complete Retail Voice Platform



Ceres is a tightly integrated billing, call routing and customer care solution developed specifically to offer platform services that enable third parties to effortlessly roll out complete retail voice operations with full-featured products and services. Through a comprehensive web-based interface, hosted service providers can independently manage products and services, vendors and clients. They can even connect their own voice gateways to Ceres for call origination and termination. Ceres includes a highly flexible rules-based call routing engine, which hosted service providers can independently configure for their services, and control call routing among available carriers.

Fractalcom is providing platform services powered by Ceres.

Using our platform services, service providers like yourself can launch a full-fledged retail voice business within minutes for less than a few hundred dollars. It does not get any easier than this!

Let us take care of your technical infrastructure so that you can focus on your business. We promise to provide you the most reliable and feature-rich platform service with the most user-friendly interface at highly competitive rates.

Benefits of Hosted Services

- Minimal startup costs and no capital investments
- Quick setup and product deployment
- Online web store
- Comprehensive web-based management
- Flexible business models

We provide the following:

1. PSTN Access
2. Intelligent Call Routing
3. Global Voice Termination
4. Real-time Billing & Customer Care

You can choose to take all or just a few, depending on your business model. For example, if you have your own originating voice gateway in China and you want to use us for call routing and billing, you can simply subscribe to those services.

Proven technology on world-class infrastructure

- ▶ Cisco Access Servers & Routers
- ▶ Multi-threaded high performance RADIUS server
- ▶ High-performance server side application on Oracle Database Servers
- ▶ Real-time Database Replication, Redundancy and Failover

Ceres Highlights

- ▶ Unlimited, extensive and highly customizable products and account management
- ▶ Real-time authentication, authorization, accounting (AAA) and CDR generation
- ▶ Real-time charge accrual, billing, ratings and statistics
- ▶ Corporate accounts with group billing
- ▶ Highly flexible reseller management
- ▶ Web-based management, customer care and self-provisioning interface
- ▶ Online monitoring and statistics
- ▶ Call-to-call profit/loss analysis
- ▶ Highly customizable reports
- ▶ Highly flexible rules-based routing

Unlimited, Extensive and Highly Customizable Products and Account Management

Ceres offers the flexibility and needed provision to support unlimited number of customized products and ratings, enabling service providers to tailor their services according to the market.

Currently supported product types include:

- ▶ Prepaid
- ▶ Rechargeable Prepaid
- ▶ Post Paid
- ▶ Limited Credit Post Paid
- ▶ Corporate (Group)

Name	Type	International	Prepaid	Terminated	Unsubscribed	Fixed Value	No. Months	Signy Period	Status
Local Prepaid	Pre	000	74	33	34	200	1	300	✓
Call Home	Pre	000	400	200	227	50	1	300	✓
Full Rate	Pre	000	000	000	11	50	1	300	✓
Europe Direct	Pre	000	74	20	20	200	1	300	✓
Full Termination	Pre	000	000	000	000	000	1	300	✓
Multi-Product	Pre	000	000	000	00	00	1	300	✓
Multi-Party	Pre	000	0	0	00	00	1	300	✓
Multi-Party (Group)	Pre	000	000	000	000	00	1	300	✓
Rechargeable Prepaid	Pre	000	00	0	0	000	0	300	✓
Prepaid	Pre	000	000	000	000	00	1	300	✓
Post Paid	Pre	000	000	000	000	00	1	300	✓
World Connection	Pre	000	0	0	00	000	1	300	✓

Product Management

Country	Start Date	End Date	Start	End	Start	End	Call	Number	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate
1. Prepaid	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04
2. Prepaid	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04
3. Prepaid	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04
4. Prepaid	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04
5. Prepaid	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04
6. Prepaid	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04
7. Prepaid	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04
8. Prepaid	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04	01-01-04

Product Adjusted Rates Management

Flexible tariff management includes the ability to define and instantly activate new tariffs or promotional offers. Tariff schemes allow the service provider to factor in product type, client location (originating node) time of day, day of week, holidays and promotional offers. New tariffs can be activated instantly or scheduled for a future date for a specific period or duration without affecting service. With support for multiple currencies and time zones, service providers can deploy customized products for any part of the world using one central system. New products can be created within minutes and offered online to customers. Service providers can even create customized products for individual customers.

Real-time Authentication, Authorization, Accounting (AAA) and CDR Generation

Ceres includes a full-featured advanced RADIUS module that works with all RADIUS-compliant gateways such as Cisco and Quintum voice gateways. This high performance multi-threaded server fully supports the standard as well as Vendor Specific Attributes (VSAs). The power of this module lies in the fact that it is highly customizable to enable a multitude of rich product features such as flexible Interactive Voice Response (IVR) scripts.

Real-time Charge Accrual, Billing, Ratings and Statistics

Ceres performs high throughput charge application, billing, rating and statistical analysis in real-time. Billing is done for each billable CDR based on set product definitions and ratings. Real-time billing allows the service provider to modify and fine-tune various rating parameters and view the results instantaneously. Ceres tracks service usage and payments in real-time. When service usage reaches a pre-defined limit, the system automatically sends a low balance alert via SMS and email. A voice prompt can also be played to the customer through the IVR, if configured for the product. Once usage reaches the credit limit defined for an account, additional calls are not authorized and existing calls are dynamically disconnected.

Corporate Accounts with Group Billing

Ceres supports corporate customers with multiple end-user accounts under a single group account. This account can control and add end-user accounts under it while affording full and independent end-user account management through the online self-provisioning interface. A corporate account gets a pool of credit (prepaid deposit or postpaid credit limit) that can be distributed among its end-user accounts or shared between the accounts as a single pool. Individual as well as consolidated invoices are automatically generated and sent at predefined billing intervals.

Highly Flexible Reseller Management

Ceres provides resellers the capability to independently manage all aspects of end-user accounts under them through the online self-provisioning interface. For the service provider, it provides

Card Type	Card Value	Total Cards	Used	Estimated
1. Card Type	500	50	500	50
2. Card Type	500	50	500	50
3. Card Type	500	50	500	50
4. Card Type	500	50	500	50
5. Card Type	500	50	500	50
6. Card Type	500	50	500	50
7. Card Type	500	50	500	50
8. Card Type	500	50	500	50
9. Card Type	500	50	500	50
10. Card Type	500	50	500	50

Reseller Management

real-time monitoring and management of resellers' activities and receivables. For the prepaid industry, when batches of accounts are provided to the reseller on credit, Ceres keeps track of the utilization of accounts (first use and depletion) per batch and alerts when it crosses predefined limits for unpaid batches.

Web-based Management, Customer Care and Self-Provisioning Interface

Ceres includes an intuitive and comprehensive Self-Provisioning Interface that provides management features for all aspects of the system. All configurations, product creation and definitions, modifications or enhancements, reporting, security and customer service are carried out through this interface. Secure access is provided for all users including end-users, resellers, corporate customers, customer service operators and administrators based on predefined roles and access privileges. Customers can service themselves thereby lowering operational costs for the service provider. The interface easily integrates into the service provider's web site to instantly provide a storefront for online product purchases. For end-users, it includes easy to use features to reliably and securely:

- ▶ Purchase any number of products using the online storefront.
- ▶ View remaining credit and account balances
- ▶ Replenish accounts using secure connections
- ▶ Modify existing services that have been purchased
- ▶ View or download invoices and call detail records
- ▶ Dispute call charges (Call Dispute Management) depending on the service provider

Online Monitoring and Statistics

Ceres provides a host of real-time tools that monitor and graph critical performance indicators such as quality, utilization and profitability. Vital quality metrics such as ASR, ACD and PDD can be monitored on the basis of a destination, a breakout within the destination, a carrier, a product, carriers within a product, destinations within a product, and any other combination of the above. Additionally, quality alarms can be configured using highly flexible rules to send an alert (email and/or SMS) when any combination of quality parameters degrade below a preset level for any product, carrier, destination, or combination of these three. Alternatively, the alarms can be fed into a trouble-ticketing application.

Similarly, utilization and profitability can be monitored on the basis of a destination, a breakout within the destination, a carrier, a product, carriers within a product, destinations within a product, as well as any other combination of the above. These tools enable quick response to quality degradation and losses. It allows monitoring of peak resource utilization, and thus assists in capacity planning. It also allows help desk operators to manage customer service operations effectively.

Call-to-Call Profit/Loss Analysis

Ceres provides profit/loss analysis on a call-to-call basis. The service provider can zoom in on the exact calls and destinations that are profitable. More importantly, unprofitable calls and destinations can be instantly revealed so that the service provider can take immediate corrective action. In real time, the effects of these changes can be viewed, and through fine-tuning, achieve optimal profits.

Highly Customizable Reports

Ceres provides service providers with comprehensive reports including:

- ▶ Billing and Accounting Reports
- ▶ Revenue & Expenses Reports
- ▶ Call reports for End-users, Resellers, Corporate accounts and carriers
- ▶ Quality and performance reports

These reports are easily exported into a variety of formats including PDF, Microsoft Excel, Microsoft Word, HTML or CSV. Leveraging the power of Ceres's relational database, service providers can generate almost any report in real-time with up-to-date information using third party reporting tools such as Crystal Reports and Oracle Reports.

Highly flexible rules-based routing

An unlimited number of routing rules can be defined using a combination of all routing parameters for highly granular control. The first matching rule is used to route the call. A prefix of any length can be defined in the rules to match the destination number. Rules can be used even to selectively block calls to a carrier. Currently, Ceres supports the following parameters in routing rules:

- ▶ Time of Day
- ▶ Day of Week
- ▶ Date and Time Series
- ▶ Quality of Service (ASR, ACD, PDD)
- ▶ Source Carrier
- ▶ Automatic Number Identification (ANI)
- ▶ Dialed Number Identification System (DNIS)

A matching rule can select carriers and distribute calls among the carriers in the following ways:

Percent-wise Distribution: Calls can be distributed among pre-defined carriers for a particular rule on a percentage basis.

Round Robin: If least-cost routing is selected for a particular rule, calls are distributed evenly among the carriers with the same termination rate for that destination.

Strict Priority List: The service provider can define a list of carriers in decreasing priority to be used to route calls that match the rule.

Least Cost Routing (LCR)

Country	Start Date Time	End Date Time	Day	Callplan	SMI	Type	Source Carrier	Carrier	Carrier
USA	01-01-2004	01-01-2004	Sun			WorldWise	WPT	WPT	WPT
USA	01-01-2004	01-01-2004	Sun			WorldWise	WPT	WPT	WPT
USA	01-01-2004	01-01-2004	Sun			WorldWise	WPT	WPT	WPT
USA	01-01-2004	01-01-2004	Sun			WorldWise	WPT	WPT	WPT
USA	01-01-2004	01-01-2004	Sun			WorldWise	WPT	WPT	WPT
USA	01-01-2004	01-01-2004	Sun			WorldWise	WPT	WPT	WPT
USA	01-01-2004	01-01-2004	Sun			WorldWise	WPT	WPT	WPT
USA	01-01-2004	01-01-2004	Sun			WorldWise	WPT	WPT	WPT
USA	01-01-2004	01-01-2004	Sun			WorldWise	WPT	WPT	WPT
USA	01-01-2004	01-01-2004	Sun			WorldWise	WPT	WPT	WPT

Routing Rules

No.	Rate	Time	Call Number	Country/State	Country	Call Number	Duration	Cost
1.	02-08P-0001	17-08-07	0000000000	000	BRANDI WOEHL	0000000000	00:07	00
2.	02-08P-0001	18-08-07	0000000000	000	BRANDI WOEHL	0000000000	00:00	00
3.	02-08P-0001	18-08-07	0000000000	000	BRANDI WOEHL	0000000000	00:00	00
4.	02-08P-0001	18-08-07	0000000000	000	BRANDI WOEHL	0000000000	00:00	00
5.	02-08P-0001	18-08-07	0000000000	000	BRANDI WOEHL	0000000000	00:00	00
6.	02-08P-0001	18-08-07	0000000000	000	BRANDI WOEHL	0000000000	00:00	00
7.	02-08P-0001	17-08-07	0000000000	000	BRANDI WOEHL	0000000000	00:00	00
8.	02-08P-0001	18-08-07	0000000000	000	BRANDI WOEHL	0000000000	00:00	00
9.	02-08P-0001	18-08-07	0000000000	000	BRANDI WOEHL	0000000000	00:00	00
10.	02-08P-0001	18-08-07	0000000000	000	BRANDI WOEHL	0000000000	00:00	00
Total							00:07	00:00

Call Records

- ▶ Peak Time
- ▶ Flag fall
- ▶ Deny Call
- ▶ Based on ANI, DNIS
- ▶ Progressive
- ▶ Minute Fraction (Dual Credit Time)
- ▶ Adjusted Incremental/Declining Rates

Web Storefront

Service providers can integrate their own merchant gateway services. All transactions are secured through Secure Socket Layer Protocol. The storefront is tightly integrated with billing and reflects real-time balances.

A Customer can

- ▶ View product details like rates and charges
- ▶ Add purchased product into own account
- ▶ Provide payment via credit card

Fraud Management

- ▶ Simultaneous calls are not allowed for end-user accounts, unless configured for post-paid customers.
- ▶ Attempts to authorize PINs belonging to batches that have not been sold indicate PIN leaks.
- ▶ Within a predefined interval, if more than a predefined number of different PIN authorization attempts are made from a single ANI, all further calls from that ANI are blocked

Rate Plans Analysis, Reports & Audits

- ▶ Ability to model new rate plans and analyze the impact on costs and revenues
- ▶ Carry out mass rate updates
- ▶ User customizable and predefined traffic and management reports
- ▶ User definable roles and access privileges the system access and restriction
- ▶ Audit history of user activities & transactions

Carrier Account Management and Billing

- ▶ Create and manage multiple carrier accounts
- ▶ Create and manage destination codes
- ▶ Define buying and selling rates per destination code per carrier
- ▶ Define multiple billing cycles
- ▶ Rates for time of day, day of week, holidays and exceptions
- ▶ Define usage-based, fixed and recurring charges

Key Features

Products & Services

- ▶ Corporate and regular product/service type
- ▶ Comprehensive product/service types
- ▶ Unlimited number of products/services
- ▶ Fine-grained customization of products/services
- ▶ Integration of IVR
- ▶ Cross product/service discount

Multiple Authentication Options

- ▶ Account Number/Card Number
- ▶ ANI
- ▶ PIN
- ▶ Tech-Prefix
- ▶ DNIS

Dial Options

- ▶ ANI Authorization
- ▶ Local Access Number
- ▶ Toll Free Dialing
- ▶ Abbreviated Dial (10-10)
- ▶ Speed Dial

IVR

- ▶ Credit Time or Balance Announcement Customizable through Product Configuration
- ▶ Multi-language IVR Support
- ▶ Customizable IVR Scripts
- ▶ Seamless integration of new IVRs

Multiple Surcharges

- ▶ Flat or Percentage Based
- ▶ Activation
- ▶ Periodic
- ▶ Recurring
- ▶ One-time

Multiple Billing Cycles

- ▶ Weekly
- ▶ Fortnightly
- ▶ Monthly
- ▶ Customizable by service provider

Flexible and Extensive Rating Rules

- ▶ Time of Day, Day of Week and/or Month of Year
- ▶ Vacation Rate



Carrier ASR Report



FRACTALCOM

2313 N 55th St.
Seattle WA 98103

Telephone: (206) 219-3751 - Facsimile: (206) 770-6475
Email: info@fractalcom.net - URL: www.fractalcom.net

