CRESTEL
BILLING AND REVENUE MANAGEMENT

Multi-Services Prepaid on a WiMAX Network

Features & Benefits of Crestel for Multi-Service Prepaid

- Faster rollout of services by Orchestrating Policies based on subscriber usage pattern, market conditions and upcoming socio-economic events
- Provide differentiated services offerings depending upon subscriber profile
- Reduction in subscriber churn through proactive notification and personalized subscriber experience
- Provide appropriate QoS depending upon type of network and subscriber access preferences
- Support of On Demand Applications
- Support of Prepaid Services & Voucher Management
- Access & Service Agnostic Single Sign On
- Centralized AAA across all data services
- Differential Rating depending upon subscriber usage pattern
- Optimum monetization on network resource usage based on multiple metrics

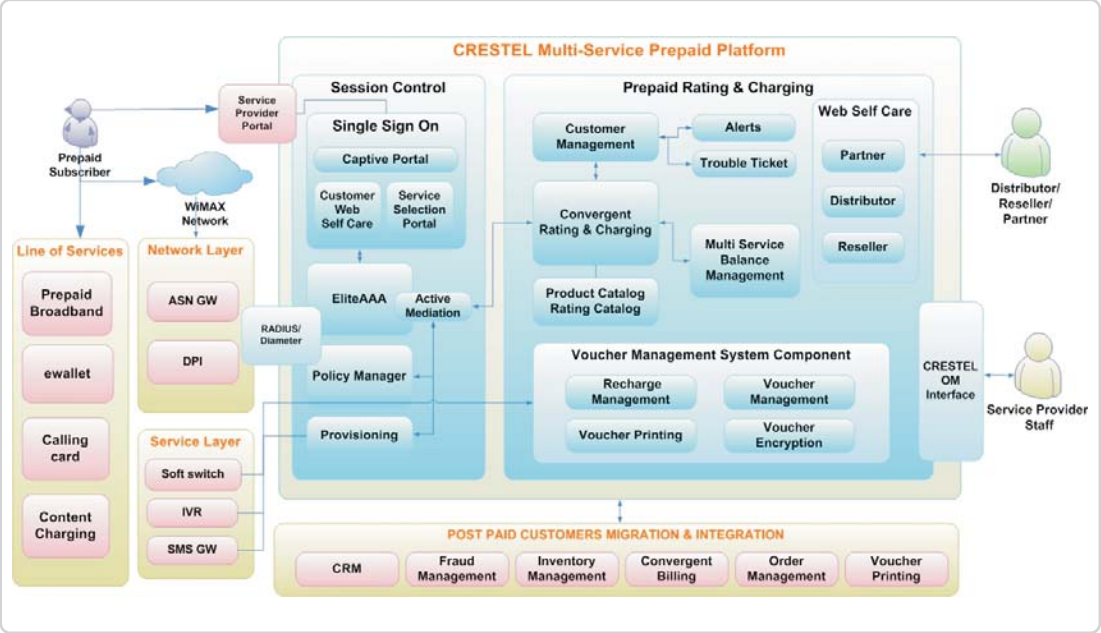
In race to optimize cost, improve customer experience and increase efficiency every WiMAX operator is compelled to offer multi-services prepaid through their WiMAX network. This is true for WiMAX operators which are launching on demand, content based and hotlining of services to derive new revenue streams by offering data services to travelers, students, roaming as well as rural customers.

Typically these kinds of customers do not subscribe regular monthly subscription plans but they want temporary bandwidth boosts without being tied to any plan. They yearn for On demand and content based services equivalent to premium services offered to postpaid customers. By offering Prepaid services, operators not only cater to under-served user segments but they also manage more customers in the same bandwidth, ensure optimal utilization of their network, and hence maintain their margins despite competitive pricing.

But key factors to success of offering multi-service prepaid service in WiMAX networks are offering QoS based on service and application per customer level depending on customer and network preferences.

Elitecore offers a one-stop shop to WiMAX operators to manage multi-services prepaid, content based services, on demand and hotlining of services. Solution manages the bandwidth, provides customer self care service, defines and maintains QoS thus allows seamless traffic management and content filtering.

EliteCore Solution for Multi-Service Prepaid for WiMAX network



CRESTEL Multi-Services Prepaid on WiMAX solution

- EliteAAA
- Policy Manager
- Captive Portal
- Service Selection Portal
- Product Management Module
- Convergent Rating & Charging
- Provisioning Module
- Voucher Management System Component
- Multi Service Balance Manager
- Partner / Distributor Web Self Care
- Reseller Web Self Care
- Customer Web Self Care
- Trouble Tickets and Alerts

EliteAAA

- NWG 1.3 Compliant
- EliteAAA supports the RADIUS / DIAMETER protocol
- EliteAAA supports the EAP TLS, EAP TTLS and EAP MD5
- EliteAAA supports the Pre-provisioning of the QoS based on
- RADIUS Policy defines at the Driver level, System level, Rate plan level and Account level for Authenticating and Authorizing the Subscriber
- Proxy Forwarding based on Realm, ANI and DNIS support
- Centralized database to Authenticate WiMAX subscriber

Policy Manager

Policy / Profile Manager

- Enforce rule based policy based on time, Duration for prepaid User
- Centralized Policy Database to manage Subscriber Live Session Data
- Policy Decision Function and Enforcement of correct Rule based on Service andApplication for each Subscriber

Bandwidth Controller

- Dynamically Allocate Bandwidth and Quality of Service based on Service and Subscriber
- OptimizedTiered Bandwidth andAccess Network Resources at eachAccess Network Level

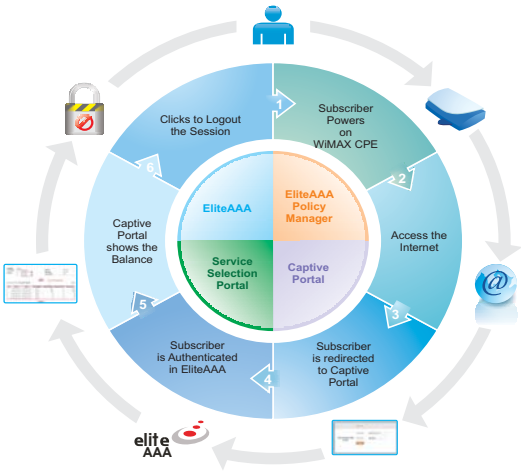
Network Repository Manager and controller

- Dynamically Manage Network Resources based on Service, Subscriber or Usage
- Does the Resources Reservation and Monitoring for On Demand Service Request Can Monitor Contention rates in the Network per Class of service
- Provide the Resource Admission Control to prevent contention of Network Bandwidth in order to preserve the performance

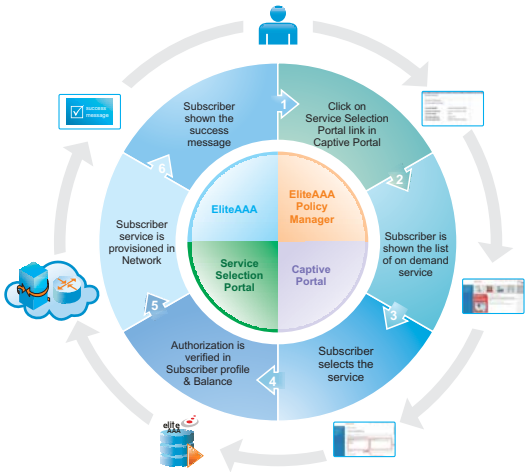
Session BrokerAgent

- Provides live session information required for current network usage
- Support bulk provisioning &Real time Provisioning for OnDemand Service

Subscriber Login Flow



Subscriber On Demand Service Selection Flow



Captive Portal

- Customized Administrator & User login Template for Pre and Post login
- Dynamically shows the user balance with remaining time and data
- Administrator can add promotional advertisements and introduce new websites to the customers with the help of images and URLs.
- Easy access to change or update the service with the help of links
- No Integration required with ASN Gateway

Service Selection Portal

- Dynamic Service Selection Portal shows the personalized service selection option for self subscription via web
- Subscriber can easily change the service from Service Selection Portal
- Web portal shows the Subscriber's Location specific content easily integrates with EliteAAA RADIUS Server and Policy Manager
- Customized Advertisement Area, dynamic with subscriber's location
- Service Provider can add external URL s for redirection

Business Applications Mapping

Business Applications
WiMAX Multi-Service Prepaid Broadband
- e-wallet / e-topups
- Calling card
- Recharge pin cards
- Video, Music cards
- Online payment facility

Features available to Subscriber
- VoBB
- High Speed Internet
- Content access from Operator / 3rd Party Portals

Subscriber Access Mechanism
Through WiMAX client & CPE User will connect their PC and use the Broadband Application

Access Network
WiMAX 16d/16e

Product Management Module
- Supports High Speed Internet services, Voice over Broadband and Content access from portals
- Supports Plans based on basic services, content based, on demand services
- Allows purchase of products following modes
  - Cash [Walk-in to Distributor , Customer Care reps, reseller's office]
  - Online Credit Card Payment
  - e-wallets / e-top ups
- Flexible Discounting rules & application
- Support of multiple Tax structures
- Multi-Currency Support

Convergent Rating and Charging
- Real Time Rating & Charging with configurable rule based rating engine
- Voucher Management & Recharge System
- Account recharge via credit/debit card and balance transfer
- Supports bundled voice and data services offering
- Rating by duration, volume, step-volume, location
- Tariff switching support
- One-time Charging Support
- Resource Pool Management
  - Time and volume-based prepaid quotas to support multiple service models.
- Balance management
  - Immediately suspends sessions upon completion of a prepaid balance, helps to minimize revenue Leakage.
- Roaming support

Provisioning
- Provisioning, Pre-provisioning & Self Provisioning of CPEs
- CPE Management- Change Customer CPE, Assign CPE
- Bulk Provisioning in Network EMS
- Real time service activation
- Integrates billing system for creation of subscriber profile

Voucher Management System Component
- Allows the generation of vouchers with required prefix, denomination, quantity, period and used validity.
- Allows recharge through multi-mode recharge modules, including offline and electronic channels
- Allows rapid expansion of operations through distribution and management of vouchers assigned to distributors and resellers.
- Staff can be assigned rights for accessing features and amount-based transactions on a daily, monthly, and transaction level. It ensures secure access with IP-based authentication.
- Runs on J2EE compliant JBOSS Application Server & Oracle Application Server with Oracle 9i as the database. Its flexible architecture can run on Linux, Sun, HP, IBM AIX Platforms.
- Allows access for millions of subscribers enabling quick activation with new recharging interfaces. Allows recharge through various interfaces like SMS. USSD, Customer Care Application, ATM, IVR and Internet etc

Multi Service Balance Manager
- Manages usage balance for differentiated services over High Speed Internet, Voice over Broadband and Content Access from portals
- Updates and Maintains following details per account
  - Total Balance
  - Reserved amount
  - Used Balance
  - Remaining Balance
- Calculates time / volume / events based on available balance and sends it to rating engine for rating

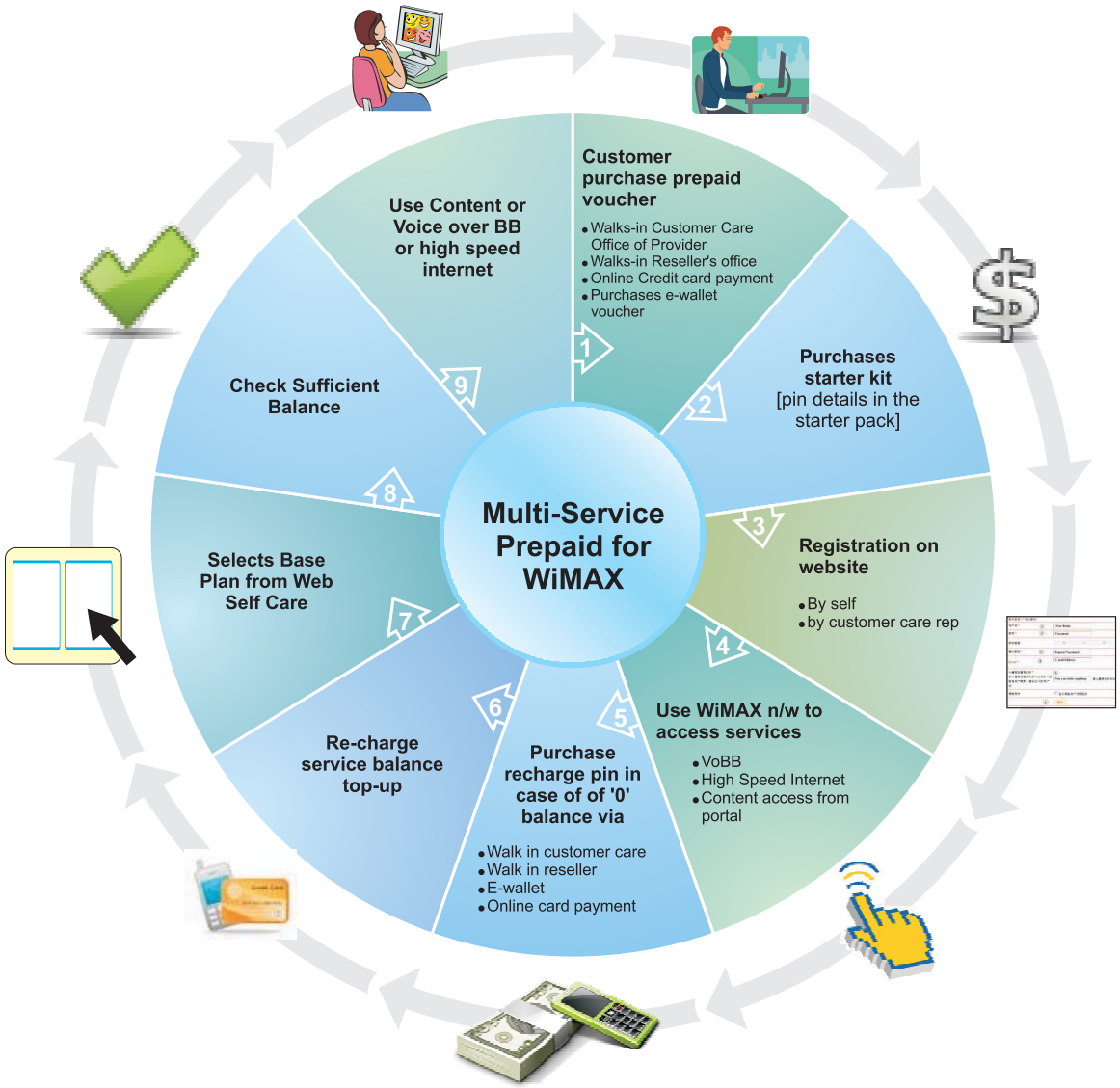
Reseller / Distributor Web Self Care
- Buy Pins online
- View transactional information
- View package information
- View the revenue and commission information
- View the orders they've placed for PINs

Partner Web Self Care
- View and update CDRs for outbound customers (Incoming partner)
- Upload, view and update CDRs for inbound customers (Outgoing partner)
- View Revenue details
- View Account details
- Staff management

Customer Web Self Care
- User-friendly interface for customers
- Interface to provide exhaustive customer information like
  - Recharge Coupons
  - Renew Coupons
  - Change Plan
  - Usage / CDRs
  - Create Trouble Ticket
- Opportunity for service provider for promotions, new plans, messages, etc.
- Web Self care for single and group accounts

Ticketing & Alerts
- Easy & user-friendly interface for Ticket logging
- Multiple Problem category definition & ticket logging
- Unique Ticket identification
- Ticket escalation matrix- Auto as well as manual
- Reporting & notification of events to users as well as customers
- Alerts on threshold limits raised

Customer Acquisition Flow:



About Elitecore Technologies Ltd.

Elitecore Technologies is the provider of CRESTEL - Billing Revenue Management & Elite*AAA* - Core Network Session Control Software to enable Next Generation Voice, Video & Data Services offered by Tier-1 to Tier 3 Telecom operators / service providers over Wireline or Wireless Networks offered directly and through distribution channels. Elitecore serves customers across the goble with presence in more than 75 countries and is a Carlyle invested company-The Carlyle Group is a global private equity firm with USD 84.5 billion under its management. For more information, visit Elitecore Technologies Ltd. at www.elitecore.com

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