

### Key Features

- Integrated ISP Billing with Access Controller and Billing Server
- Embedded Dynamic Access Controller.
- PIN, Username and Password, and IP Address Base Authentication.
- Flexible Real-time Session Control.
- Support for Time Based Billing
- Support for Bandwidth Based Billing
- Support for PIN/User Batches
- Support for ISP Batches and Resellers
- Optional Integration with VoIP Billing Server

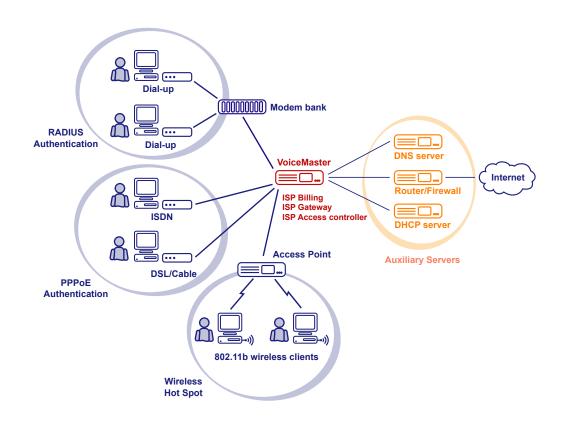
- Complete Broadband Billing Services
- Complete Hot Spot, Wi Fi, and Wireless Billing Services
- Support for Pre-Paid and Post-Paid Environments
- Support for Trusted IP Segments
- Support for Content Billing data Retrievals
- Dynamic QoS Class Support

### **The Problem**

ISP provider requires integrated billing solution for wireless hotspot users. The billing solution should support both pre-paid internet access as well as post-paid access. Billing model includes both pre-paid time-based access (for retail users) as well as postpaid bandwidth-based billing assess (for corporate clients). All ISP access is real-time to allow dynamic session management and disconnection.

#### **The Solution**

VoiceMaster integrated billing solution allows easy access control and billing for Internet users in both broadband and wireless environments. The system supports both pre-paid and post-paid client accounts as well as reseller batch account management. The system bills users based on time and bandwidth and allow dynamic session control via the included access controller.



### Flexible Billing Models

VoiceMaster supports flexible time and bandwidth based models in any combination. Internet access is controlled in real time to allow dynamic session termination. Billing models include initial, sample and incremental time settings as well as initial, sample, and incremental bandwidth settings. Full content based billing for web sites and data service providers is naturally supported to allow content manager to bill for data retrieval.

# **Supports Unlimited ISP Billing**

The system allows the ISP providers to define unlimited ISP Billing Plans and associate these plans to different users. The system support ISP Network Provider entries to allow plan switching from one uplink provider to another in real-time.

# **Integrated Access Controller**

The system includes and integrated access controller that is based on dynamic firewall server. The server allows Web based authentication via PIN, username and password, and IP address. Both dynamic and static IP addresses are supported. The system also includes a traffic management server that monitors the network usage and dynamically disconnects accounts with depleted balances.

### **Dynamic Account Management**

The system monitors all active network connections and dynamically disconnects session based on time-out, account depletion, or other factors. Users are authenticated based on IP address that is captured upon session initialization to allow support for dynamic and static IP addresses. In addition, HOME PAGE Web control is secured to allow Web based login from any HTML browser on the user desktop.

### **Optional Dynamic QoS Management**

As an option the system allows QoS class allocation for different users to allow intelligent bandwidth allocation in real-time. The Dynamic QoS filter engine allows user traffic classification and allocation in real-time. ISP providers have the capability to define Quality of Service classes and associate these classes with system users, which allows the system to support different service levels and SLA if necessary. QoS supports shared, isolated, bounded, and restricted QoS classes with flexible bandwidth allocation.

# **Billing Flow**

- 1 User purchases a pre-paid internet access card.
- 2 User tries to visit his favorite web site
- 3 VoiceMaster access controller captures the http/web request and returns a default login page via a 'request spoofing procedure'
- 4 User enters his username/password, or PIN information to authenticate
- The system authenticates the user accounts, captures the user IP address (both dynamic and static IP addresses are supported) and initiates dynamic firewall filtering
- User can browse the internet or the network based on their ISP plan and balance information
- 7 Administrator monitors and controls all sessions in real-time and if necessary terminates them
- User is billed based on time and bandwidth usage according to his ISP billing plan
- Once the user account balance is depleted the user session is terminated dynamically
- 10 User can check his usage and stats online via the system CRM web site
- 11 User can purchase additional access online or offline

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