



# Voice over IP (VoIP) Implementation and Billing

## Course Synopsis

**Voice over IP (VoIP)** has been around since the introduction of the Internet and the World Wide Web. Although initially conceived to reduce long distance and toll charges, VoIP has become synonymous with simplified communications at a reduced cost. Customers expect VoIP to deliver cost savings and enhance productivity through advanced IP Applications and increased Customer control. This course covers of VoIP from a few perspectives:

- What is the impact to the carrier enterprise of deploying a VoIP infrastructure? I.e., what is the impact on the various business processes within the enterprise?
- How is VoIP handled from a billing perspective? How different is billing for VoIP from billing from traditional fixed line and mobile telephony?
- What are the implementation and deployment issues faced by the carrier as it prepares to offer VoIP service to its customers?

The training approach for this course is based on our client-acclaimed methodology: a mixture of interactive presentations, live demonstrations, and workshops.

## Building Blocks - An Overview

- i. What is VoIP?
- ii. What is "Carrier-Grade VoIP"?
- iii. Internet Service Providers (ISP) and Internet Telephony Service Providers (ITSP)
  - Who are the players?
  - What are they doing?
- iv. A Sampling of IP Applications
  - Telephony Plus
  - Instant Messaging
  - The Web Browser
  - Collaboration
- v. Mobility
  - Find Me/Follow Me

- vi.
  - "Hot Desking"
  - VoIP Personalization
  - Static Call Handling
  - Dynamic Call Handling of Incoming Calls
  - Presence (Friends on-line)

## VoIP – Live Demonstration

### VoIP Technology Infrastructure

- i. Network Overview
  - Network Diagram
  - The OSI and IP Reference Models
- ii. Technologies and Protocols
  - Turning Voice into Packets
  - Internet Telephony Protocols
  - Signalling (Session Initiated Protocol – SIP)
  - MPLS
  - H.323
- iii. Access Clients
  - Subscribers
  - Network Administrators
- iv. Network Components
  - Infrastructure
  - Media Servers
  - Gateways
- v. Quality of Service

### Business Process Impacts

- i. Customer Care
  - Order Management
  - Self-Care
- ii. Sales
  - Pre-Sales
  - Customer Welcome Package
  - Network Assessments
- iii. Provisioning (Voice and Data)
  - Field Services
  - Network Engineering
- iv. Service Assurance
  - Network Operations
  - Help Desk
  - Repair Operations Center



## Voice over IP (VoIP) Implementation and Billing

### IP Usage Mediation

- i. Key Role of Mediation
- ii. Data Collection and Enrichment
- iii. OSS and Service Provisioning
- iv. Real-Time Mediation – Analyzing the Packets

### Pricing and Billing

- v. The Rating Process – How different is it?
  - The Internet Protocol Detail Record (IPDR)
- vi. The Bill Calculation Process
  - Bill Calculation functions
  - Online Invoicing
- vii. Rating & Billing for Wireless IP
  - 2.5G – GPRS
  - 3G – UMTS
  - CDMA2000 - 2xRTT
- viii. Convergence and Bundling
- ix. International IP Clearing Houses
- x. Real-Time Rating & Billing
- xi. Prepaid

### Implementation and Deployment Strategies

- i. Stakeholder Commitment
- ii. Vendor Selection
- iii. Program vs. Project Approach
  - Network Infrastructure Build
  - Process and System Re-engineering
    - As-Is/To-Be Analysis
    - Operating Systems Development
    - Customer Facing Web Portal
  - Professional Services
  - Marketing & Sales Plan
    - Service Description
    - Market Launch Strategy
    - Sales Strategy
- iv. Operational Transition Plan
- v. Industry Lessons Learned

### Summary

Carriers around the world are now viewing VoIP as a rapidly growing threat that they can no

longer ignore. In this summary section, we look at some of the trends in the IP world, and at some of the strategies adopted by some carriers as they deploy their VoIP infrastructure.