Voice Management for the Enterprise

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Customer Business Needs

• Rapid and efficient voice network deployment is a must
• Businesses need comprehensive, yet easy-to-use tools to manage their growing voice networks
• Customers want to consolidate their network management gear/tools
• Enterprises want to provide effective network management tools to their managers to understand network usage
Customer Operational Requirements

- What do I need to make my VoX work?
- How do I install/config/deploy for VoX?
- How do I keep my VoX services running?
- How do I know if I have problems?
- How do I fix them?
- How can I do accounting & billing for VoX?

TOP 5 Troubleshooting Requirements

Discover priority of voice traffic 4.5
Are my LAN/WAN traffic problems affecting my voice quality 4.5
Connectivity & voice loop back testing 4.5
Connectivity to specific HW & SW 4.4
Trace route of call end-to-end 4.2
New and Expansion Equipment Planning

- What HW is voice capable and what isn’t
- What needs to be done to make voice work
- Current equipment capacity and utilization of current equip. links
- Check against Cisco recommendations for proper installation
- New equipment/links capacity/utilization estimator
- Network utilization baselining

New and Expansion Voice Application Planning

- What voice appl customers want
- How many copies of each appl are needed
- How many servers do I need to run the apps
- How do these apps interact with each other
How Do I Install/Config/Deploy Cisco VoX Networks?

- Cisco HW & SW
  - Inventory current Cisco voice-capable HW & SW
  - Install Cisco voice specific HW & SW
  - Configure Cisco voice related HW & SW
  - Configure Cisco voice specific HW & SW
  - Configuration validation tool for HW & SW
  - Integrate Cisco voice specific HW & SW

How Can I Do Accounting & Billing For My Voice System?

- Integration w/current customer accounting and billing system
- Consolidation of multiple CDR sources (CM, routers)
- Cisco provide accounting and billing solution
Voice Deployment Needs

- Easy to manage GUI interface
- Templates for bulk configuration
- Facilitate Dial plan creation and ongoing management
- Allow for easy network reconfiguration due to support personnel moves, facilities growth, company moves, etc.
Integrated Management

- Reduce proliferation of NMS applications
- Consolidate network management facilities and personnel
- Provide flexible tools that can easily integrate with each other to meet differing enterprise requirements
- Tools that are easy to use and interoperate efficiently

Operational Support

- Provide Graphical interfaces and Web-based access to enterprise end users
- Configurable reporting tools
  Easy to interpret reports
CiscoWorks 2000 Voice Manager 2.0 Highlights

- VoIP, VoFR and VoATM dial plan management
- Supports 1750, 3600, 2600, MC3810, 5300, 7200 & Gatekeeper Support
- Launching from CiscoWorks2000
- Enhanced Reporting
- Scalability/Performance improvements

Configuration Management

- Create dial plans for VoIP, VoFR, VoATM
- Discover/ query/ modify interfaces
- Bulk configuration
- Context-sensitive help
- Provides Router config management
VoX Provisioning

- Support for VoFR, VoIP and VoATM configuration and management
- Easy to configure template based utility for all IOS based routers.

Dial Plan Configuration

- Configuration of network dial plans for VoX installations
- Supports mixed Voice protocol deployments
- Provision gatekeeper dial plans where applicable
- Facilitates updates of dial addresses as changes occur
Fault Management

- SNMP Trap Log Monitor
- Test Dial Path Integrity checks
  Cross-checking of dial plan configurations
  Connectivity test between routers

Provision QoS levels

- Permits individual port level configuration for quality of voice
- Configuration of parameters on a per port basis or can be assigned via templates for large scale deployments
Performance Management

- Quality of Voice Exception Report
- Call Volume Report
  Summarizes distribution of successful, failed, rejected, abandoned calls
- DSP Info for 5300
  stats, alarms, and utilization

New Reports Module: Feature Advantages

- Basic product comes with 15 reports
  - 200+ reports available, custom report writer (both optionally available)
- Cost Allocation: Control and recover network costs
- Supports multiple firewall, proxy server, and PBXs (optionally)
- Integrated Phone Activity (optional Web activity reports)
Call Accounting

- Call traffic granularity by user, time, group, etc.
- Summary and Drill down reporting on line.
- Integrates router-based calls and PBX database
- Provides rate information for least cost routing and bill back

Flexible Cost Assignment

- “Point And Click” to assign trunks to groups
- Distinctive pricing per trunk group (assign tariff rates to different call types)
- Assign different costing methods
Traffic Volume

- Usage reports
- Bandwidth allocation
- Traffic views by user, protocol, destination, URL category, etc.
- User detail and summary reports

Consolidated Activity Reports and Summary

- Chart hourly activity
- Allocate network expenses
- Most active Calls by volume

### Report Distribution and Publishing

Output options for distributing reports to management:
- E-Mail
- HTML
- Print

### How Do I Keep My Voice Services Running?

- Change management
  - Network change management
  - User change management
- Image management
- Service level management (SLM)
- Tools to notify operations and 3rd party network management systems of impending problems
How Do I Fix Them?

- Problem Identification
- Troubleshooting
- Diagnostics
- Problem Resolution

CW2000 SLM
Voice Related features

- Test voice readiness
  - SA Agent feature in the IOS
  - Jitter testing between IOS devices, emulated VoIP traffic
  - Test parameters UDP -
    - ToS (DSCP – Diff Serve Code Point)
    - Packet size, Inter packet gap
    - Packets per test
    - Trend over days, weeks, months

- Integrate CDR data for service level evaluation
Quality of Service Device Manager (QDM)

- Primary Features:
  - Device oriented, embedded QoS mgmt. tool with:
    - Protocol discovery
    - QoS configuration by traffic class and policy
    - QoS real time monitoring by traffic class
    - Web browser connection to IOS embedded web server
    - JAVA app runs on W/S but is stored in router flash
    - Support for critical IOS QoS features, including: NBAR, PQ, CBWFQ, WRED, IP Prec/DSCP Marking

- Primary Benefits
  - Enables simple intial deployment of QoS features
  - Combines config and monitoring in 1 tool
  - No server, client or probe set-up required

CiscoWorks2000 Family

BUNDLE #1: Routed WAN Management Solution
- Access Control List Mgr.
- Internetwork Performance Monitor
- Traffic Director
- Resource Manager Essentials
- CiscoView

BUNDLE #2: LAN Management Solution
- Voice Health Fault Manager
- Campus Manager
- Traffic Director
- Resource Manager Essentials
- CiscoView

BUNDLE #3: Service Management Solution
- Management Engine 1100
- Service Level Manager
- Resource Manager Essentials
- CiscoView
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