

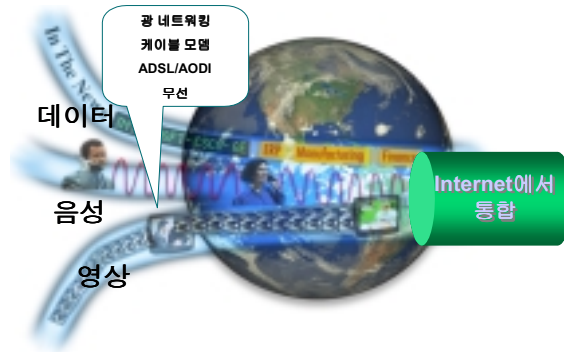


Agenda

- ◆ **VoIP: It's Time**
- ◆ **What's AVVID and New Features**
 - ✓ **Call Manager and Voice Gateways**
 - ✓ **Call Manager 3.1**
 - ✓ **Personal Assistant**
 - ✓ **IP IVR, IP-ICD**

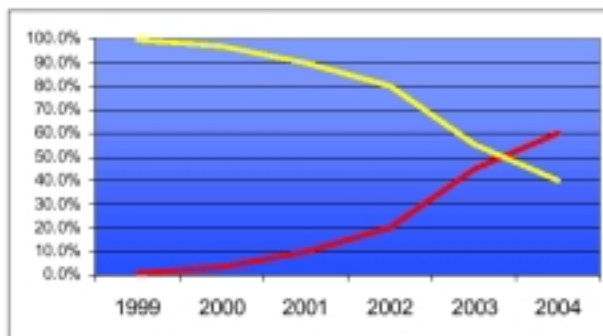
통신 기술의 통합 흐름 (Voice /Video/Data 의 IP로의 통합)

- 데이터 네트워크와 음성 네트워크가 통합되는 단일한 네트워크
 - 여러가지 다양한 네트워크 인프라에서 패킷으로 트래픽이 통합
 - 통합의 매개체는 인터넷
- 음성 트래픽 보다 데이터 트래픽이 압도적으로 많은 환경
- 다양한 현재 데이터 전산환경의 다양한 어플리케이션과 통합
 - Unified Messaging
 - CTI, Call Center
- 새로운 형태의 다양한 비즈니스 기회
 - 전화와 데이터의 통합에 따른 다양한 부가 서비스 창출
- 언제 어디서나 데이터와 음성을 간편하게 사용
- 데이터는 요금 부과, 음성은 무료화가 가능



Convergence is here

Figure 34: LAN Telephony vs. Circuit Switched Voice Traffic

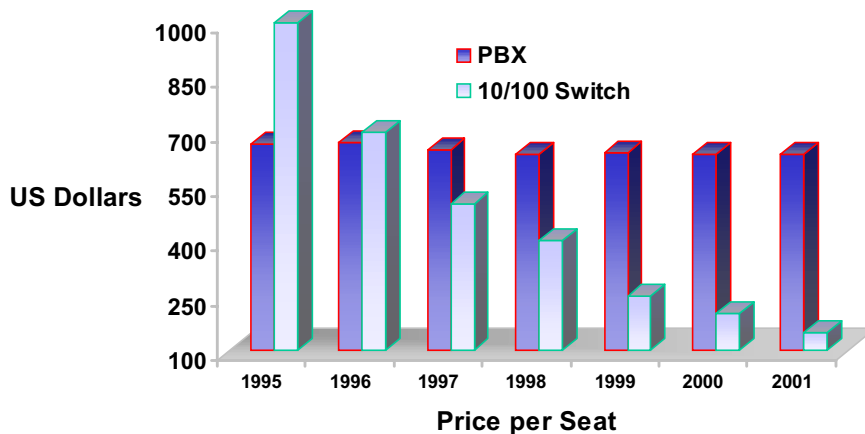


	1999	2000	2001	2002	2003	2004
LAN	0.5%	3.0%	10.0%	20.0%	45.0%	60.0%
Circuit	99.5%	97.0%	90.0%	80.0%	55.0%	40.0%

Source: Cahners In-Stat Group

Open System Economics Example

**Proprietary System (PBX) Per Seat Pricing vs.
Open System (Ethernet Switch) Market Characteristics**



VoIP: It's Time

“

- Packet PBX technology, is solid, stable, fully-featured, and ready to deploy.
- Enterprises want packet PBX technology, because it saves money and enables application integration that makes them more productive.



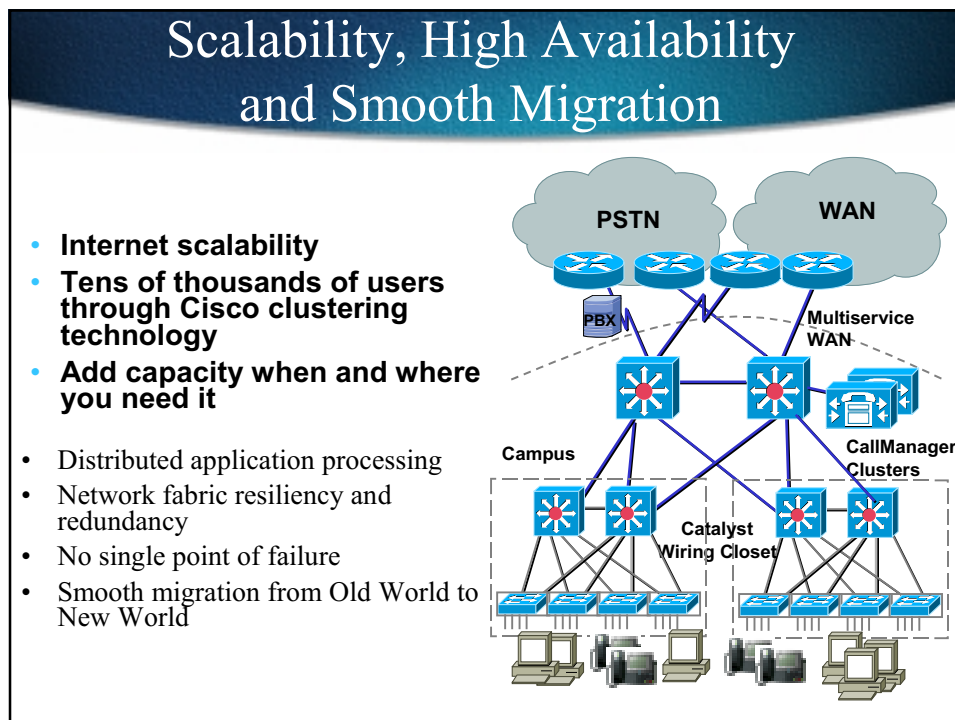
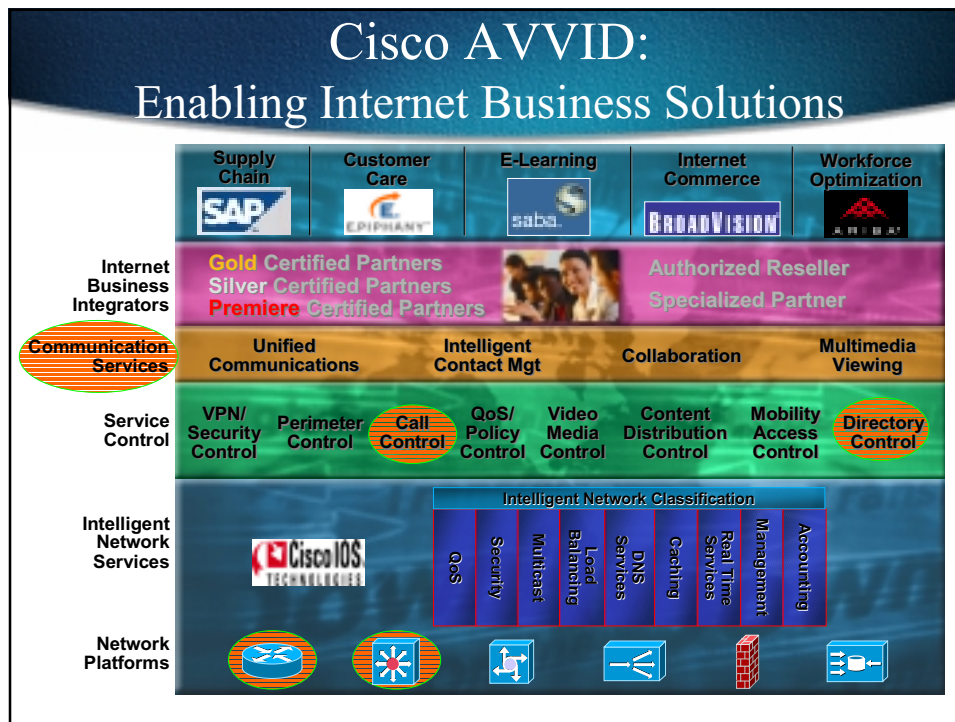
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—Current Analysis
Advisory Report - E-Business Infrastructure
May 8, 2001



Architecture for Voice, Video and Integrated Data (AVVID)





Cisco VoIP Enterprise Wins

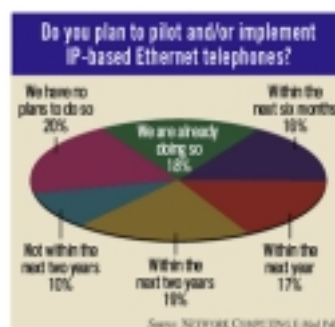
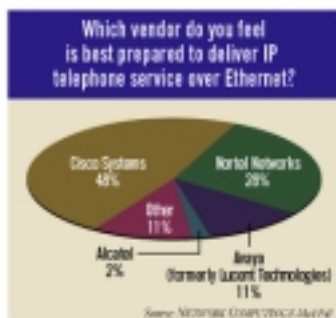
- Over a million VoIP gateway ports shipped
- Over 400,000 IP phones shipped through 1/01
- Cisco has more than 23,000 employees using IP telephony - Over 90 PBXs replaced globally



Te Manatū mō ngā Kōwhiri Whangū Tangata

Cisco Gets the Bid!

- RFP responded to by Cisco, Avaya, Nortel, Alcatel, 3COM
- Cover story in 11/14/2000 issue

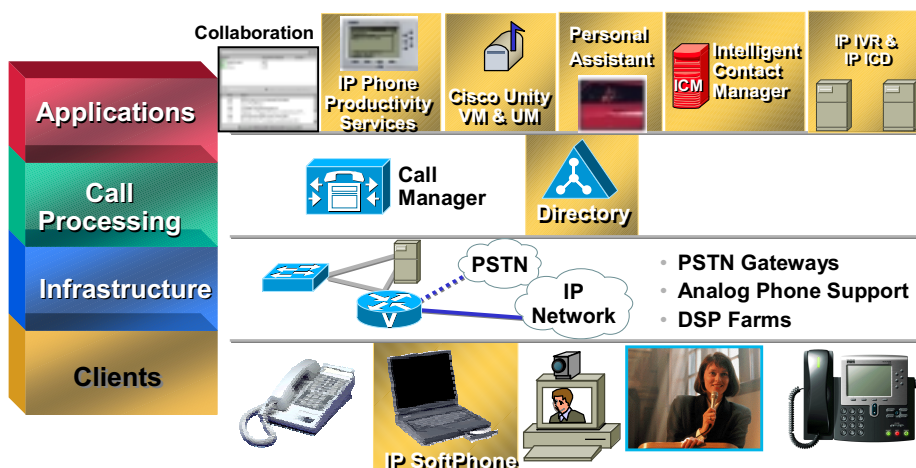


Next Generation Communication Solution Benefits

- Enhanced Productivity
 - Integrated IP applications and services for individuals, workgroups
- Lower Total Cost of Ownership
 - Reduced capital layout in new sites
 - Short and long term administration savings
- Operational agility
 - Reduced time to add new users and services
 - Ubiquitous access to services for all users
 - Smooth migration path
- New levels of Scalability
 - Same technology scales from 10 to 100,000 user sites



IP Telephony Building Blocks



The World Is Now Global—All Apps Must Traverse Time and Distance

Cisco IP Phone Products



7910



7935



7940



7960



SoftPhone

Cisco Voice Gateways



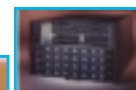
ICS 7750



Catalyst 4000



Catalyst 6000



Cisco
7200-VXR



Cisco AS5800



Cisco AS5300



Cisco MC3810



Cisco 1750



Cisco 2600

Cisco 3600



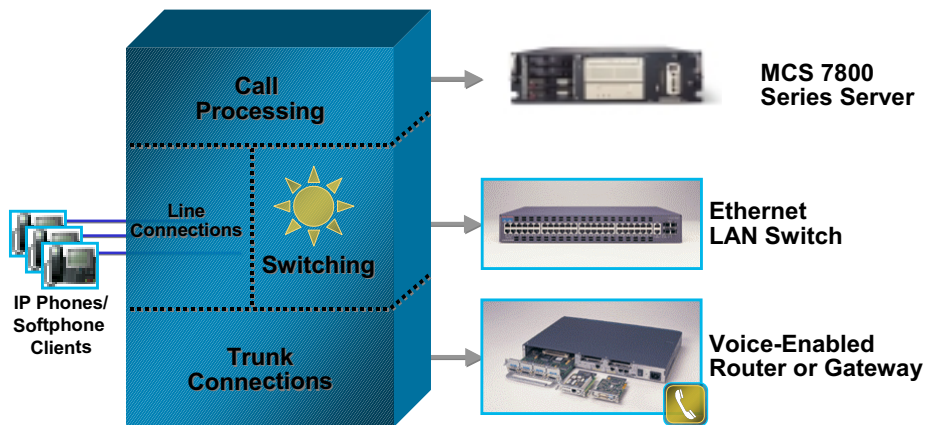
Cisco VG200



Cisco DT-24+, DE-30+

IP Telephony Building Blocks

IP Telephony Replaces PBX Architecture



Cisco Call Processing CallManager

MCS 7835

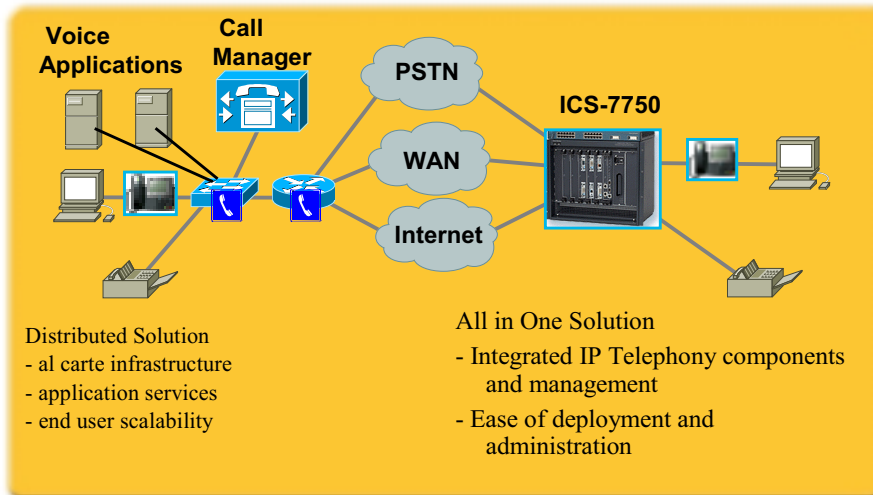


- Primary functions
 - Call processing
 - Signaling and device control
 - Phone features and dial plan configurations
 - Operations, administration, maintenance and provisioning (OAM&P)
 - Programming interface to external voice processing applications

MCS 7825



Deployment Choices



CallManager 3.1 Features

- Music on hold
- Extension Mobility (log on to any 7960 or 7940)
- Cisco MNET integration (GSM EFT codec support)
- Transcoder usage efficiency enhancements
- Shared resource usage efficiency enhancements
- Shared resource topological association



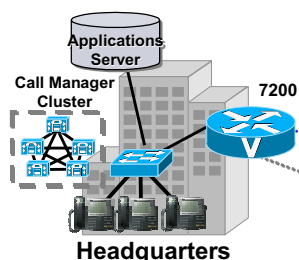
CallManager 3.1 Features

- Wideband Audio (better than toll quality audio)
- Serviceability enhancements
- Gateway call preservation on CallManager failover
- TAPI/JTAPI/XML enhancements
- Configuration Database Interface API

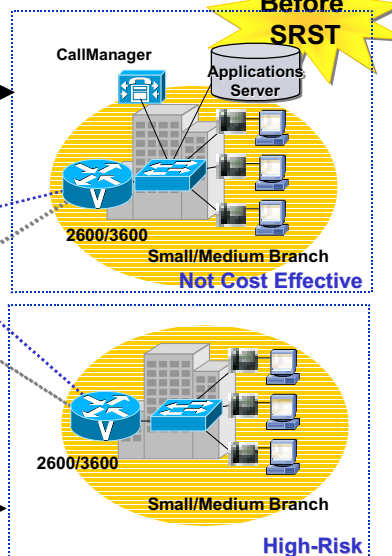


Remote Branch IP Telephony Deployment Options

- Distributed CallManager not cost-effective for extending IP telephony to small/medium branch offices

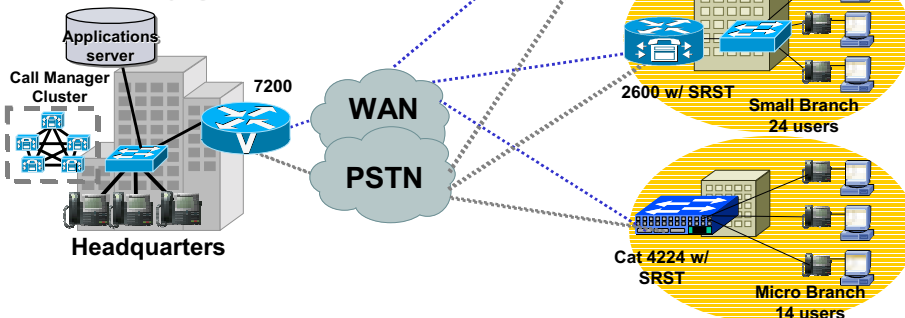


- Centralized CallManager solution provides no backup Telephony features when WAN link fails



Remote Branch IP Telephony Deployment

- Access to same IP Applications and CM Features as HQ
- Same look and feel as HQ
- Centralized management and IT support
- Backup IP Telephony features if WAN link fails



Cisco IOS Platforms Supported

Available Now:

- Cisco 26xx: 261x, 262x, 265x
- Cisco 36xx: 3620, 3640, 3660

Future Availability:

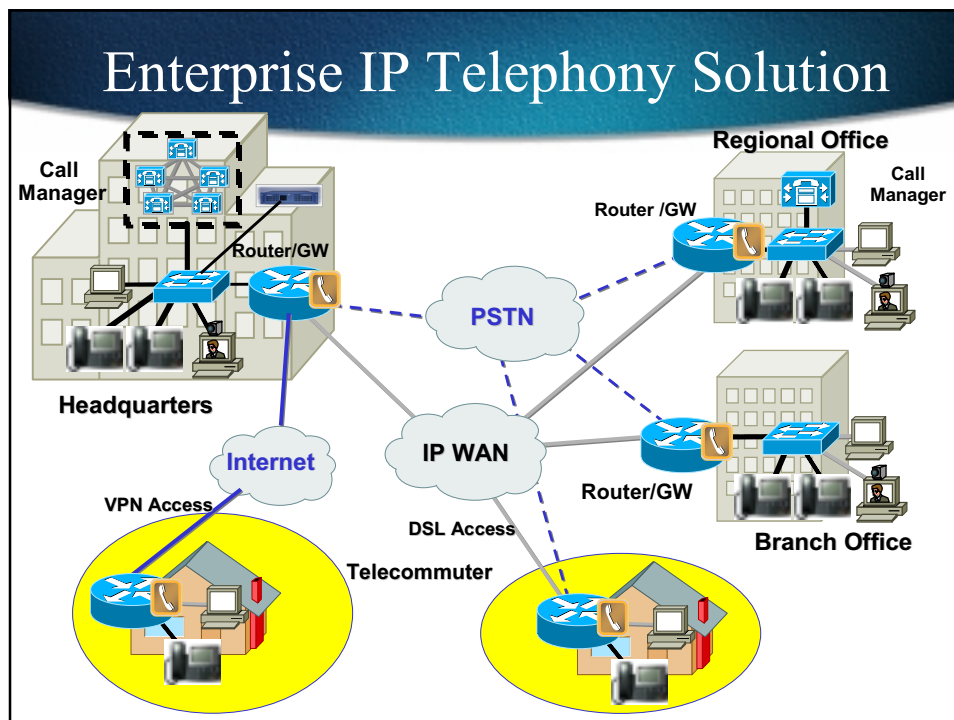
- Cisco Cat 4000 AGM
- Cisco Cat 4224
- Cisco 1750

**Over 600K
Units and
800K Voice Ports
Sold!**



Introducing the Catalyst® 4224

- The Catalyst 4224 is a single-box small branch office solution for offices with less than 24 users
- The Catalyst 4224 provides:
 - IP Routing, but only IP
 - PSTN and PBX voice gateway
 - Onboard FXS connectivity and DSPs
 - 24 Ports 10/100 Ethernet switch with Inline power
 - VPN and Encryption options
 - Cisco IOS Survivable Remote Site Telephony
 - Shares modular VIC and WIC interfaces with the Cisco 1600, 1700, 2600, 3600, and Cat 4K AGM platforms



Personal Productivity

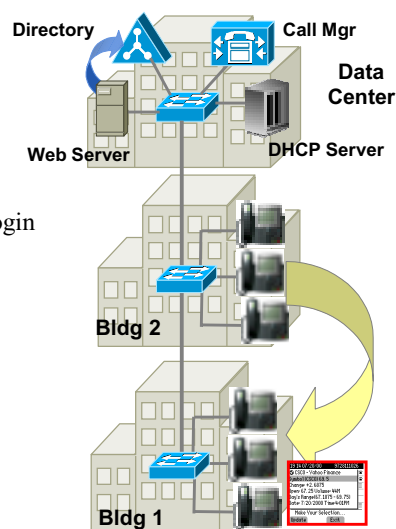
- Anytime, anywhere access to all message types
 - Unified Messaging
- Real time communication
 - Personal assistant filters, presence mgmt
 - Conferencing & collaboration
- Desktop information services
 - XML applications
- Consolidated desktop
 - Softphone running on Windows

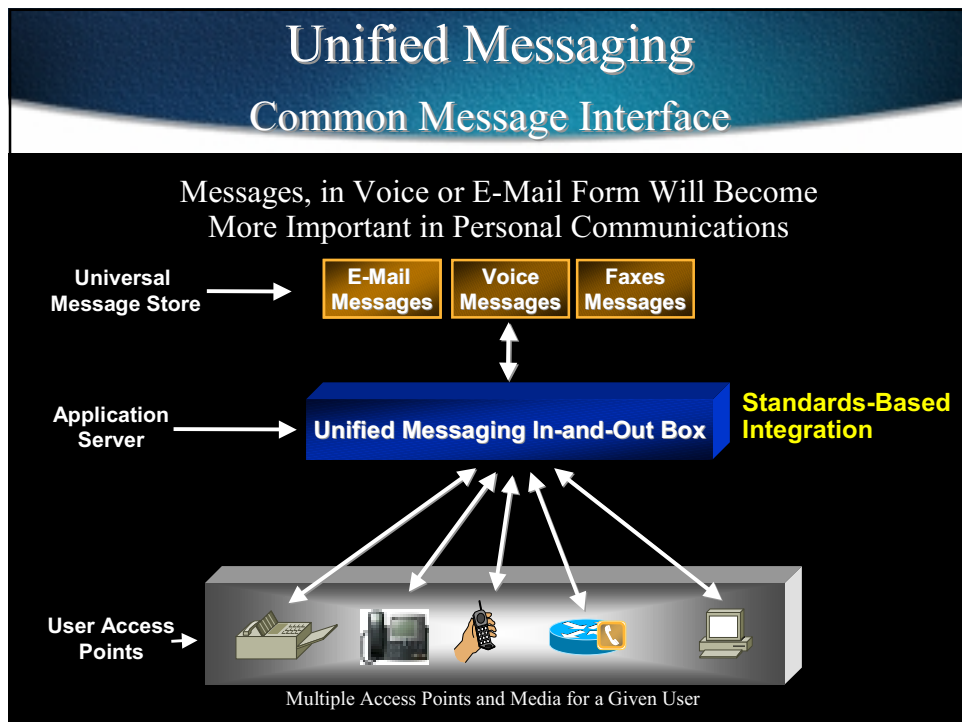


Extension Mobility


Available
Q3CY01

- Directory based phone log-in
- Application XML based
 - authenticates to directory
 - Updates CallManager with user extension
 - User's extension is pushed to phone where login occurred
 - User receives all personal settings
- Applicable for mobile office environments
- Offered with CallManager 3.1
- Substantial cost savings benefits






What Are the Benefits of Unified Messaging?




Employee Productivity

- Message consolidation at the desktop
- Ease of response either with voice or text
- Ability to prioritize with consolidated views



Communication Integration

- Message management from any device
- Response anywhere at anytime



Administration Efficiencies

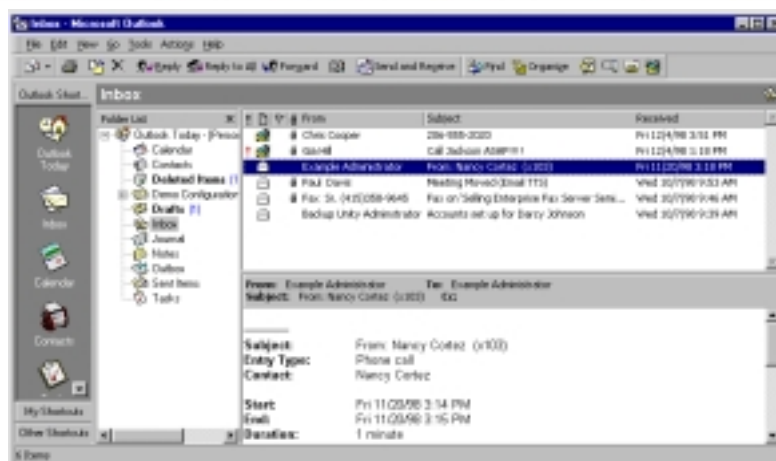
- Single message store voice, email, fax
- Single infrastructure to manage and maintain
- Single transport infrastructure for all media: data/voice/video

Cisco Unity Unified Messaging Delivers

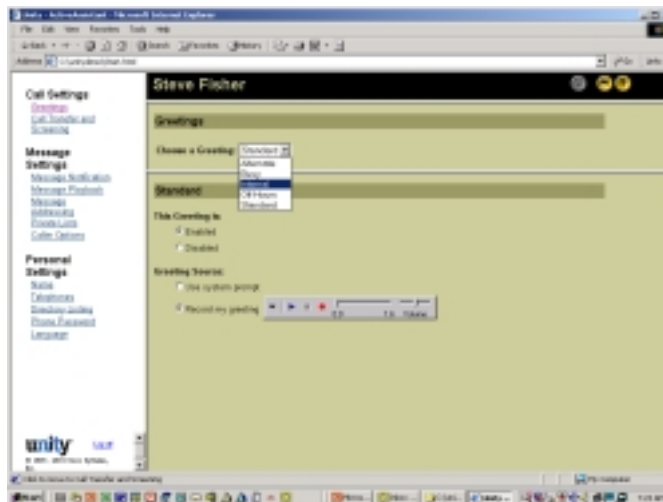
- True Unified Messaging
- Automated attendant
- Browser-based personal and system administration interfaces
- Convergence-ready communications
- Advanced features, including text-to-speech and mobile message notification
- Integration with Exchange and Outlook



Cisco Unity ViewMail for Outlook



Cisco Unity ActiveAssistant



Comparison: Unity Voice Mail & Unity Unified Messaging

Unity Voice Mail

- Message Access
 - Voice/Fax from TUI
 - Notification via SMTP
- Address Book
 - Voice
- Administration
 - Two directories
- Installation
 - As separate NT domain server

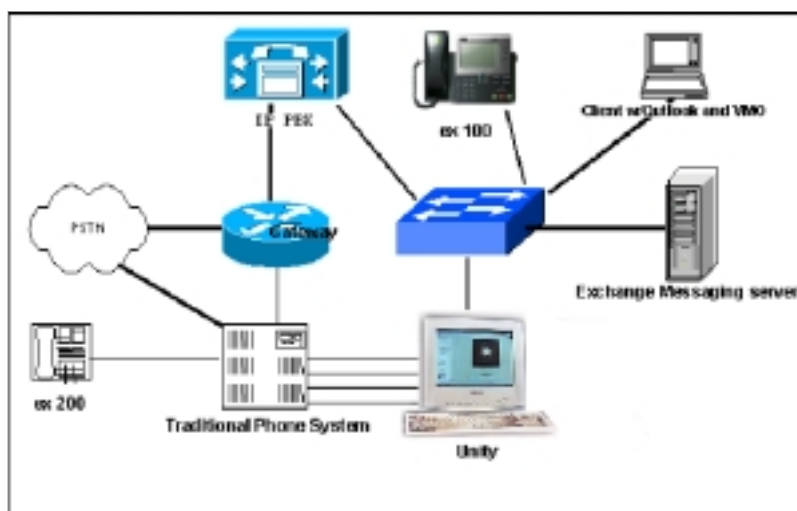
Unity Unified Messaging

- Message Access
 - Voice/Fax/Email from MS Outlook & TUI
 - Notification via SMTP
- Address Book
 - Global Address List
- Administration
 - One directory
- Installation
 - As part of the Exchange network

Dual Integration With CallManager and Legacy PBX

- Simultaneously connects to both Legacy Circuit PBX's and Cisco CallManager IP-PBX
- Allows for seamless deployment
- Migrate users from one system to another

Cisco Unity/CallManager Dual Switch Integration



IP Phone 7960 Communication Services



- Intelligent IP Appliance
- Web based services via XML
- Corporate directory integration
- Personalized menus via softkeys
- Context-sensitive help
- Open interface for 3rd party app development
- Enhanced Productivity

IP Phone Productivity Services

Available
Q3CY01

A personal organizer for your Cisco IP Phones*

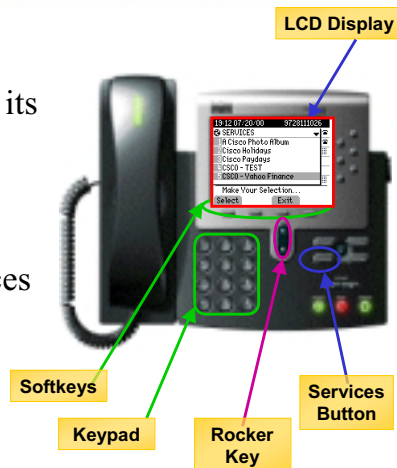


*Cisco IP Phone models 7940 and 7960

- **DateView**
MS-Exchange calendaring integration
- **MailView**
E-mail and voicemail client
- **Personal Contacts**
Personal directory synchronized with MS Outlook
- **Personal Fast Dial**
Quick dialing of personal contacts
- **Personal Assistant Activator**
Activation of Personal Assistant rule sets

IP Phone Services User Interface

- Phone Services displays content on its 133x65 LCD Display
- Pressing the "Services" button initiates the session
- User can navigate around the services options and provide input via
 - Softkeys
 - Rocker Key (to scroll down menu lists)
 - Keypad



IP Phone Services Example Getting the Cisco Stock Quote



IP SoftPhone—Fingertip Features

- Allows office extension mobility
- GUI based interface for phone control (drag and drop)
- Easy feature access
 - One click conference, transfer & collaboration
 - NetMeeting
 - Keyboard shortcuts
- Directory integration
 - Personal and Public (LDAP)
 - Dial by name/email address
- Standards based TAPI integration



Personal Assistant Application



Streamline communications

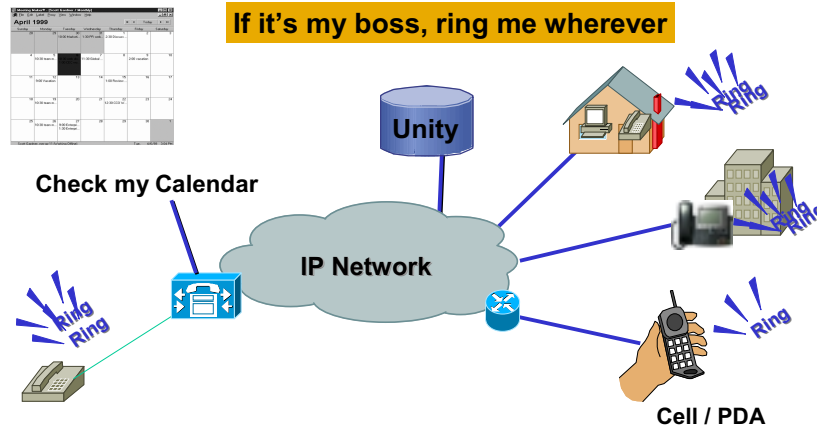
- Manage demands on your time using rules based routing
- Connect to people easily through speech recognition

Personal Assistant

If my Brother calls always send to Unified Messaging

If anyone else calls, and I'm not in a meeting, Ring me but don't call Cell

If it's my boss, ring me wherever



Personal Assistant Benefits

Effectively manage demands on your time

- To avoid interruptions, screen calls in advance or in real time
- Forward critical callers to a number you designate
- Direct lower priority calls to voicemail

Connect to people easily

- Access voicemail via speech instead of touch tones
- Say the name of the person you wish to call - PA will find and dial the number
- Say a list of names, and PA will conference the group

Personal Assistant Features

- Route calls by user defined rule
 - Time of day
 - Calendar
 - Who the caller is
- Send call to user defined locations
 - Office, cellular, home (Primary Destination Group)
 - Alternate office, hotel (Alternate Destination Group)
 - Ring office phone, if no answer, ring secondary #
- Screen calls
 - Select which calls to accept in real time

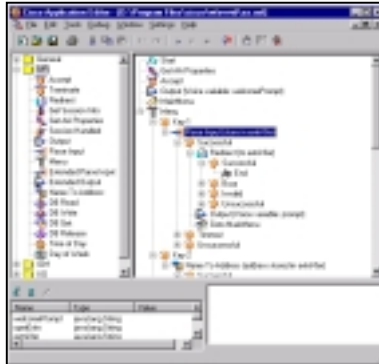


Speech Recognition

- Speech enabled name dialing
- Speech enabled voicemail
- Simple ad hoc conferencing
- Enhanced productivity



Application Editor and Application Engine



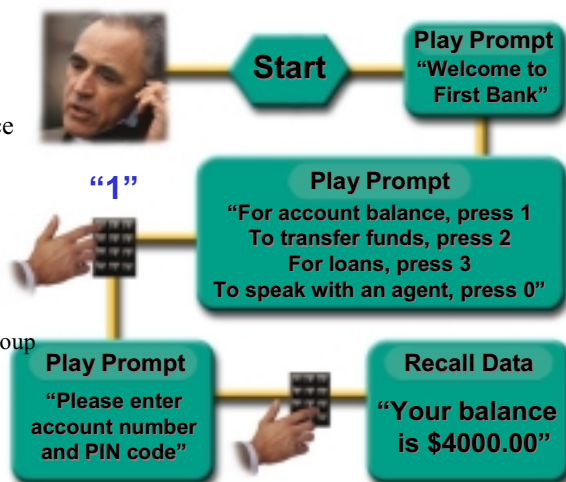
Media Convergence Servers



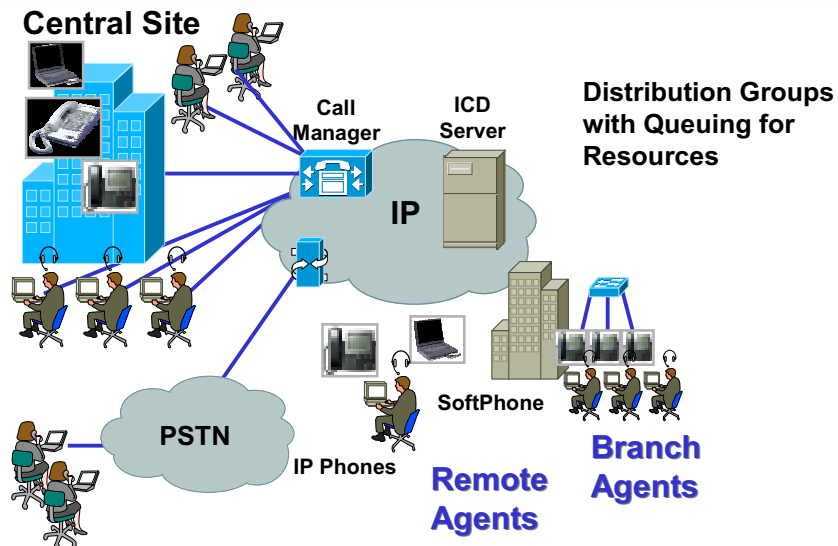
- **Application Editor**
Windows application
Edit flows anywhere in the network
Download flows to any IP-IVR/IP AA
Any editor can edit flows on any engine
- **Application engine**
Executes IP IVR/IP AA flows
Executes on an MCS server
Windows 2000 server

IP IVR

- Complete IP-based IVR
- Allows customer to find information: i.e. bank balance
- Benefits:
 - Easy to configure: drag and drop
 - Location independent
 - Many solutions can use same IP IVR
 - Can be deployed as workgroup IVR
 - Easily personalized



Intelligent Call Distribution (ICD)



Informal Call Agent Groups IP-ICD

- Addresses growing need for customer support across all organizations
- Offers quick installation and set-up
- Simple agent desktop for non skilled agents
- Simple queuing algorithms
- Easy-to configure agent groups
- Shared application technology with IP-IVR

