Designing Cisco Collaboration and Conferencing Solutions

BRKCOL-2304
Agenda

- Cisco Conferencing Overview
- Software as a Service SaaS Deployment Models
- Hybrid Deployment Models
- On Premises Deployment Models
- Q&A
Cisco Conferencing Product Overview
Conferencing Strategy

Flexible Deployment
- Hybrid
- WebEx Nodes
- MediaNet
- Cisco Integrations

User Experience
- Pervasive Video
- Converged Experience
- Cross platform/device
- Cross Company
- Pervasive Conferencing

Global Expansion
- Global Cloud
- Localization
- Service Availability
“WebEx enabled a significant transformation of our business model. Today, we communicate with customers and prospects much more effectively, with consistent messaging across all areas of customer contact.”

David Pogue, Executive VP of Worldwide Sales and Marketing,

ColumbiaSoft
Cisco Conferencing Solution

Meeting Center

Training Center

Event Center

Support Center

Audio Conferencing

Video Conferencing

Cisco Collaboration Cloud

Enterprise Network
Cisco WebEx Meeting Center

- Documents, applications, desktop sharing
- On-demand record, edit and playback
- Chat, polls, notes, annotation tools
- Whiteboarding
- File transfer
- Multipoint video
- Integrated audio options, Active Talker
- Integrated scheduling with Outlook, Lotus Notes
- Available in 14 languages
Cisco WebEx Training Center and Event Center

Core meeting features, PLUS:

- Advanced custom registration
- Multiple panelists
- Polling, threaded Q&A
- Attention indicator

Training Center

- Instant feedback indicators
- Hands-on labs
- Testing and grading
- Breakout rooms
- Predefined breakout sessions

Event Center

- Custom enrollment
- Audio broadcast
- Lead scoring and reporting
- Lead track ID management
- Flash-based attendee interface
- Lead score and prioritized questions
WebEx Support Center

Comprehensive support solutions for technical customer support and IT help desks

Remote Support
Deliver live support remotely for faster, cost-effective support

Remote Access
Remotely access and maintain unattended computers over the internet

System Management
Manage IT assets, software distribution, patches, virus protection and backups

Service Desk
Streamline Your incident management with a closed-loop process

Unified Collaboration Services
Cisco WebEx Productivity Tools

- Instantly start and schedule meetings, and invite participants
  - Start meetings in 15 seconds or less with Cisco WebEx® One-Click
  - Schedule meetings right from your Microsoft Outlook or Lotus Notes calendar

- Automatic installation and seamless integration
  - Select applications can also be installed by site administrators or customers
Cisco WebEx Network Based Recording (NBR) Audio/Video/Web Recorded Meetings

Network-Based Recording
Recorded and saved to network

Network-Based Recording
Accessed and played on network

Record one time  Edit recording  Play back many times
Webex Webcam High Quality/High Def Video

- Active speaker main video area – up to 720p (Nov 2011 New)
- Active speaker switching
- See up to 5 other participants at a time. Scroll to see more.
Telepresence Webex One Touch

Cisco TelePresence

- Live, face-to-face communication experience over the network
- Share content, create high-quality video recordings and events
- Connect up to 48 locations in one meeting

Cisco WebEx

- Meet anytime on virtually any computer or device
- Deliver presentations, share documents and videos, and demonstrate applications
- Add up to 1,000 meeting attendees
Medianet Integration

The Medianet-WebEx integration provides administrators with unprecedented visibility and control over their WebEx traffic.

Only Cisco can offer this connection between the network and application for lower TCO and optimized user experience.

- Video Traffic Simulation*: Model WebEx traffic prior to deployment to understand bandwidth impact
- Media Monitoring: Monitor WebEx network statistics (latency, packet loss, jitter, etc.)
- Mediatrace: Get end-to-end diagnostic capabilities for troubleshooting
- Metadata: Identify and mark WebEx traffic streams

* Only Video Traffic Simulation in 2011
Client Integrations – Mobile, UC, WebEx
Webex Mobile Client Integration

- Audio only or full voice and data (device dependent)
- iPhone, Blackberry & Android Mobile Phones
- iPad, Cius Mobile Tablets
- One Click Join – Uses Callback
Cisco Jabber IM on Mobile Devices

New IM Client 2011 – Free download
Cloud IM or On Premise CUP IM

- **Cisco Cius**
  - Available

- **BlackBerry Smartphones**
  - Available

- **Android smartphones**
  - Q12012

- **iPhone**
  - Available
WebEx and Cisco Quad Social Software Integration

1. Integrated cross-company
   • Start, schedule and join WebEx meetings

2. Integration of WebEx services into Quad experience - project and communities

3. Building common platform and architecture
WebEx IP Phone Integration

- Calendar View of WebEx Scheduled Meetings
- Start/Join meetings from IP Phone (widget based devices)
  - Joins WebEx audio with one touch – no passcodes to type
  - Automatically Launches WebEx data on PC
- Integrated audio and data experience
Webex Open API’s and Languages
Webex Open API Integration Points

Network Based Recording
Download on prem, convert Etc.

Custom Provisioning & Usage Collection

Login/SSO
PT, Join, Host Meeting Page
Authentication/ Provisioning from LDAP

NBR API

XML API

SSO API (SAML 2.0)

http://developer.webex.com/web/meetingservices/home
Cisco WebEx 14 Languages

*Swedish is MC only
SaaS Deployment Models
Agenda: SaaS Deployment Models

- Webex Collaboration Cloud Architecture
- Global Distributed Meetings (GDM)
- Content Delivery Network (CDN)
- Audio Conferencing Options
- LDAP/SSO Capabilities
- Security Capabilities
Cisco Collaboration Cloud

- 16 global collaboration hubs
- 7.6 million meetings/month
- 26+ million attendees/month
- 1.5 billion meeting minutes/month
Cisco Collaboration Cloud differentiators

High Availability
- 99.99% uptime
- Global Site Backup for redundancy and disaster recovery
- Seamless failover

Scalability and Performance
- Service oriented architecture
- Static and Dynamic Caching
- Intelligent Routing
- Global Distributed Meeting (GDM)

Collaboration Integration
- High Quality Video/TelePresence UE
- Meeting Place/WebEx node
- IP phone services
- Mobile devices

Multi-Layer Security
- Secure in-meeting experience
- Encrypted data transfer and storage
- Data center security
- Rigorous 3rd party audits
WebEx Collaboration Cloud Architecture

- PHYSICAL LAYER
  - Physical Layer: Optical Fiber Links

- NETWORK LAYER
  - I.P. Network

- WEB ZONE
  - Meetingzone: MediaTone Collaboration Switches

- MEETING ZONE
  - BLIs
  - SLim
  - GSB
  - Global Watch
  - GSLB

- APPLICATION PROGRAM INTERFACE
  - Application Program Interface WebEx and 3rd Party Apps
  - Webzone: MediaTone Session Managers

- MULTI-LAYER SECURITY
  - SSL
  - AES
Global Distribution Meeting (GDM) and Content Delivery Network (CDN) optimize user experience

Closest hub is selected with Global Distributed Meeting

GDM local switching eliminates traffic congestion to a single hub. Provides optimal in-meeting experience with low round trip time/latency and high bandwidth

Pre and post meeting experience enhanced by leveraging CDN
## Network Bandwidth Sizing – Web Conferencing

- Cisco Unified Communications System 8.x Solution Reference Network Design, Collaborative Conferencing Chapter


<table>
<thead>
<tr>
<th>Traffic (Test Scenario)</th>
<th>Average (kbps)</th>
<th>Maximum (kbps)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Desktop share</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Slide presentation with 30 second transitions)</td>
<td>43 for PC</td>
<td>598 for PC</td>
</tr>
<tr>
<td></td>
<td>95 for iPad</td>
<td>241 for iPad</td>
</tr>
<tr>
<td></td>
<td>67 for iPhone</td>
<td>232 for iPhone</td>
</tr>
<tr>
<td></td>
<td>24.8 for Blackberry</td>
<td>29.9 for Blackberry</td>
</tr>
<tr>
<td><strong>Presentation share</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Slide presentation with 5 second transitions)</td>
<td>6.5 for PC</td>
<td>7.5 for PC</td>
</tr>
<tr>
<td></td>
<td>30 for iPad</td>
<td>62 for iPad</td>
</tr>
<tr>
<td></td>
<td>23 for iPhone</td>
<td>41 for iPhone</td>
</tr>
<tr>
<td></td>
<td>54.56 for Blackberry</td>
<td>55.28 for Blackberry</td>
</tr>
<tr>
<td><strong>Idle meeting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iPad (16G), iPhone (3G), and Blackberry (Bold9700) use a WiFi network for data Connectivity</td>
<td>0.8 for PC</td>
<td>3.7 for PC</td>
</tr>
<tr>
<td></td>
<td>8.9 for iPad</td>
<td>9 for iPad</td>
</tr>
<tr>
<td></td>
<td>0.17 for iPhone</td>
<td>0.4 for iPhone</td>
</tr>
<tr>
<td></td>
<td>0.42 for Blackberry</td>
<td>0.45 for Blackberry</td>
</tr>
</tbody>
</table>
Audio Integrations
Integrated Audio Is Key to the Experience

- Ease of entry
- Telephony, VoIP, and Video
- Visual cues and controls
- Integrated, dynamic scheduling
- Advanced Services
  - SMS, iPhone, iPad, Blackberry, Android
# Webex Audio Deployment Options

## WebEx Audio
- Hosted Integrated Service
- PSTN
- Webex VoIP/Hybrid Meetings
- Cloud Connected Audio Model

## MeetingPlace
- On Premise Audio Bridge
- SIP Integration to UCM
- API Integration to Webex
- Standards based videoconferencing (H.323/SIP)

## Certified Service Provider
- Hosted Integrated Audio/VoIP
- Intercall, BT, Verizon,
- Integration Through a Signaling TSP API

## Third Party
- Not integrated
- On Premise or SP Hosted
WebEx Hosted Audio Architecture – PSTN & VoIP

On-net Callers

Customer Network

Off-net Callers

Media Gateway

Public Switched Telephone Network

Cisco Collaboration Cloud

Audio Bridge
WebEx Audio

- Allows you to easily conduct Integrated web and audio/video meetings
  On-demand or scheduled conference calls
- Maximizes your meeting experience
  Teleconference “Call Back” eases joining audio
  Manage audio with in-meeting controls
  Visually verify who’s on and who’s talking in the audio call and web meeting
  Reduce scheduling complexities
- Delivers added convenience
  Single provider and bill
  Single reservation for voice and web meeting
  Global coverage in over 200 countries
  Support for up to 500 callers per meeting
Webex VoIP – PC Audio

- Used with Webex Audio only
- Rely on the internet for voice traffic
  - No phone required
  - Host and attendees use microphones and speakers connected to their computers
- Full duplex Audio via PC
  - “Best Effort” Internet quality
- Requirements
  - Full duplex sound card
  - Headsets recommended
Webex Audio & VoIP – Mixed Mode Conferencing

- Attendee has choice and flexibility
- Integrated Audio and VoIP are available in the same web meeting
- Move seamlessly from phone to computer without disconnecting from your meeting
Certified SP Architecture - PSTN

On-net Callers

Off-net Callers

Customer Network

Public Switched Telephone Network

Partner Network

WebEx Platform

TSP Server

Cisco Collaboration Cloud

Audio Bridge

TSP Adapter

Media Gateway

Public Switched Telephone Network

Signaling

Audio
Third Party – No Audio Integration (PSTN)

On-net Callers

Customer Network

Non-Certified Audio Service Provider Network

Off-net Callers

Cisco Collaboration Cloud

Audio Bridge

Public Switched Telephone Network

Media Gateway

Media Gateway

Media Gateway
Webex Webcam High Quality (HQ) & High Definition (HD) Video
Cisco WebEx Meeting/Training Center
New High Quality/High Definition Video

- Higher resolution – 360p and up to 720p
- H.264 standard
- Simplified interface with integrated video experience
High Quality/HD Webcam Video– SVC H.264 Codec

- **H.264 AVC/SVC (Meeting/Training/Event)**
  Advanced Video Codec/Scalable Video Codec/30 FPS

- Up to High Def 720p (1280x720 pixels) resolution on Meeting Center

- Up to High Quality Def 360p (640x360 pixels) on MC/TC/EC

- Up to 6 Video Thumbnails (90p low bit rate)

- **Dynamic Quality adjustment per user**
  Codec can adjust resolution on the fly
  Different users can send and receive different resolutions

- **Max Video bit rate control**

- **Camera Hot Plug-in and Switching**
## Network Bandwidth Sizing – HQ Video

- Cisco Unified Communications System 8.x SRND, Collaborative Conferencing Chapter  

<table>
<thead>
<tr>
<th>Traffic (Test Scenario) Average (kbps) Maximum (kbps)</th>
<th>Traffic (Test Scenario) Average (kbps) Min (kbps)</th>
<th>Traffic (Test Scenario) Average (kbps) Maximum (kbps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video (Webcam with 352x288 resolution at 15 fps)</td>
<td>172</td>
<td>298</td>
</tr>
<tr>
<td>Video Standard Quality (6 thumbnail videos, each 160x90 resolution up to 10 fps)</td>
<td>350</td>
<td>500</td>
</tr>
<tr>
<td>Video High Quality Medium View (Webcam with 320x180 resolution up to 12 fps)</td>
<td>300</td>
<td>500</td>
</tr>
<tr>
<td>Video High Quality Large View (Webcam with 640x360 resolution up to 30 fps)</td>
<td>900</td>
<td>1,500</td>
</tr>
</tbody>
</table>
PC Performance Control

The client will detect the capability of the PC and down scale video support if required.

<table>
<thead>
<tr>
<th>Ability Level</th>
<th>Hardware Requirement</th>
<th>Video Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Def (HD)</td>
<td>Quad core CPU&lt;br&gt;Memory above 1G&lt;br&gt;Graphics Processing Unit (GPU), Direct 3D support</td>
<td>Full support 720p</td>
</tr>
<tr>
<td>High (HQ)</td>
<td>Dual core CPU&lt;br&gt;Memory above 1G&lt;br&gt;Graphics Processing Unit (GPU), Direct 3D support</td>
<td>Full support 360p</td>
</tr>
<tr>
<td>Medium (HQ)</td>
<td>Single core CPU 2.4GHz and above&lt;br&gt;Memory above 1GB&lt;br&gt;GPU, Direct 3D support</td>
<td>Up to send 180p</td>
</tr>
<tr>
<td>Low (HQ)</td>
<td>Single core CPU, working frequency below 2.4GHz or Memory less than 1G or no GPU or no Direct 3D support</td>
<td>Up to send 180p, Up to receive 180p</td>
</tr>
</tbody>
</table>
Webex SaaS – LDAP/SSO
# Webex Federated SSO Customer Requirements

**SAML 2.0 Compliant Identity & Access Management System**

<table>
<thead>
<tr>
<th>CA SiteMinder</th>
<th>IBM Tivoli Federated Identity Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ping Identity PingFederate</td>
<td>Siemens IT Solutions DirX</td>
</tr>
<tr>
<td>Sun Microsystems</td>
<td>TriCipher Armored Credential System</td>
</tr>
<tr>
<td>OpenSSO Enterprise</td>
<td>Fugan Solutions</td>
</tr>
<tr>
<td>Microsoft Windows Server</td>
<td>Cloud-Identity</td>
</tr>
<tr>
<td>ADFS and Geneva</td>
<td>Google Enterprise SAML IDP</td>
</tr>
<tr>
<td>Novell Identity Manager</td>
<td></td>
</tr>
</tbody>
</table>

**X.509 Digital Certificate**

Granted by Certificate Authority Or Customer generated
Webex Federated SSO

1) Send to Webex
2) User clicks Log In
3) Redirection with Auth Request
4) User Logs in
5) Send Credentials
6) Map person to Webex username
7) Generate Assertion
8) Sign Assertion
9) Return Assertion
10) Post Assertion
11) Return session cookie

Enterprise Network
Webex SaaS - Multi-Layer Security
Cisco Multi-layer Security Model

MULTI-LAYER SECURITY MODEL

- Site Security ➔ Customer-Defined Service Administration
- Collaboration Security ➔ Access Controls Policy Management
- Network Security ➔ SSL/AES Encryption User Authentication
- Physical Security ➔ Data Center Secure Facility

Third Party Audits
- SAS-70 Type II
- ISO27001 (planned)

Cisco WebEx Collaboration Cloud
Site Security

COMPANY-WIDE POLICY MANAGEMENT

Individual
Enable/Disable Features

Group
Host & Attendee Privileges

Enterprise
Restrict Site Access
Policy Management

- Policies can be used to manage and enforce corporate rules governing all aspects of collaboration

- Policies can be used to:
  - Enable/disable features
  - Manage collaboration privileges
  - Enforce enterprise security policies

- During a meeting, the host can:
  - Lock the meeting
  - Eject attendees
  - Assign presenter and annotation privileges
  - Re-assign host role
Collaboration Security

- Set meeting password
- Lock down meeting
- Eject attendees
- Disable share
- Host privileges
- Audio dial-in/dial-out control
Cisco Cloud Physical Security

Cisco CSG Applications

**Secure Service Platform**

- **Strict Access Controls**
  - 2-Factor Authentication

- **High Availability**
  - 24/7 Service Monitoring
  - Geographic Failover

- **Intrusion Detection & Response**
  - 24/7 Response Capabilities
  - Forensics

**Vulnerability Management**

- Daily Scan Schedule
- Documented Patching Process

**Hardened Networks**

- Firewalls
- Secure Device Configuration Baselines

**Hardened Systems**

- STIG Derived Hardening Standards
- Application White Listing
Rigorous Audits by Independent Parties

- Customer/Site audits
  On an “as needed” basis
- Internal audits
  Performed “as needed” for Cisco’s internal audit group
- SAS70 Type II audit
  Targeted for completion in Feb 2011
- ISO27001 compliance
  Targeted for completion end of 2011
- Infrastructure and application security assessments
  Code assisted Pen tests by iSec Partners
Network Security
Leveraging best-in-class technologies

Data Protection for Conferencing, IM, Spaces

- Data-in-motion protection:
  - 128-bit SSL encryption standard
  - 256-bit AES end-to-end encryption
  - PKI optional

- Data-at-rest protection:
  - Strict access control
  - Data is switched, not stored
  - Network Based Recording (NBR)
Default SSL encryption

- All WebEx meeting traffic is encrypted with 128-bit SSL encryption
- All traffic is secured and transported over HTTPS (port 443) while on the public network
- SSL-enabled meetings are implemented by default in the WebEx environment

Meeting Switches

SSL Accelerator

Encrypt/Decrypt Meeting Data

Internet
End to End Encryption (E2E)

- Meeting data is encrypted using AES at the client
- Meeting data remains encrypted over the entire network
- 256 bit cipher strength
- Random key generation
- Self-signed X.509 certificates used to exchange key
- Control data remains unencrypted to optimize switching of meeting traffic between attendees
PKI Identity Validation

Use of PKI provides identify validation and authorization of attendees
AES encryption keys secured by digital certificates
Certificate access support through Microsoft Crypto Libraries or Apple Macintosh Key Chains
Support for multiple certificate authorities for each site
WebEx will not provide Certificate authority services
Network Based Recording Security (NBR)

- Ties in in with organization policies and cloud security
- Profile level userID and Password protected
- Administrator can set recording policies for each site wide or at profile level
  - Disable recording
  - Disable download
  - Disable forwarding links to recording
  - Password protect downloads
Network Based Recording (NBR) Architecture

Meeting Server

Multimedia Server

Telephony Server

MEETING RECORDING
MEETING PLAYBACK

DOWNLOAD AND PLAY

NBR Web Server

STREAMING PLAYBACK

Streaming Server

DATA

VIDEO

AUDIO

NBR Storage
Cisco Conferencing – Hybrid Deployment Models
WebEx Hybrid Deployments

- Cisco Unified MeetingPlace 8.5
  MP Audio/standards based video with Webex SaaS
  WebEx Node for MCS

- Cisco Webex Node for ASR
  Webex VoIP Audio/HQ video/web meetings

- Cisco Telepresence Webex One Touch
  Audio/Video/Webex
Cisco Unified MeetingPlace 8.5 Webex Hybrid

Audio, Video & Web Conferencing for Cisco Unified Communications

Exceptional Experience
- Simple setup and attend
- WebEx web conferencing
- Video – Standards Based H.323/SIP/SCCP Desktop & Room

Low Total Cost of Ownership
- Leverage IP network for cost savings
- Scalable and Secure
- On-premises Audio for WebEx
Unified MeetingPlace 8.5 Webex Hybrid Deployment Options

1. Audio/video on prem with pure SaaS WebEx integration

2. Audio/video on Prem with SaaS WebEx and WebEx Node for MCS or ASR

3. Audio/video Only on Prem
What is WebEx Node for MCS?

- Local WebEx data switching integrated into MeetingPlace (Optional)
- Each node supports up to 500 web users in multiple meetings
- Supports redundancy and cascaded meetings – to cloud and other Nodes
- The WebEx Node sets up a outbound TCP/SSL media connection with WebEx, this is used to cascade content to the cloud and send status information
- “Internal” meetings have no media connection with WebEx
- A SSL signaling connection is always maintained
- Webex Node Manager Interface for realtime/historical reporting
- Installed on UCS or MCS platform

---

Current Cisco WebEx Node for MCS Configuration

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASSCODE NAME:</td>
<td>MCS-bury</td>
</tr>
<tr>
<td>PASSCODE KEY:</td>
<td>d81c7629dfa3d398eb39396169e042f2</td>
</tr>
<tr>
<td>TOKEN:</td>
<td>60e1ab5d-0db5-4fd7-bb64-0b4ac769cc4d</td>
</tr>
<tr>
<td>URL:</td>
<td><a href="https://wmakts.webex.com/vmams">https://wmakts.webex.com/vmams</a></td>
</tr>
<tr>
<td>SERIAL NUMBER:</td>
<td>005056bd59ac (MCS-CWN-7835-2)</td>
</tr>
<tr>
<td>APPLICATION SERVER:</td>
<td>10.10.12.200</td>
</tr>
</tbody>
</table>
WebEx Node for MCS External Meeting

- External participants connect to cloud
- Single connection between WebEx Node & cloud
- Resiliency – Automatic overflow WebEx Node to Cloud
WebEx Node for MCS Internal-only Meeting

- Internal users connect to WebEx Node for MCS
- Requires WebEx Site, Signal to Cloud
- No NBR, No webcams, No Mobile join
- Failover only to another Webex Node for MCS (no cloud backup)
MP 8.5 and WebEx Node for ASR (dual SPA’s)

Audio on-prem. and Bandwidth optimization for collaboration & HQ webcam video on premises.
# MeetingPlace 8.5/Webex Hybrid Model

## WebEx WBS27 FP23 Enterprise Edition or MC
- Hosted Web Meetings and Calendaring
- User Account Management
- New High Quality Webcam video for “external Meetings”

## Cisco Unified MeetingPlace 8.5
- Scalable and Highly Available Audio
- Integrated Audio experience for WebEx Web Meetings
  (Scheduled meetings use Webex Meeting ID)
- Optional Standards based Video on premises

## Cisco Unified Communications Manager 6+
- Global PSTN and Internal Access Numbers for MP Meetings
- Lowest-cost internal call routing for MP Audio/video meetings

## Virtualization
- UCS C and B Series Support
- VMWare ESXi 4
- MP EMS Audio/video Mixer

## Cisco Advanced Services (Optional)
- Help customers qualify and deploy MP 8.5
- Managed MP Hosting
- Fully Hosted MP
MeetingPlace 8.5 Webex Scheduling
2 regions/1 site each

Secure, Redundant On-Premises Control Link to WebEx

Primary MP Meeting Director
Backup MP Meeting Director

Americas MP Region / Site
- MP A/V Node
- MP A/V Node
- MP A/V Node

EMEA MP Region / Site
- MP A/V Node
- MP A/V Node
- MP A/V Node

Global Cisco IP Telephony Network (Global PSTN Call-In Numbers for MP, Internal Call-Routing)

Americas MP Users
EMEA MP Users
MP 8.5 Design Concepts

- 1 Webex Site per system (abc.webex.com)
- 14,400 Audio Sessions in High Capacity Mode (G.711)
- 1200 Audio Sessions per Audio UCS/MCS Platforms
- 4 Regions – database replication
- 4 Nodes per Site
- Combined Nodes supported on Max of 4 node system
- 2 Sites per Region/8 Sites total
- 16 Audio/Video Nodes Overall
- 4 Webex Node for MCS per system (web)
  OR
- Multiple Webex Node for ASR-1000 (web/HQ video)
To start the teleconference:

- Call-in toll-free number (US/Canada): +1-866-432-9903
  - USA Internal Call in: 68000
- Call-in toll number (EMEA): +49-578-234567
  - EMEA Internal Call-in: 75000
- Meeting ID: 856 220 789  (scheduled meeting)

1. EMEA “Host” dials internal EMEA number x 75000 to join meeting
2. Meeting Director establishes call on EMEA Node #1 (least busy node)
3. USA User dials internal number x68000
4. UC Manager SIP Circular Hunt distributes inbound calls evenly, USA MeetingPlace Node #2 Answers
5. User Enters Meeting ID: “856 220 789” (Host is in EMEA)
6. MP Meeting Director tells UC Manager to do SIP REFER to EMEA CCM #
7. EMEA UC Manager SIP distributes call to correct Node #1 where Meeting ID was started
1 Region/2 Sites MeetingPlace 8.5

2 Sites
1500 Ports Per MP Node
Total 6000 Active Ports
Redundancy and Scalability

Profile Mgmt/End User Authentication
SAML 2.0 API

Time Zone Based Routing to Sites based on Meeting Owner

Primary MP Meeting Director
Backup MP Meeting Director
Active/Active Loadsharing

London DC Site 1
MP Node 2
MP Node 1
Webex Node

London DC Site 2
MP Node 3
MP Node 4
Webex Node

Global Cisco IP Telephony Network (Global PSTN Call In Numbers for MP, Internal Call)

Americas conference Users
AsiaPac conference Users

abc.webex.com
Webex User Profiles
LDAP Integration
Webex Scheduling, notifications, Recordings
Site Administration

EMEA Region
Node to MD Control Link
3 Regions/6 Sites MeetingPlace 8.5

2 Sites per 3 Regions
1000 Ports Per MP Node
Total 6000 Active Audio Ports (G.711)
Redundancy and Scalability
500 Web Session per Webex Node

Cisco Webex

abc.webex.com
Webex User Profiles
LDAP Integration
Webex Scheduling,
notifications,
Recordings
Site Administration

Cisco Firewall

Profile Mgmt/End User Authentication
SAML 2.0 API

Time Zone Based Routing to Sites
based on Meeting Owner

Primary MP Meeting Director USA Site 1
Backup MP Meeting Director EMEA Site 1

Node to MD Control Link

London DC Site 1
London DC Site 2
EMEA REGION

New York DC Site 1
Chicago DC Site 2
USA/Canada REGION

Singapore DC Site 1
Hong Kong DC Site 2
AsiaPac REGION

Global Cisco IP Telephony Network (Global PSTN Call In Numbers for MP, Internal Call)

Americas conference Users
AsiaPac conference Users
EMEA conference Users
User Data Base Management

- **Webex Sourced Host Accounts**
  
  Max of 400,000 profiles supported

  Meeting Director – UserSynch function synchs all profiles from Webex to MeetingPlace local databases

  LDAP End User Authentication will be via Webex Federated SSO LDAP API’s & Provisioning
Simplified Setup

- Automatic WebEx + MP Configuration from MP/Admin Console
- Add MP Audio + Video to an existing WebEx Deployment with zero disruption
  - Host Profiles determine which Audio is used
  - Default set by System Administrator per user
- Add new MP Audio / Video Nodes for increased capacity quickly from MP Admin
- Remove MP Audio / Video Nodes for maintenance without system downtime
MP/Event Center Features

- Maximum 500 attendees may join a single WebEx Event Center event on the MeetingPlace Audio
- Network Based Recording available
- “Mute Attendees upon entry” supported when scheduling
- One-way broadcast of MeetingPlace audio from Panelists to other attendees. While the Panelists typically join the MeetingPlace audio, all other attendees receive audio on their PC speakers using Audio Broadcast. Maximum of 3000 attendees can join the Audio Broadcast session.

Schedule an Event

<table>
<thead>
<tr>
<th>Basic Information:</th>
<th>Teleconference:</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Event type: FooBar</td>
<td>Options:</td>
</tr>
<tr>
<td>* Event name: Lemon Brothers Investor Relations Call</td>
<td>MeetingPlace Audio Event</td>
</tr>
<tr>
<td></td>
<td>Attendees call in</td>
</tr>
<tr>
<td></td>
<td>Attendees receive a call back (call-in is also available)</td>
</tr>
<tr>
<td></td>
<td>Estimated number of callers: 125</td>
</tr>
<tr>
<td></td>
<td>Allow access to teleconference via global call-in numbers</td>
</tr>
<tr>
<td></td>
<td>Broadcast audio stream to all attendees</td>
</tr>
</tbody>
</table>

* Asterisks (*) indicate required values.
MP/WebEx Training Center Features

- Main room and up to 9 Breakout rooms (sub-conferences) are supported via WebEx Training Center GUI
- Mute Attendees upon entry supported when scheduling
- Network Based Recording Supported
- Up to a maximum of 50 attendees can join any such breakout session
Meetings Audio/Video/Web NBR Recordings

- Permit recording of meetings in Host Profile (or deny recordings)
- “External” Meeting Recordings are stored Webex Network Based Recording (NBR) download location for the Host
- Audio/Web recordings URL can be sent or download .arf file and playback same as any Webex Recording
- Event and Training center are considered “External” always if WebEx Node for MCS is deployed
WebEx/MeetingPlace Video Options

Choose 1 Type of Video – No Interopt

- Videoconferencing delivered on the WebEx Collaboration Cloud
  - Web cam video

  OR

- Video delivered on-premises over IP infrastructure
  - Unified MeetingPlace (H.323/SIP/SCCP)
MeetingPlace/Webex with Webcam video

Webcam video is always Processed in Webex Cloud

Webcam video is Only supported With “External” Schedule meetings

Note: Webex Webcam video is Disabled by Default
MeetingPlace/Webex with Standard video

H.323/SCCP/SIP video is processed by MeetingPlace video EMS or HMS on premises.

H.323/SIP Third Party Video
CUVA/CUPC/
CUCiMOC/9900/7985

Application/EMS
“Active Speaker” video

OR

Hardware Media Server with Video blade(s)
“Continuous Presence” video

WebEx Node For MCS

Voice RTP
WebEx
Standards Video SIP/RTP
Hybrid Deployment – Webex Node for ASR-1000
ASR 1000 WebEx Node

Integrating WebEx Meeting Zone Components on ASR-1000

- Better performance for user inside a company firewall.
- Reduce the bandwidth going out of company firewall.
- Seamless to end user
- Better security by reducing traffic outside of company

SP Network

ASR 1000

QFP

Collaboration Bridge
MultiMedia Platform
MZM
MCC

End Customer HQ
The Solution: WebEx Node for ASR 1000

- Plug-in module for Cisco ASR Router
- Runs WebEx components
- Premise-based meeting data ‘switch’
- Meeting front-end continues to reside in Cloud
- Also in cloud: NBR, Billing, Reporting, Site Admin
- Not a full-replacement for SaaS

Two Software Variants in **ONE** single IOS XE WebEx Subpackage (software image-available for download on cisco.com and available as a part number to configure an ASR 1000 system in the configuration tool)

1. **WebEx Node – Web Presentation** (500 per SPA)
2. **WebEx Node – VoIP/Video solution** (Sized based on usage)

Both software variants get installed with the same WebEx node software image. Customer chooses one variant to run at a single time when setting up the WebEx Node on the WebEx Site during provisioning step
## Webex Node Bandwidth Savings Example

<table>
<thead>
<tr>
<th>Media Type</th>
<th>% Reduction with WebEx Node</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Meeting</td>
<td>98%</td>
</tr>
<tr>
<td>HD Point Video</td>
<td>83%</td>
</tr>
<tr>
<td>HQ Video</td>
<td>84%</td>
</tr>
<tr>
<td>VoIP Audio</td>
<td>83%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>89%</strong></td>
</tr>
</tbody>
</table>
WebEx Node on ASR 1000: Deployment Considerations

- Multiple WebEx Nodes can be supported in one ASR 1000 chassis depending the type of chassis and available full height slots
  - ASR 1006: 5 WebEx Node SPAs max.
  - ASR 1004: 3 WebEx Node SPAs max.
  - ASR 1002: 1 WebEx Node SPA max.

- WebEx Nodes can be distributed across different ASR 1000 routers

- Can be deployed any where in the network and runs on same ASR 1000 running other functionalities: e.g. SBC, FW, IPSec, etc.

- No direct cascading between WebEx Node
  - WebEx DC replicated traffic between nodes sharing same meeting

- Overflow and Failover works regardless where the nodes are installed

- Works behind NAT/FW
  - Does not require public IP address nor opening static pinhole in the DMZ

- For simplicity, WebEx Node is designed to run only as a Web Presentation application or as a integrated VoIP/Video application, not both at same time
Hybrid Deployment Models
Cisco Telepresence Webex
One Touch
Cisco TelePresence WebEx OneTouch

*Introducing A Single Solution for Immersive Meetings*

- Combine the ease-of-use and broad reach of Cisco TelePresence and Cisco WebEx Meeting Center into one collaborative solution
- Attend meetings using the most accessible collaboration technology
- Improve user experience and productivity
- Simplified scheduling
- Faster meeting start
Cisco Telepresence Webex One Touch

**Easy Scheduling, Instant Sharing, Global Reach**

- Cisco TelePresence + WebEx = ease-of-use and broader audience
- One button to start both Cisco TelePresence and WebEx
- Integrated video, audio and instant content sharing
- Unified CTS/WebEx participants list
- Highly accessible form of intercompany communications
TP Webex One Touch Architectural Overview

One Touch can only be scheduled from CTS-Manager.

Outbound Port 443 Connection

After scheduling One Touch meeting appears in WebEx.
How does OneTouch work?

- Scheduling Managed by CTS Manager 1.7.1 (CTSMAN)
  - CTSMAN integrates with Exchange and Domino
  - CTSMAN integrates with the WebEx TP API
  - Scheduling interface is Outlook or Lotus Notes

- Video & Data Sent via Persistent HTTPS Connection Between CTMS and WebEx
  - The WebEx TelePresence Gateway handles the connection to CTMS
  - Communication includes call-leg signaling, H.264 CIF video and H.264 data share

- Audio Cascade Between CTMS and Bridge via PSTN
## Network Bandwidth Sizing – TP One Touch

<table>
<thead>
<tr>
<th># Streams</th>
<th>Bandwidth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Stream to Cloud (one way video)</td>
<td>300 Kbps for CIF + up to 450 Kbps for data</td>
</tr>
</tbody>
</table>

### Cisco Telepresence Multipoint Switch (CTMS)

- 1 Stream to Cloud (one way video)

### Audio PSTN from Webex Cloud to CTMS

- 1 Stream to CTMS

**NOTE:** Webex Audio is required

HQ webcam video endpoints are sized separately.
Cisco Conferencing – On Premises Deployment
Cisco Unified MeetingPlace 7.0
On Premises Deployment

Application, Web & Integration Servers  Audio/Video Media Servers

CUCM

Audio/video endpoints

Desktop & Web

Consolidate audio & video media to one set of media servers with integrated user experience

Clustering of application & media control on Application servers
MeetingPlace 7.0 Highlights

- Scalability 1500 audio, 1000 web, 160/240 video per system
- Fully integrated in session audio, web and video experience
- Single Number Access for voice and video (single System)
- Single video infrastructure from desktop and room based Standards based and Video telephony which allows customers to easily roll out video deployments
- MeetingPlace Web Conferencing “Flash” On premise internal and external with clustering options
- IBM Sametime Connect “Click to Conference” Integration - free
- IBM Sametime Web with integrated MeetingPlace Audio Controls – free
- Open SOAP API based on Web 2.0 Capabilities
MeetingPlace 7.0 System Capacity

- System sizing – 1500 audio, 1000 Web, 160/240 video concurrent users
- Maximum Single Meeting Size - 1500 audio, 1000 web, 160/240 video concurrent participants

- MeetingPlace 3545 Audio/Video Media Server – maximum support for 1500 audio and 240 (>384) video concurrent users
- MeetingPlace 3515 Audio/Video Media Server – maximum support for 250 audio and 48 video concurrent users
Unified MeetingPlace 7.0 Redundancy Options

- CUCM 6.1 Front End (Single or Dual)
- Multiple Media Chassis
  - Media Chassis 1
  - Media Chassis 2
- Dual MP Apps Servers
  - Primary Apps Server Outlook
  - Failover Apps Server Outlook
- MP Web Clusters & Integration Servers
  - Web Scheduling
  - Web Conferences
  - Lotus Notes
  - DMZ
  - External Web(s)
Key Take Aways

- SaaS may be best for small or fast-growing companies. Companies that don’t want to staff IT.
- Hybrid for flexibility, control with growth potential.
- On-Premise – IT staff to maintain SW/HW. Secure or compliance, government.
Thank you.