

LiteScape Unified Communications Applications: OnCast



Time to Make the Connection

LiteScape at a Glance

- Founded in 2004, located in San Francisco, CA
- A Market Leader in VoIP Unified Communications Solutions
Large scale enterprise customer site deployments (250k+ seats to-date)
- Long-standing Corporate & Distribution Partnerships with Cisco
- Customers in North America, Asia, and Europe
- Experienced Management Team with
Experience in Enterprise Unified Communications
- VC backed:
SoftBank, Telesoft, T-Venture, Vedanta Capital, Blumberg Capital

Core Domain Expertise

- Proven leadership in complex UC mash-ups, specifically: Enterprise-class solutions within VOIP networks
- Multi-site, secure, policy based Directory based solution (Enterprise, SAAS, CRM)
- Substantial mobile expertise
- Agnostic solutions designed for end-user and enterprise optimization



OnCast Broadcast Summary

Broadcast
From



To One or More
End Points

Using One Or More
Media

Leveraging
Your
Enterprise Services



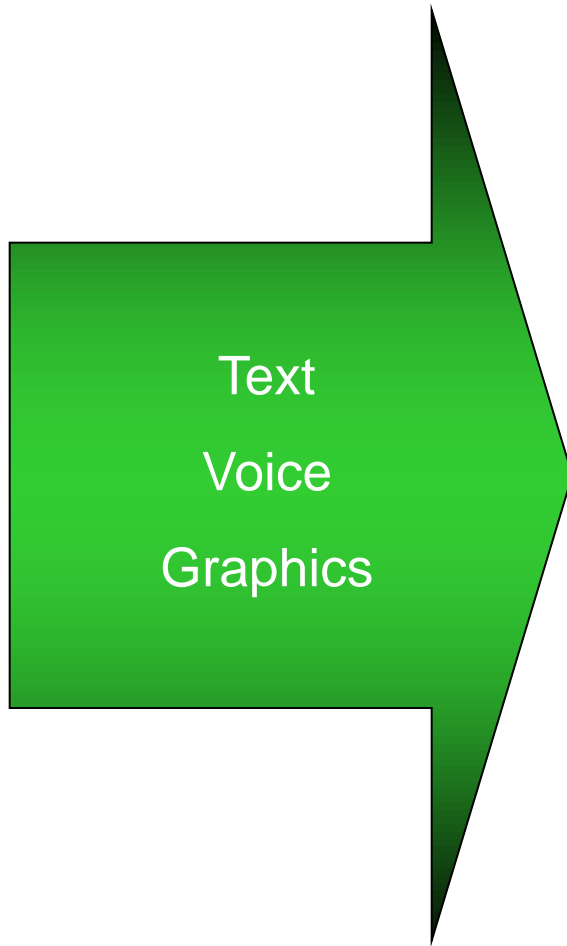
IP Phones



Desktop



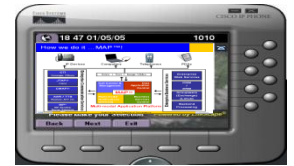
Web or Portal



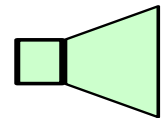
Text
Voice
Graphics



Directory
Calendar
Presence



IP Phones



Speakers



Email

OnCast: Powerful UC Applications

OnCast applications allows you to communicate and collaborate in ways never possible before.

- Unified Directory Access and synchronization
- Call Context
- Multi-Media Push-to-Talk & Broadcasting: text, image and audio
- Search & Dial/Broadcast from PC, Desktop and Mobile devices
- One-Touch Web/Tele-conferencing

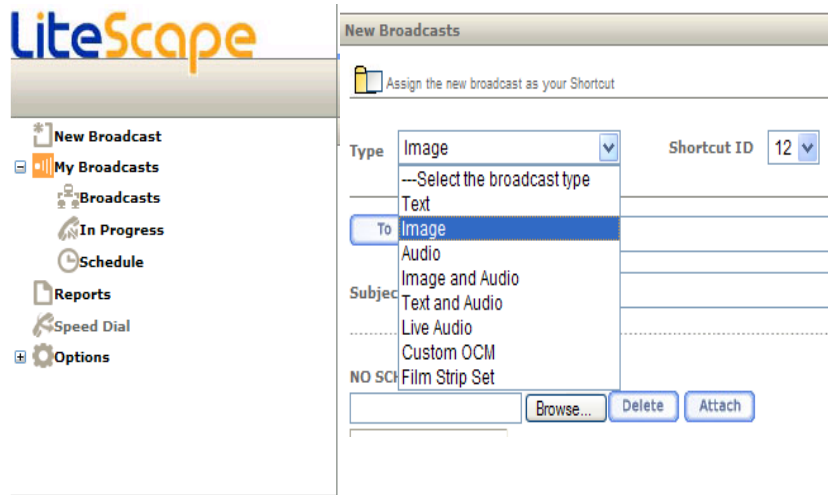


OnCast Directory: Search & Broadcast

- **ONE key broadcast invocation:**
 - Immediate broadcast to users or groups using existing company directory
 - Supports 1-way or bi-directional broadcasting of audio, text and images
 - Initiate Broadcast from Desktop app, IP Phone or from Browser
 - Send Broadcast to IP Phones or Over head speakers (IP and analog)
 - Support for phone 'presence' and 'barge-in/invite' based broadcasts
- **Personalization:**
 - Customizable ring tones based on type/sender of broadcast
 - Interactive: Broadcasts can launch apps on phone or desktop
 - Shortcut commonly used broadcast for immediate access next time
- **Templates and Work-flow:**
 - Ad-hoc, emergency evacuation, all employee meeting reminder, etc)
 - Customizable broadcast forms and work-flow

OnCast: Sample Screen Shots

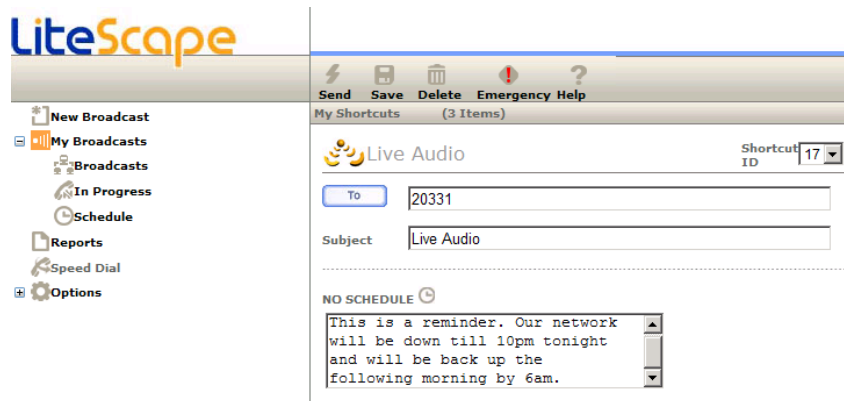
Type of Broadcast



Phone Image Broadcast



Text Broadcast



Unified Directory Access

Rapidly reach all the people you need to communicate with

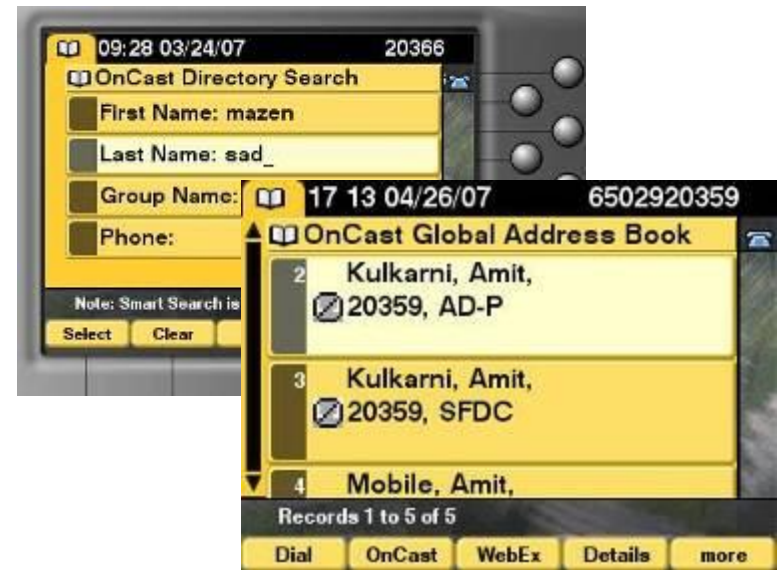
- Access all your contacts on your PC or phone
- **Combine** all your directories to communicate with anyone, anytime (AD, Exchange, SQL, CRM, LDAP & Open-LDAP).
- **Access policies** to ensure the intended people have access to various organizational directory data from the phone
- **Authentication services** to ensure **secure & verified** access to the directory data
- Find your contacts faster with **Smart and Predictive search** capabilities.



OnCast Communications Services

Perfect Marriage of the Desktop & Phone

- Search & Dial, Broadcast, Conference from multiple interfaces
- Simultaneous integration with multiple corporate directories
- Predictive and smart search across all directories
- Presence aware

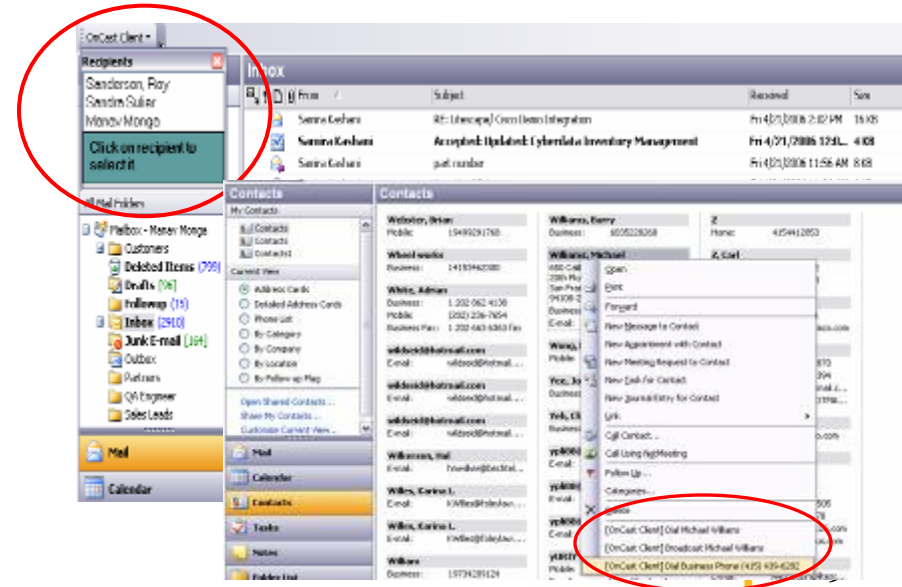


From a Cisco IP Phone

- Search & Dial, Broadcast, Conference
- Customizable search criteria
- Customizable search results
- Smart search across multiple directories
- Support for secure access policies

From a Windows Desktop

- Search & Dial, Broadcast, Conference
- Microsoft Outlook add-in
- Microsoft Internet Explorer add-in
- Lotus Notes add-in
- OnCast Smart client (stand-alone)



OnCast: Push-to-Talk

- Allows immediate communication with a targeted person or group with other wireless and wired Cisco IP Phones
 - One-to-One
 - One-to-Many
- Configurable as two-way or one-way voice
- Users and groups can be selected from searching from existing supported directory servers
 - Quickly search multiple address books to find users
- Supports presence-based PTT
 - See if they are on the phone before establishing PTT



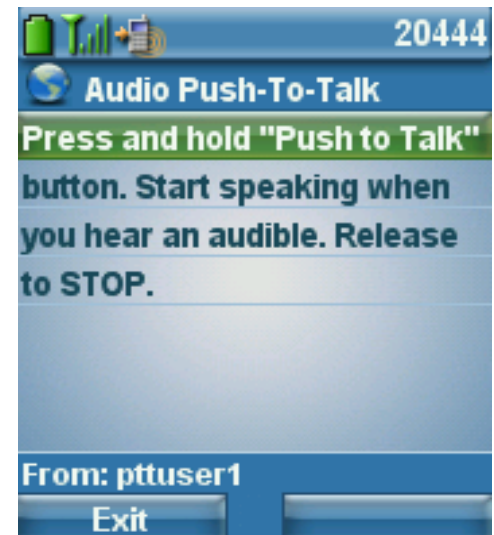
OnCast: Push-to-Talk

Solution

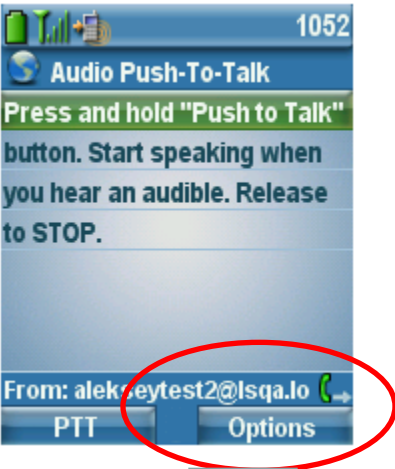
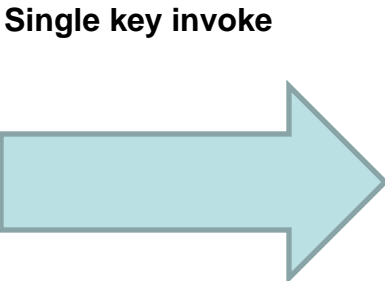
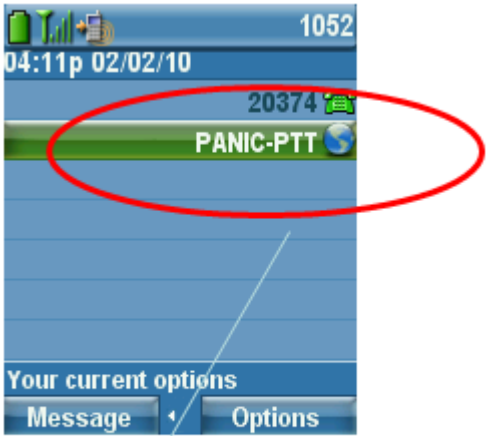
- Delivers instant push-to-talk (PTT) communication (walkie-talkie style) to individuals or workgroups

How it Works

- Both one-to-one and one-to-many communication
- PTT based on Presence
- Configurable with two-way or one-way voice
- Supports wireless (7921 / 7925) and wired Cisco IP Phones
- Web-based configuration and administration
- Search using multiple directory servers, address books (Active Directory, LDAP, Exchange)
- Customizable ring tones (chirp) to indicate the start and end of session



Push-to-talk shortcuts: From phone

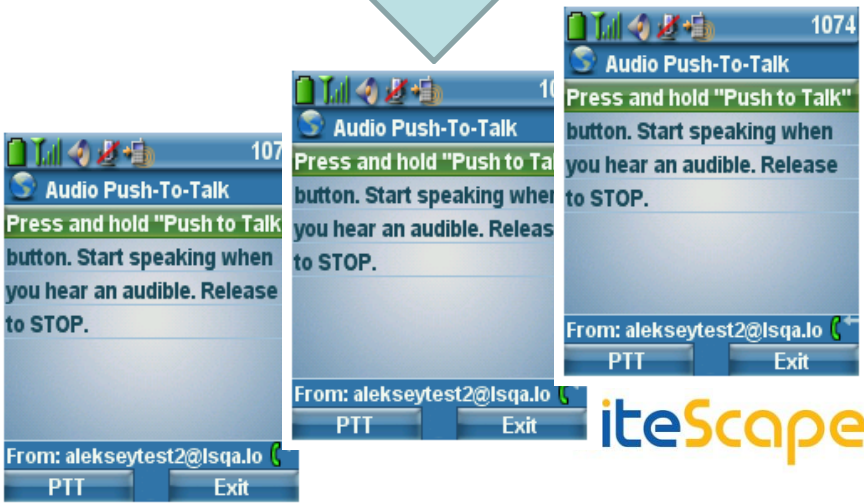


a) Service appears as speed dial on IP phone

b) Audio is immediately streamed to a variety of devices

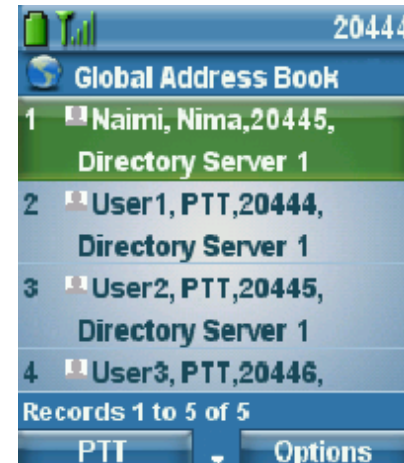


IP/Analog speakers



Search Shortcuts and Personalization

- Previously invoked PTT sessions can be re-used by creating and bringing up shortcuts from the service menu or the speed dial links on the IP phone
- Custom groups can be created in the OnCast directory that consists of selected users or groups from any directory that user can access
- OnCast provides end-user personalized search type modes to help
 - Smart
 - Predictive
 - Regular



Usage scenario:

Shortcut (Speed-dial) based PTT

- OnCast supports shortcut based invocation of the service.
- Shortcuts (automated call list):
 - Rapid 1-2 key based PTT to groups of people/devices.
 - Can be invoked from:
 - IP Phone: Services, Directory or Speed-dial
 - Desktop or server: URL based
- Suitable for “Panic button” type usage scenario
- Can reach phones or speakers (IP/Analog)

OnCast Broadcast: RTP Supported Scenarios

Assuming a single OnCast server at a HQ location and 2 phones across the WAN.

OnCast1 is located in LAN1

IP Phone1, Phone2 & Phone3 are located at LAN2 across the WAN from OnCast1.

Option1: Transmitting phone sends Unicast RTP to OnCast server, OnCast sends Unicast traffic to each Receiving phone

Phone1-->Unicast (across the WAN)-->OnCast1

OnCast1-->Unicast to Phone2

OnCast1-->Unicast to Phone3

OR

Option 2: Transmitting phone sends Unicast RTP to OnCast server, OnCast sends Multicast traffic to Receiving phones

Phone1-->Unicast (across the WAN)-->OnCast1

OnCast1-->Multicast-->Phone2 and Phone3

Assume there's a second OnCast2 at LAN2 and Phone1 is also in LAN1 (or LAN2)

In this case, OnCast supports:

Option 3: Transmitting phone sends Unicast RTP to OnCast server, OnCast sends 1 Unicast to OnCast2, which in part sends Multicast to Receiving phones

Phone1-->Unicast (across the WAN)-->OnCast1

OnCast1-->Unicast across the WAN-->OnCast2

OnCast2-->Multicast (LAN2)-->Phone2 and Phone3

Option 4: Transmitting phone sends Multicast RTP to Receiving phones

Phone1--> Multicast (across the WAN or local)-->Phone2 and Phone3

OnCast IP Phone & end-point Support

- **Wireless**

- Cisco Unified IP 7921 and 7925 phones

- Use dedicated PTT button on left side of phone and can use soft-key invocation

- **Desk Phones**

- Cisco Unified IP 7921, 7925, 7940, 7941, 7942, 7945, 7960, 7961, 7962, 7965, 7970, 7971 and 7975 phones

- Configured to be started from Services or as an extended entry of the phone's Directory feature or as a speed-dial

- **Soft Clients**

- Cisco Unified IP Communicator

- **Desktop**

- OnCast can be invoked from within a browser, Outlook, Notes or as a standalone client

OnCast: Configuration and Administration

OnCast administration is Web-based and Centralized:

- Customizable ring tones (chirp) to indicate the start and end of session
- Support for multiple directories (AD, Exchange, LDAP), extensive directory specific configuration options
- Support for multiple PBX clusters
- Configuration of phone screen layout (search fields, displayed results and soft-keys)

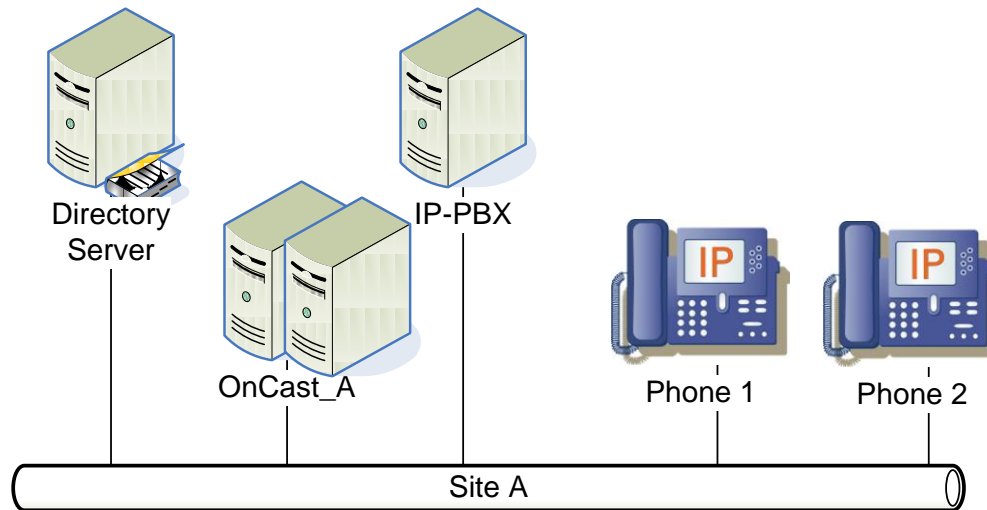
Presence aware PTT

OnCast PTT is presence aware:

- Take into account the users existing 'phone status' (On-Hook/Off-Hook) during PTT session
- This provides barge-in control on a per-PTT session basis:
 - Emergency PTT: the user could ignore phone presence
 - Normal PTT: Takes recipients phone status into account

Deployment option 1: Single-Server, Single-Site

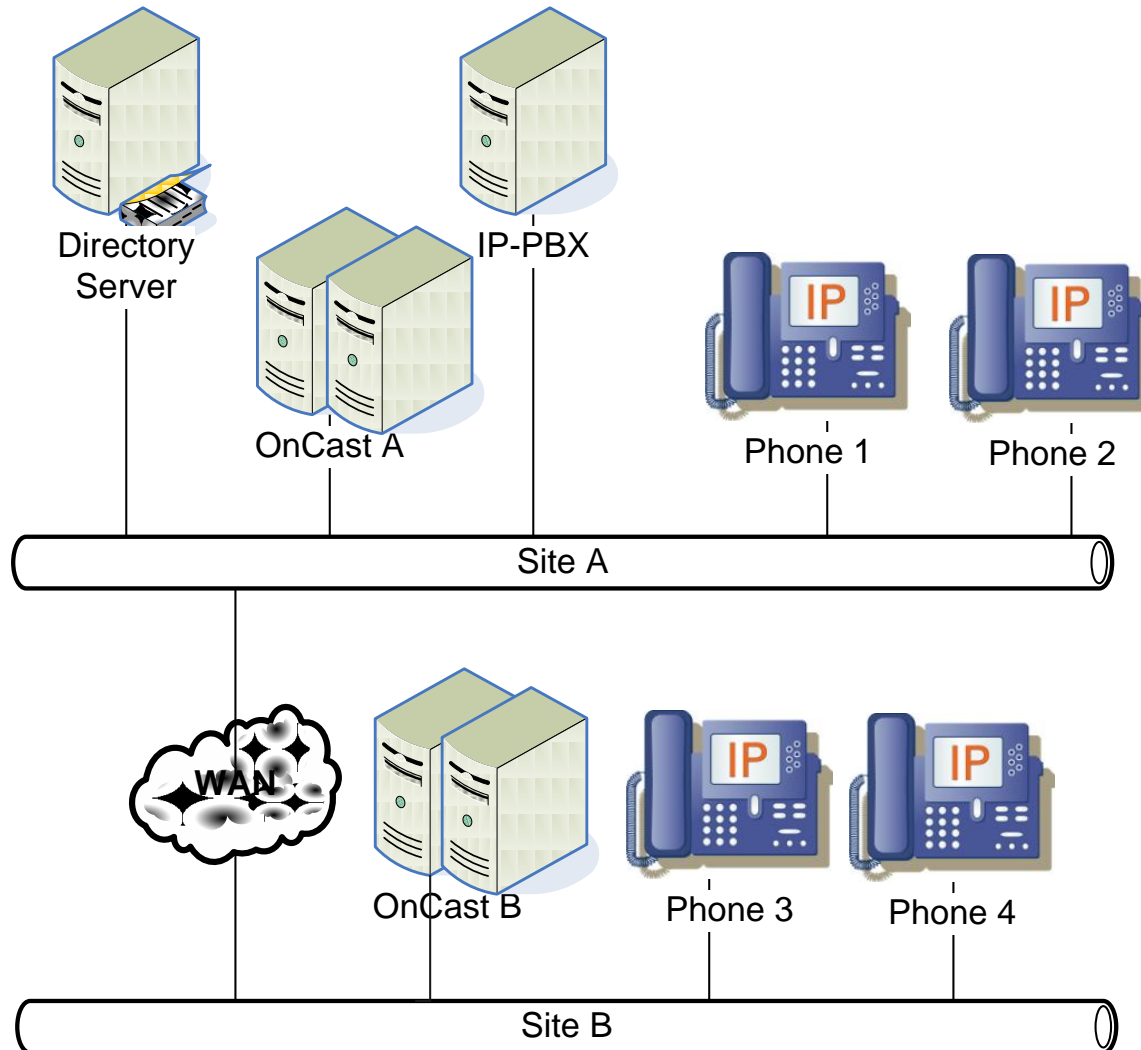
- Can co-exist with the enterprise directory server
- No redundancy, single point of failure.



Deployment option 2: Multi-Server, Multi-Site

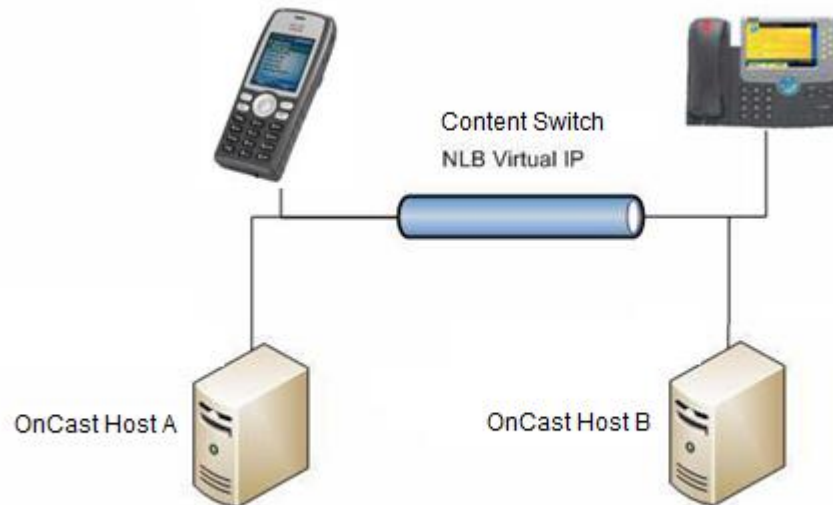
- OnCast can be installed and deployed on multiple servers across the WAN to minimize the amount of bandwidth utilized for broadcasting
- This is an important design consideration when using broadcasting across a WAN with:
 - 1) phones that support Unicast, or
 - 2) a WAN where IP multicast is disabled
- The following is an example case where the local OnCast servers terminate broadcasts for their own locations regardless of where the broadcasts are initiated

Example of: Multi-Server, Multi-Site



Multi-Server (HA), Multi-Site

- OnCast can be installed and deployed on multiple servers at one site to provide scalability and high-availability (HA)
- One OnCast server can service multiple locations
 - In this mode, each group of servers is grouped using third-party network load distribution tools, such as content switches, or using operating system supported network load balancing services, such as Microsoft NLB or Cisco Content Switch
- The following is a network diagram for the High Availability deployment



OnCast: Performance tuning tool

- OnCast performance assessment tool:
 - Automated end-to-end product verification and load/scalability verification utility

The screenshot displays the OnCast Load-test Application interface. The main window is titled "OnCast Load-test Application" and contains several panes:

- Test:** A tree view showing the test execution steps. The "Exit Session" step is highlighted with a red box and the number "2".
- Misc:** A configuration pane with various settings. The "QuickConnectServerP" is set to "8085" and is highlighted with a red box and the number "1".
- Start Stop Reload:** A log pane showing the test execution details. The "Detect Audio" step is highlighted with a red box and the number "3".
- XML Data:** A pane showing the test results in XML format. The "IP" field is highlighted with a red box and the number "4".

The XML data shows the following structure:

```
<PBXData>
<group>
<UserName />
<IP>10.11.2.55</IP>
<Extension>1052</Extension>
<PhoneType>Cisco 7921</PhoneType>
<MacAddress>001F9E8ACFF5</MacAddress>
<PhoneStatus>true</PhoneStatus>
<Provider>B0BCUAE</Provider>
<ProviderSource>B0BCUAE</ProviderSource>
<LastUpdated>2009-11-19T22:15:03.328125-08:00</LastUpdated>
<MainDN>true</MainDN>
<LSLicKey>1052QACUAEIqc1@lsga.local</LSLicKey>
<LDAPExtension>1052</LDAPExtension>
<LDAPMainPhone>1052</LDAPMainPhone>
<LDAPProvider>1234</LDAPProvider>
<LDAPDN>Directory Server 1|CN=QC1
test_CN=Users,DC=lsga,DC=local</LDAPDN>
<LDAPMAIL>qc1@lsga.local</LDAPMAIL>
<LDAPUserID>qc1@lsga.local</LDAPUserID>
<LDAPDirKey>1052</LDAPDirKey>
<Persistent>false</Persistent>
</group>
</PBXData>
```

OnCast Push-to-talk Roadmap

- Voice activated integration:
 - Allow the use of ASR based user input for launching PTT sessions.
- Integration with smart phones and other PTT devices:
 - Cross device PTT support with smart phones:
 - RIM Blackberry, Windows Mobile, Android based devices
 - IMS Based Push to Talk over Cellular (PoC)

OnCast Push-to-Talk Roadmap



Extend PTT to smart phones

- Targeted platforms:
 - BlackBerry
 - Windows Mobile
 - iPhone
 - Android
- Support of:
 - Inter-operability between Cisco IP phones and smart phones
 - Presence, Availability, Location enabled PTT
 - Inter-operability between enterprise phones and phones subscribed to LiteScape on a CPE/hosted basis



LiteScope

Time to Make the Connection

LiteScope