



*TOMORROW  
starts here.*

Cisco *live!*



# Customising for Collaboration

BRKCDN-2660

Darren Henwood

#clmel

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# Agenda

- Introduction
- Jabber
  - Client
  - Web SDK
  - Guest
- XMPP Bot
- Appendix






<http://developer.cisco.com>

# #import “Collaboration.h”

<http://developer.cisco.com> → Collaboration

 Collaboration - Dev Center >

- Call Control**
  - CURRI
  - JTAPI
  - TAPI
  - UC Express Services Interface
  - UC Gateway Services
  - UC Manager SIP
  - Unified Presence API
  - Voice Gateway API (VGAPI)
  - WebDialer
- Endpoints**
  - DX Series
  - Extension Mobility API
  - IP Phone Services
  - Java MIDlet API
- Management**
  - AXL
  - HCS
  - Interactive Experience Platform
  - PAWS Developer
  - UC Manager Serviceability
  - User Data Services
- Telepresence**
  - AV Integrator
- Contact Center**
  - Contact Center Enterprise (CCE)
    - CTI Server Protocol (GED-188)
    - CTIOS
    - Enterprise Application Gateway Protocol
  - Customer Voice Portal
  - Customer Voice Portal API
  - Express CTI
  - Express Scripting
  - Finesse
  - Packaged Contact Center Enterprise
  - Reporting
  - SocialMiner
  - Express Configuration API
- Jabber**
  - Guest SDK
  - Web SDK
  - Jabber Accessory Manager
- Recordings**
  - MediaSense
- Voicemail**
  - Unity Connection
- WebEx**
  - WebEx Conferencing

## Review the Developer Guide



This guide includes installation and configuration instructions, plus developer success stories.

Browse [Documentation](#) >

## Discuss



Discussions and blogs on Cisco  
Cisco Unified Presence APIs

Browse [Forum](#) >

## Learn More



Access a variety of resources  
to help you utilize this  
technology

Click here to [Learn More](#) >

# Options to Customise



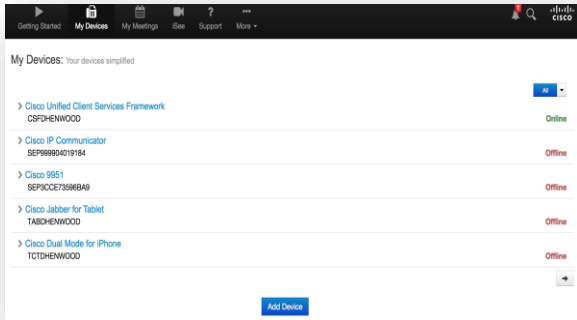
Wallpaper



Ringtone



DX Units (including calls)



Admin Portal

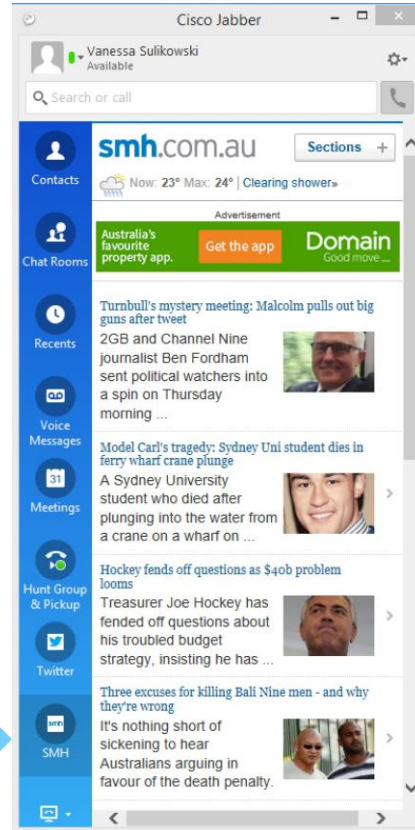
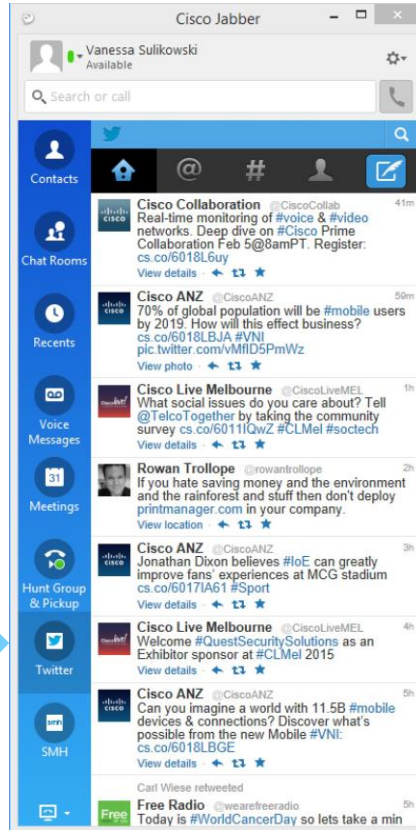
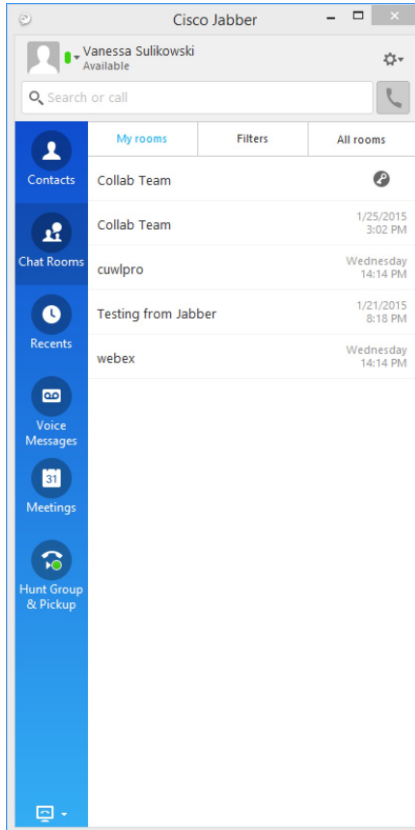


XML/Java Midlets



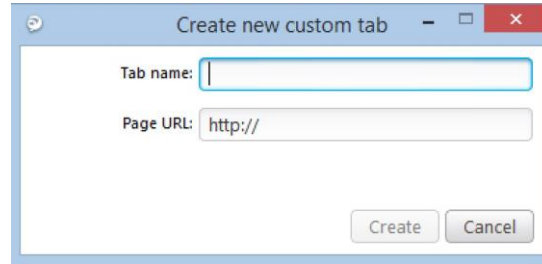
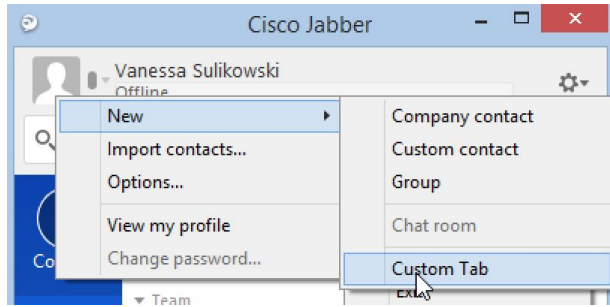
Jabber Client

# Custom Tabs





# Adding Custom Tabs



User

Admin  
jabber-config.xml

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```
<Client>
<page refresh="true" preload="false">
<tooltip>Twitter</tooltip>
<url>http://mobile.twitter.com</url>
<icon>https://g.twimg.com/Twitter_logo_blue.png</icon>
</page>
<page refresh="true" preload="false">
<tooltip>Conference Control</tooltip>
<url>
http://rendezvous.cisco.com/conferencecontrol.html?uid=${UserID}
</url>
</page>
</Client>
```

# Protocol Handlers

The screenshot shows the Cisco Employee Connection People (Directory) interface. At the top, there is a search bar with "dhenwood" entered and a "Search" button. Below the search bar, there are tabs for "Find People", "Find Experts", and "Edit My Profile". The main content area displays the profile for Darren Henwood, including his photo, name, and contact information. A red box highlights the phone number "8 655 2224" in the "Internal" contact list. A red arrow points from this number to a "Cisco Jabber" dialog box that appears over the profile. The dialog box contains a warning icon and the text "Use Cisco Jabber to call?" with "Call: 86552224" and "Yes" and "No" buttons.

`<a href="tel:86552224">8 655 2224</a>`

# Protocol Handlers

- TEL or SIP

tel:+61284466000

- IM or XMPP

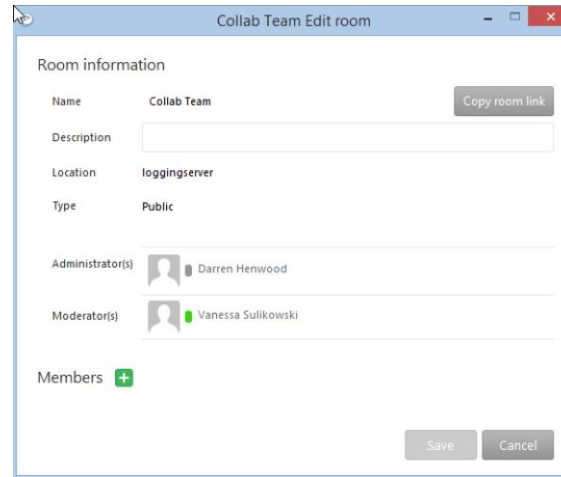
im:dhenwood@cisco.com

- PERSISTENT CHAT

im:collab\20team449481933419334@conference-2-standalonecluster66364.cisco.com

- GROUP IM

im:dhenwood@cisco.com;vsulikow@cisco.com?message;subject=I.T%20Desk;body=Jabber%2010.6%20Query



Collab Team Edit room

Room information

Name: Collab Team Copy room link

Description:

Location: loggingserver

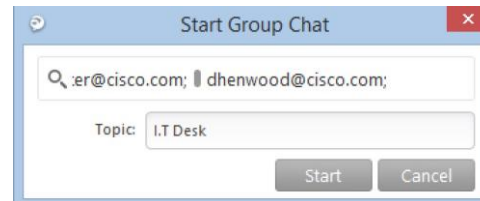
Type: Public

Administrator(s): Darren Henwood

Moderator(s): Vanessa Sulikowski

Members +

Save Cancel



Start Group Chat

Topic:

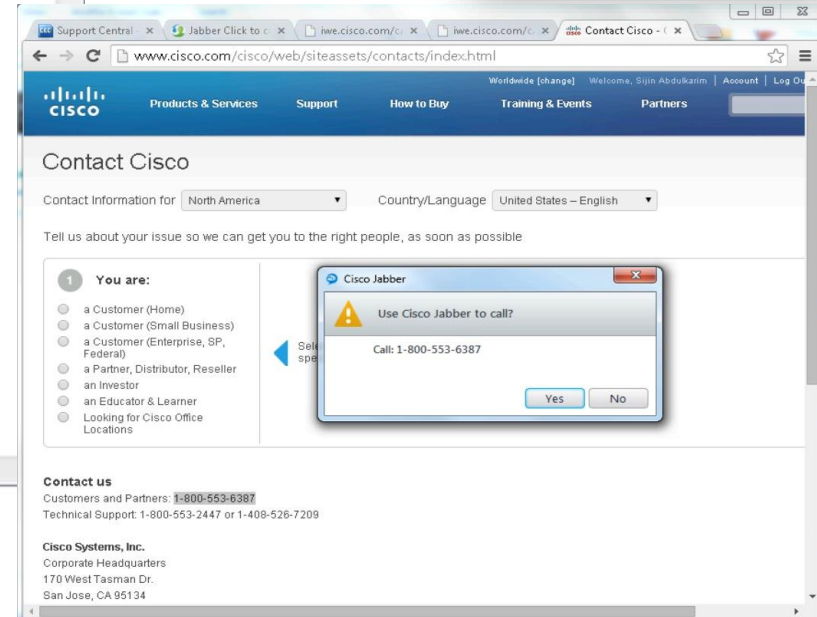
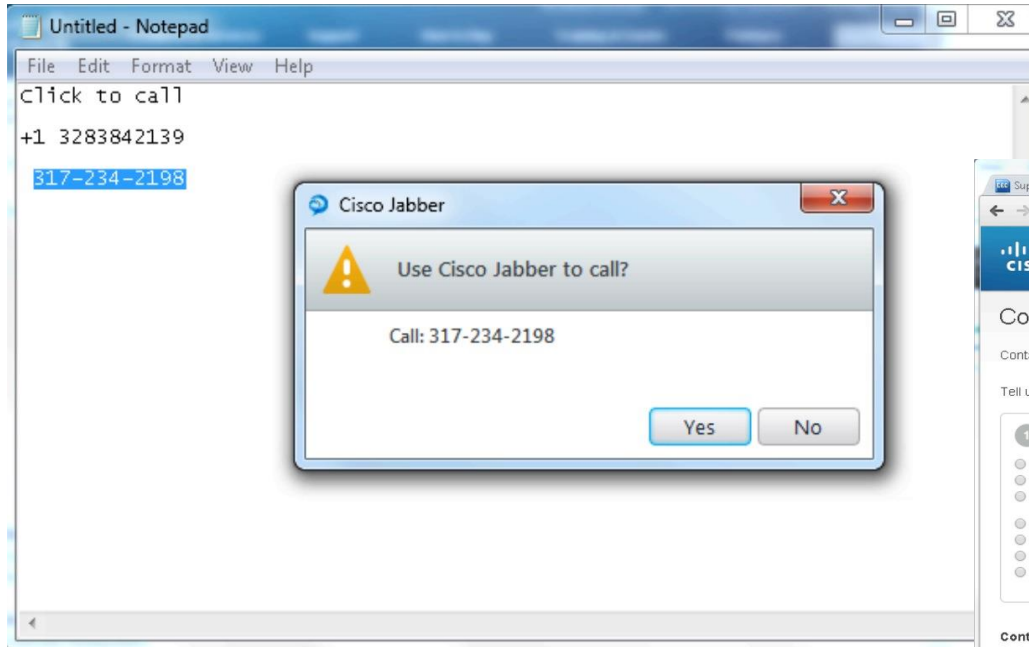
Start Cancel

# Examples

<http://www.barkwood.org/CiscoDirectory.html>



# Click To Call From Any Application



Details at; <http://www.barkwood.org/ClicktoCall.pdf>

A long-exposure photograph of a city street at night. The foreground is dominated by vibrant, multi-colored light trails from moving vehicles, creating a sense of motion and energy. In the background, modern buildings are illuminated with various lights, and a pedestrian bridge spans across the street. The overall scene is a dynamic urban environment.

# Jabber SDK



“Cisco Systems announced that it would release both **binaries and source code** of a H.264 video codec called **OpenH264** under the Simplified BSD license, and **pay all royalties** for its use to MPEG LA themselves for any software projects that use Cisco's precompiled binaries (thus making Cisco's OpenH264 binaries **free to use**)”

Rowan Trollope (October 2013)

<https://github.com/cisco/openh264>

# Communications-enabled Processes



Voice Video



IM/Chat Presence

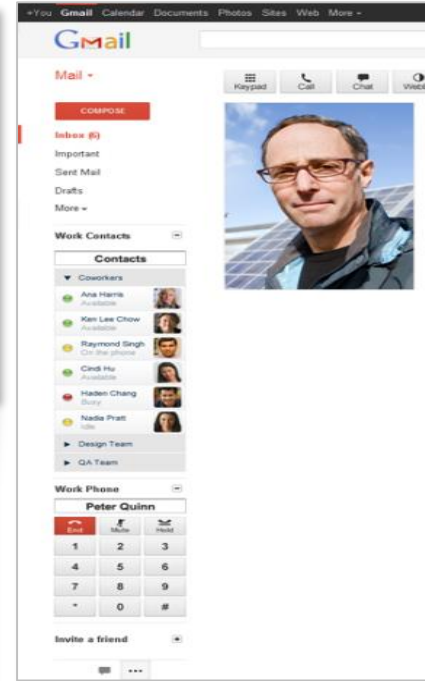
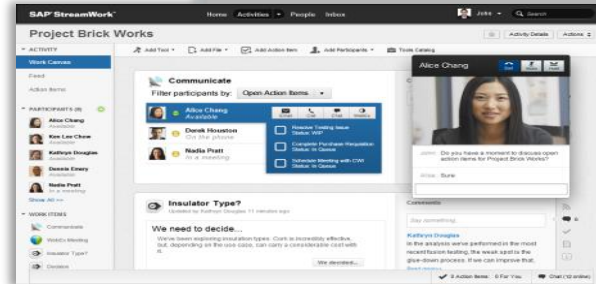
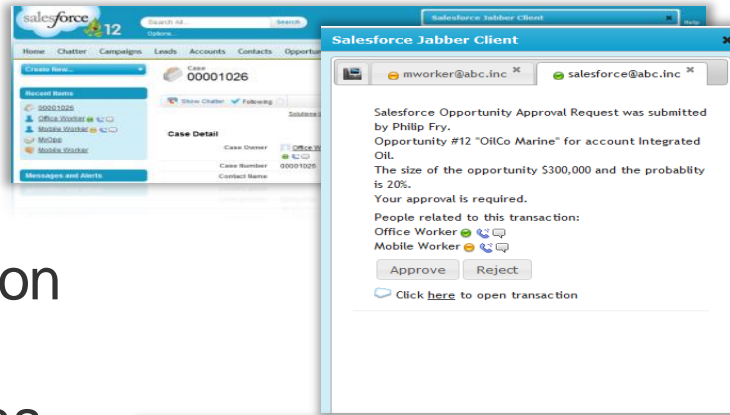


Voice mail



Web Conferencing

Easily add collaboration to web applications & business processes



[www.jabberdeveloper.com](http://www.jabberdeveloper.com)

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# Collaboration-enable Web Applications

Your UC enabled web application

Web Phone  
(AJAX)

CAXL  
(AJAX)

CUMI  
(REST)

WebEx  
(URL/  
XML)



Video



Audio



Call Cntl



IM/Chat



Presence



Pub/Sub

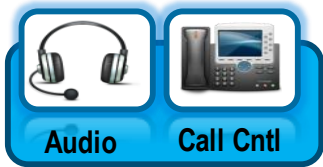


Voice mail



Meeting

# Web Phone Library



- **API Name: Web Phone API**
- **API Interface: AJAX / jQuery**

- Web Phone provides two operating modes
- Control of a physical desk phone
  - Make call, hang-up and mid call feature
- Soft Phone
  - Desktop Media termination with calling features
- Web phone uses a JavaScript library
- Web phone requires an installed plug-in for media termination

# Web Phone Library – Browser Plugin



- Device Support

- Operating Systems:
  - Windows 8.1
  - OSX 10.10

- Browsers:

- Internet Explorer
- Firefox
- Chrome
- Safari



- License Considerations

- CUCM License required for Soft phone



# Cisco Jabber Video Capabilities

## Single voice and video call control platform

### H.264 AVC standard based media library

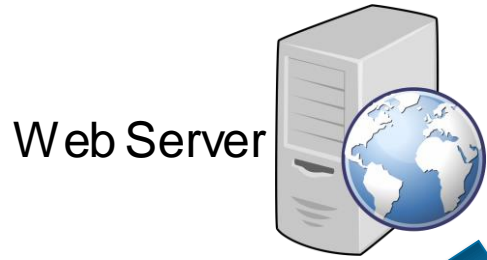
- Designed to handle voice and video tasks
- Developed by Tandberg for the Movi offer

### Business Benefits

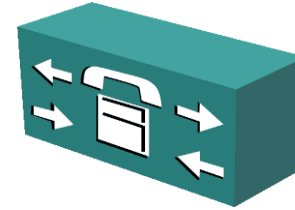
- Use common PCs & Macs (dual core)
- Resilient adaptation in wide variety of network conditions (e.g. ClearPath)
- Audio codecs; G.711a/u, G.722, G.729a
- More resolutions supported, offering greater interoperability
- Frame size QCIF to 720p based on attached camera



# Web Phone Library

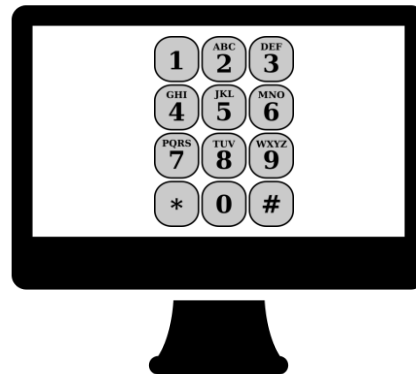


Web Server



Cisco Unified  
Communications  
Manager

Client installs browser  
plug-in and downloads  
JavaScript



Web Browser  
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# Video-enable Web Pages in 5 Minutes (step 1)

## The HTML Markup

```
<body>
<script type="text/javascript" >>
<script src="jquery.js"></script>
<script src="cwic.js"></script>

<label for="numtodial">Number to dial:</label>
<input type="text" id="numtodial">
<button type="button" id="callbtn" disabled="true">Make call</button>
<div id="container">
  <div id="callcontainer">
    <div class="remotename"></div>
    <div id="videocontainer"></div>
    <button type="button" class="endbtn">End Call</button>
  </div>
</div>
</body>
```

Renders as...

Number to dial:

# Video-enable Web Pages in 5 Minutes (step 2)

## JavaScript Code

```
$(document.body).ready(function() {
  $('#container').cwic('init', {
    ready: function() {
      $(this).cwic('registerPhone', {
        user: 'dhenwood', password: 'cisco,123', cucm: '10.66.120.47',
        success: function() {
          $('#callbtn').attr('disabled', false);
        }
      });
    }
  });
});

$('#callbtn').click(function() {
  var num = $('#numtodial').val();
  $('#container').cwic('startConversation', {participant: { recipient: num}, videoDirection: 'sendrecv', remoteVideoWindow: videoObject});
});

$('#container').bind('conversationStart.cwic', function(event, conversation) {
  $('#callcontainer').show();
  $('#container').cwic('updateConversation', {'addRemoteVideoWindow': 'videocallobject'});
});

$('#callcontainer .endbtn').click(function() {
  $('#container').cwic('endConversation');
});

$('#container').bind('conversationEnd.cwic', function(event, conversation) {
  $('#callcontainer').hide();
});
});
```



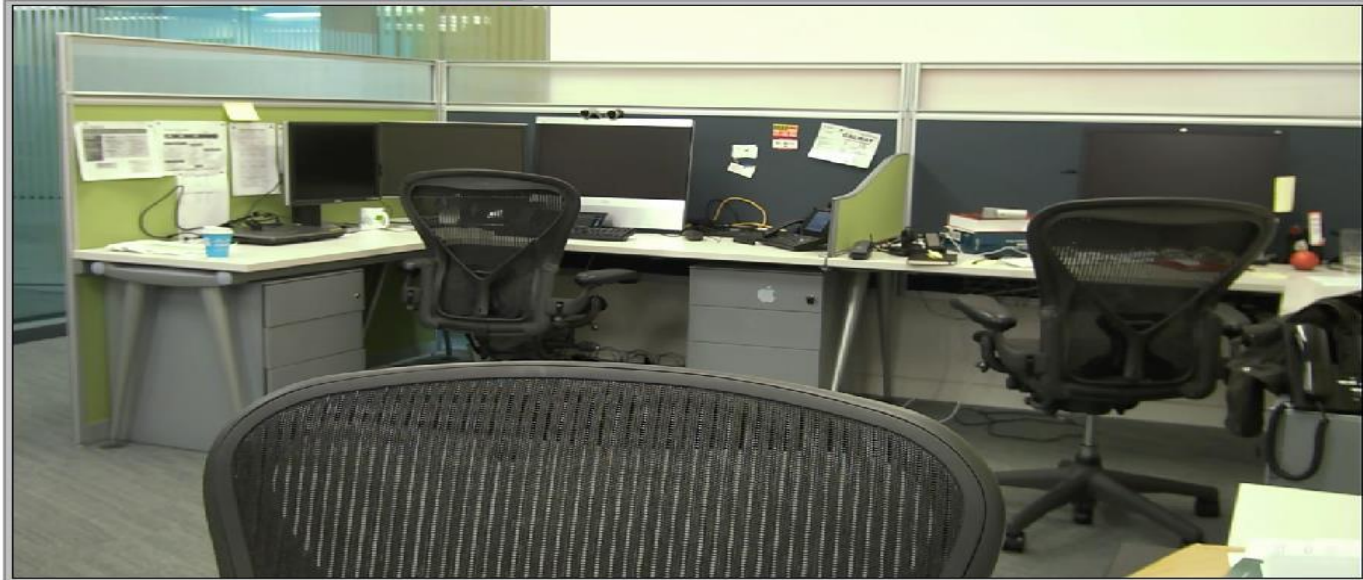
# Video-enable Web Pages in 5 Minutes (step 3)

**Enter a number, and this is your HD video call**

Number to dial: 4648

Make Call

End Call



**Click here to learn how!**

<http://developer.cisco.com/web/jabber-developer/uc-enabel-your-webpage-under-5-minutes-video>



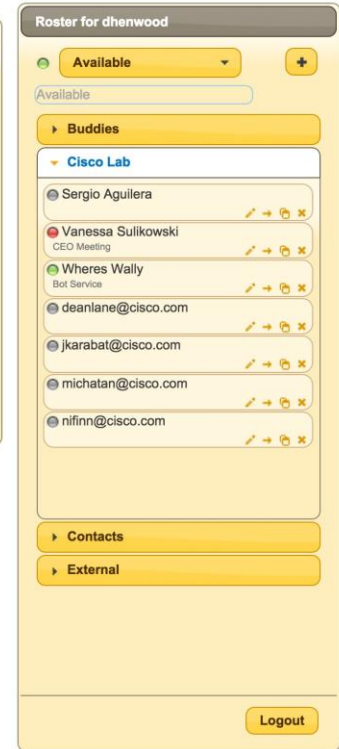
# Cisco XMPP Library



- **API Name: Cisco Ajax XMPP Library**
- **API Interface: AJAX**
- CAXL is a Web 2.0 JavaScript client DK for integration of Instant messaging, Presence and Roster services
- Evolution of Jabbers former jabberwerx suite
- Common SDK for on-prem (CUP) and off-prem (Webex) integration
- Uses BOSH for server communication (Bidirectional streams over synchronous HTTP)

# Cisco XMPP Library

- **1:1 Instant Messaging**
  - Ability to initiate and receive P2P IM
  - Supports XHTML-IM rich-text
- **Multi-user chat (including Persistent Chat)**
  - Ability to create adhoc and persistent chat rooms
  - Ability to invite and be invited to chat rooms.
- **My presence**
  - Ability to set device presence
  - Device presence to be the same as Presence engine composed presence.
- **Contacts List management**
  - Ability to Add/Update/Remove Contacts
  - Ability to move contacts between groups
- **User Authentication**

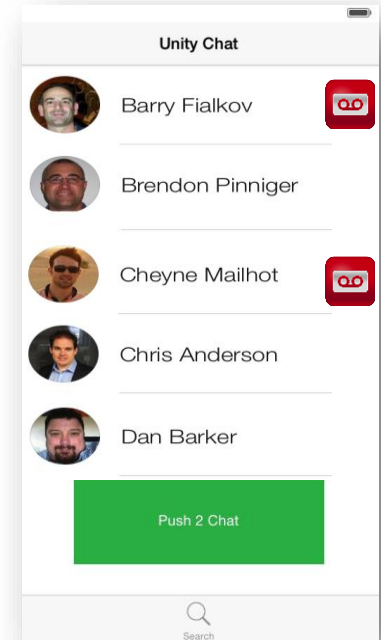


# Cisco Unity Connection REST



- **API Name: Cisco Unity Connection REST**
- **API Interface: REST**

- Web 2.0 interface for accessing Cisco Unity Connection Voicemail
- CUMI – Messaging interface for retrieving and managing messages
- CUNI – Notifications interface for managing notifications
- CUTI – Telephony interface for telephone record and playback



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# WebEx Library



- **API Name: WebEx Meeting API**
- **API Interface: URL based**

- The Webex Library provides a simple URL based interface to execute Webex Meeting functionality in a browser
- Cisco recommends Using the URL API for:
  - Authentication to the WebEx Page
  - Immediately starting/joining WebEx sessions
  - URL API Version Coincides with WBS Version
- Cisco also provides an advanced XML interface to Webex Meeting Centre
- CWMS 2.5 supports REST API for scheduling meetings



Jabber Guest

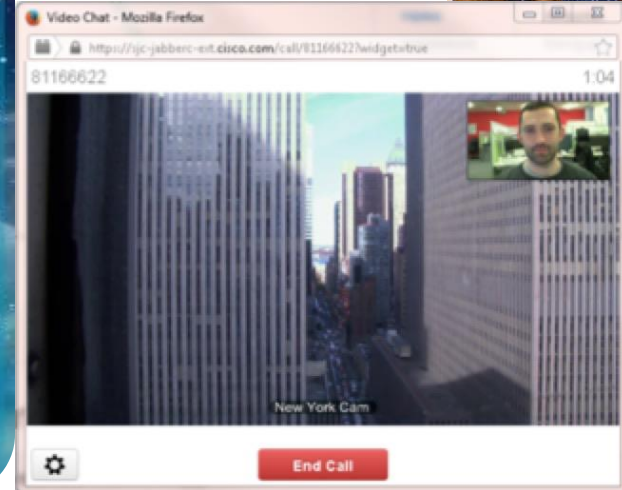
Cisco *live!*

# Connecting Homes with Businesses



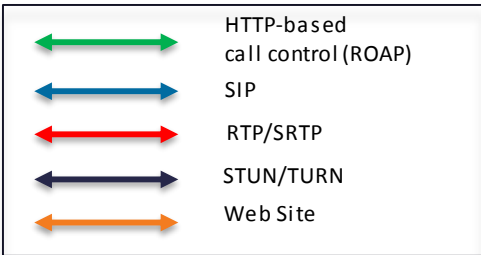
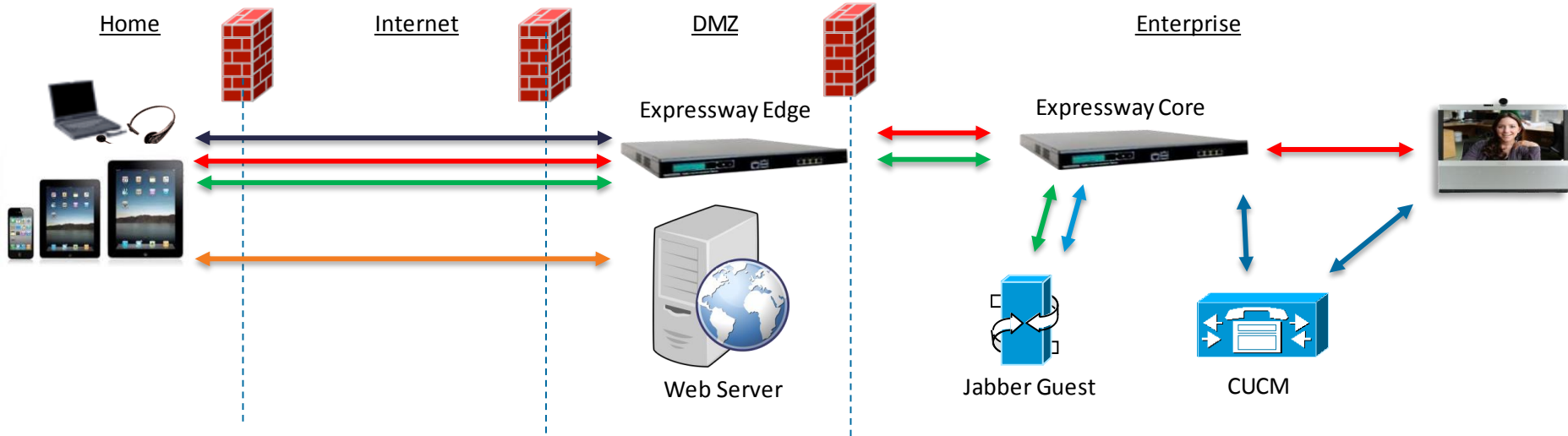
# Jabber Guest External Directory

<http://www.barkwood.org/Directory.html>



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# Example Call Flow



\* Expressway X8.1 or later required  
**Cisco live!**



# Making Calls

- Jabber Guest can use “Ad-hoc” calling or admin managed links.
- Links can also be time based
- Helps manage time of in-house expert
- RESTful API may be used to manage timing from third party scheduling
- Some examples:
  - **URI dialing:** <http://example-jabberc.com/call/janedoe@example.com>
  - **Directory Number** <http://example-jabberc.com/call/1234@example.com>

JabberC Administration

CISCO Users Links Services Settings Logs Logout

Details Password Links

New Link

Link /call/

Request Path  Custom string ▾  
Destination   
Display Name  Destination  
Random string  
Custom string

Caller Name

State  Always Active  
 Active Between

Start  📅

End  📅

Create

WebCommon Version main\_1.0.2.7 © 2009-2013 Cisco Systems, Inc. All rights reserved.  
[License Agreement](#)

State  Always Active  
 Active Between

Start  📅

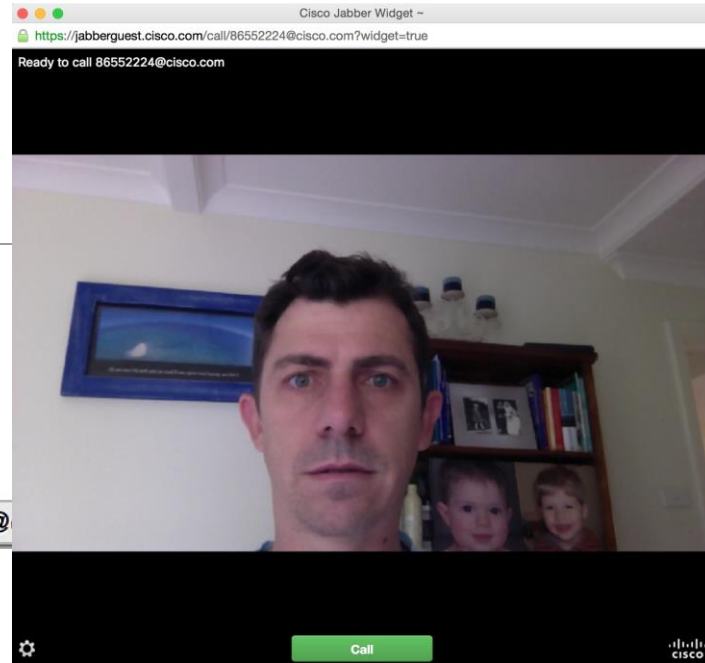
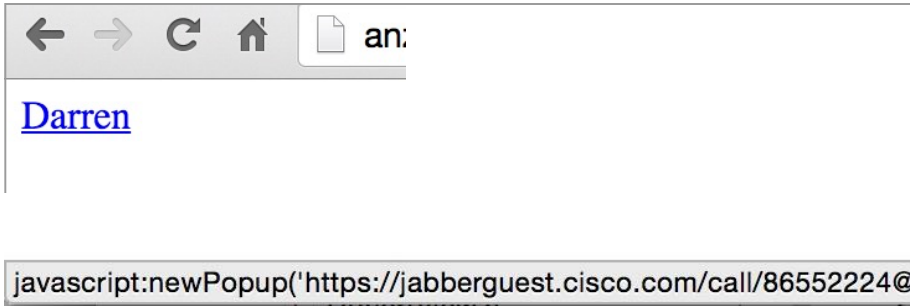
End  📅

Create

# Embed Jabber Guest in HTML

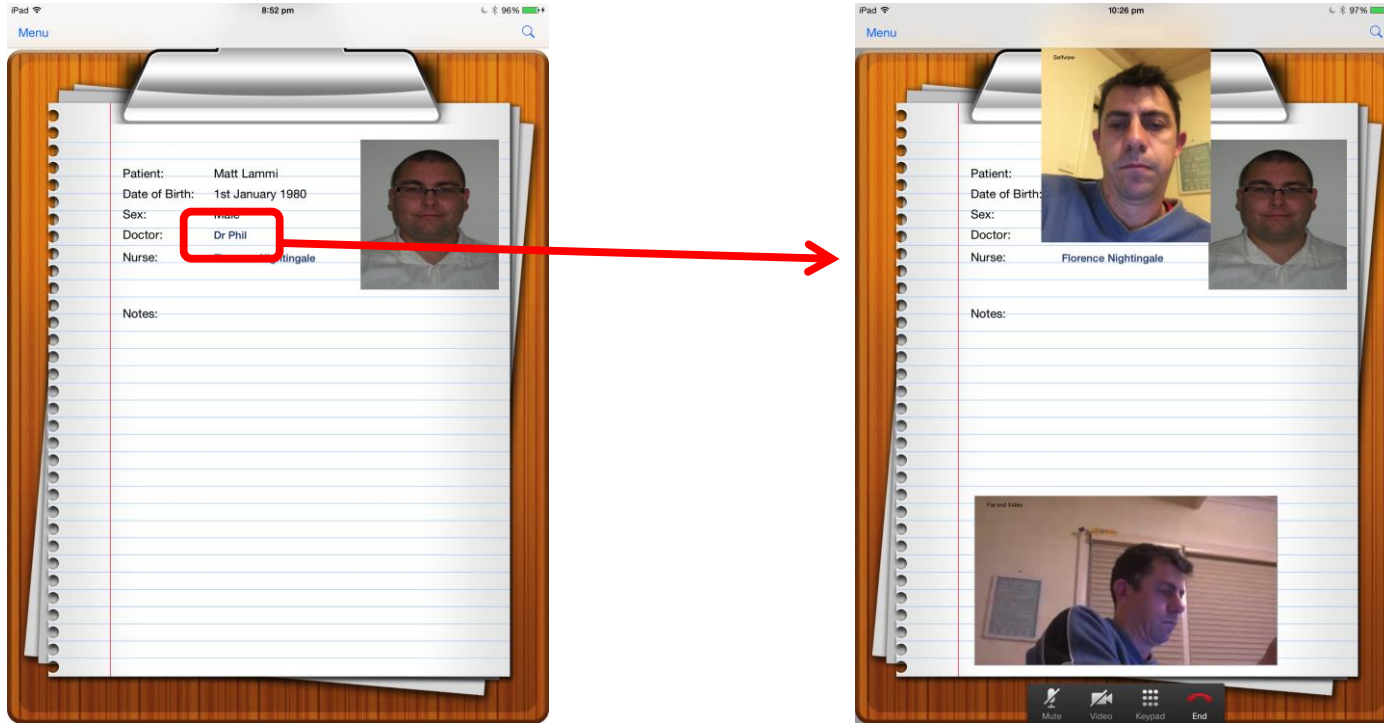
HTML Code to initiate a call

- `<a href="JavaScript:newPopup('https://jabberguest.cisco.com/call/86552224@cisco.com?widget=true');">Darren</a>`



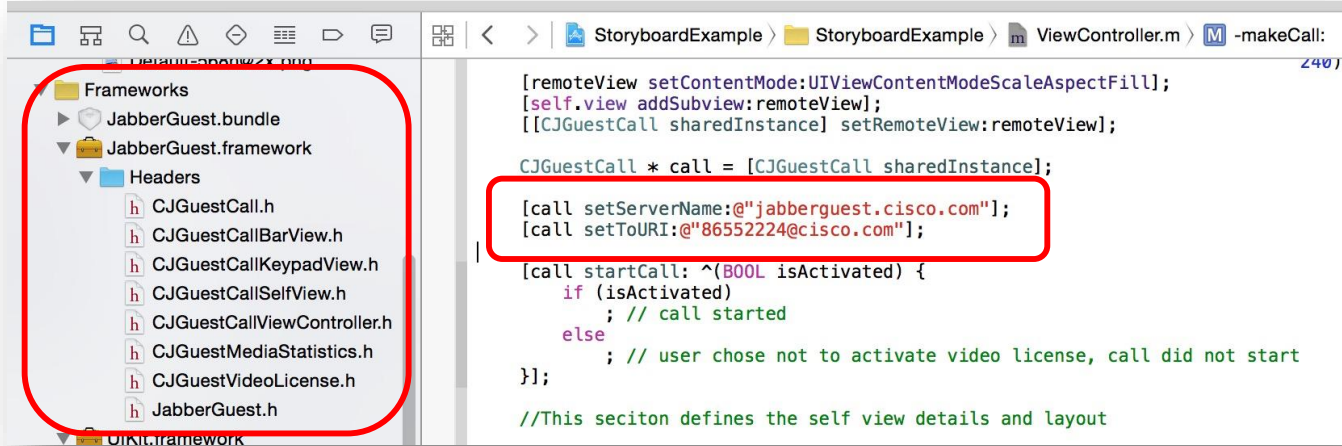
# Jabber Guest In An App

Available on iOS and Android



# Jabber Guest In An App

Available on iOS and Android



Additional iPad code for;

- Self view video
- Remote video
- Keypad layout



XMPP Bot

# Get Everyone Ready...



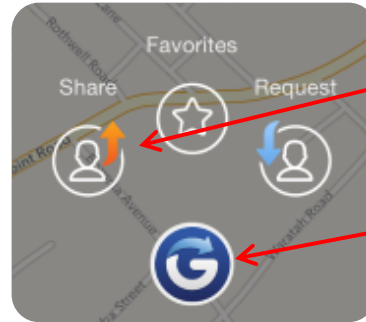
**Download Jabber**  
(App Store or Google Play)

Login using following details

Account	Details
Username	pod??@barkwood.org
Password	cisco123
Service	Webex Messenger



**Download Glympse (optional)**  
(App Store or Google Play)



Step 2: Select Share

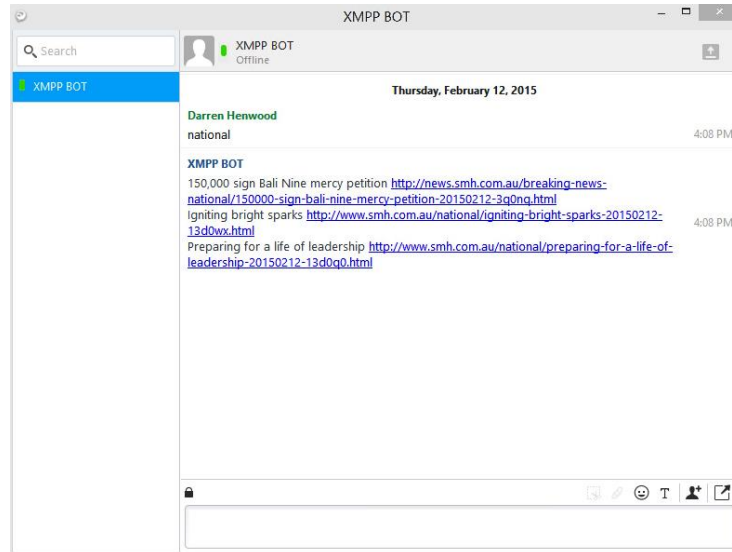
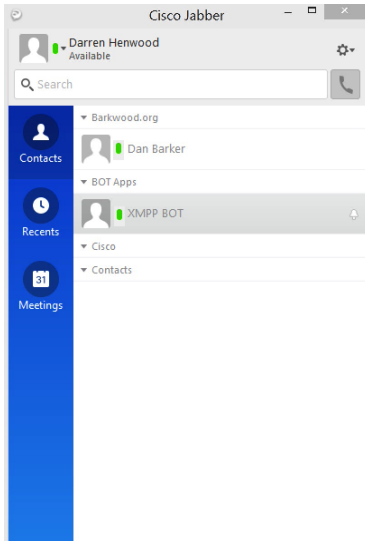
Step 1: Select Icon

Step 3: Enter **CiscoLive** in To Field

*CiscoLive!*

# What is an XMPP Bot

- Bot or BOT, shortened from "robot"
- In the context of XMPP Bot;
  - User to computer communications (user triggered)
  - Computer to User communications (event triggered)



# XMPP Bot Example

```
#!/usr/bin/perl
use strict;
use utf8;
use AnyEvent;
use AnyEvent::XMPP::Client;
use AnyEvent::XMPP::IM::Message;
use XML::RSS::Parser::Lite;
use LWP::Simple;

my $uname = "rss@cisco.com";
my $passwd = 'cisco,123';
my $server = "10.66.120.48";
my $j = AnyEvent->condvar;
my $cl = AnyEvent::XMPP::Client->new (debug => 0);
my $url;
$cl->add_account($uname,$passwd,$server);
$cl->reg_cb (
    session_ready=> sub {
        print"Session ready..";
        my ($cl, $acc) = @_;
        $cl->set_presence("available","Sydney Morning Herald",10);
    },
    disconnect=> sub {
        my ($cl, $acc, $h, $p, $reas) = @_;
        print "disconnect ($h:$p): $reas\n";
    },
    error => sub {
        my ($cl, $acc, $err) = @_;
        print "ERROR: " . $err->string . "\n";
    },
);
```

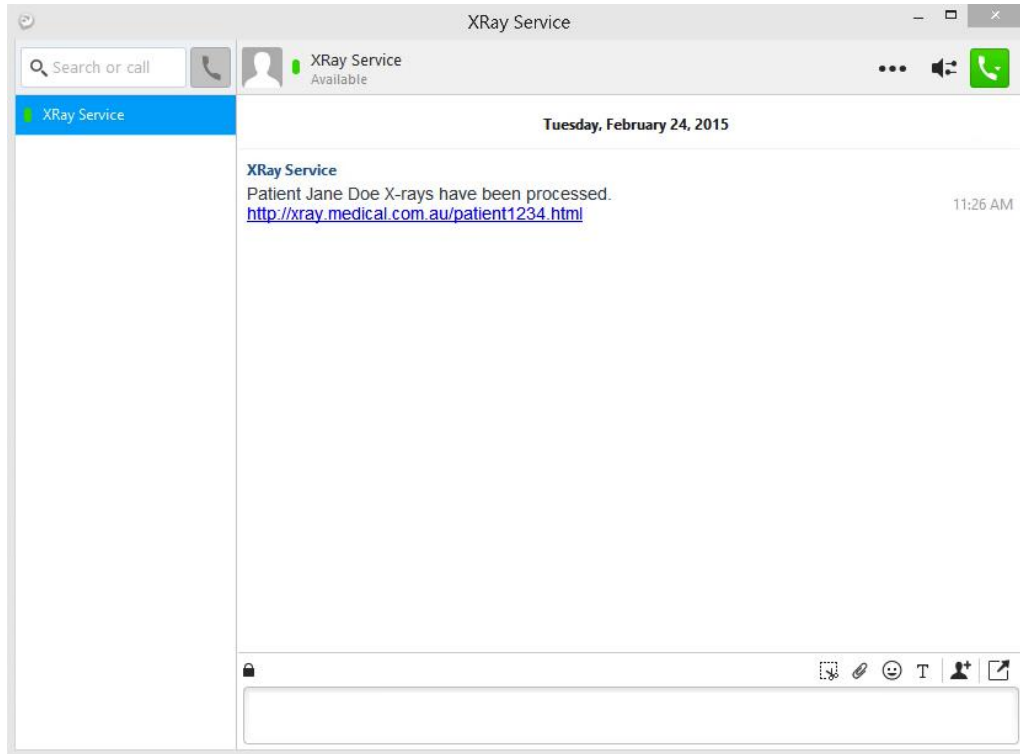
Login Details

Set Presence State

Full RSS script at;  
<http://www.barkwood.org/rss.txt>



# Computer to User BOT

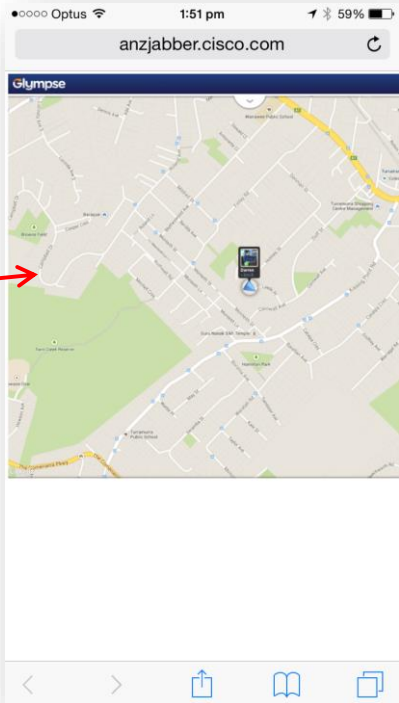
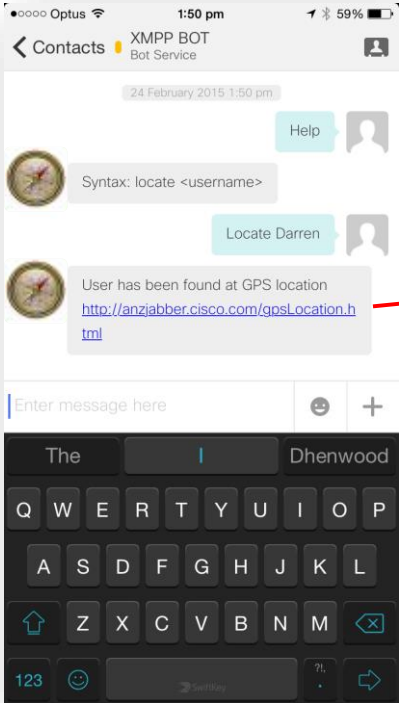


## Other Examples;

- Virus Alert
- Severity 1 Issue
- Disaster Event
- Happy hour starts



# GPS Location





Q & A

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- By visiting the Cisco Live Mobile Site  
<http://showcase.genie-connect.com/clmelbourne2015>
- Visit any Cisco Live Internet Station located throughout the venue

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**Cisco** *live!*



Thank you.

Cisco *live!*



**CISCO**

A long-exposure photograph of a city street at night. The foreground is dominated by vibrant, multi-colored light trails from moving vehicles, creating a sense of motion and energy. In the background, a modern pedestrian bridge spans across the street, illuminated with blue lights. Tall buildings with lit windows and colorful architectural lighting (including red and blue) form the city skyline. The overall scene is a dynamic and visually rich urban environment.

# Appendix A – Use Cases

# Use Case: Pervasive Cisco UC in Business Process Applications

- **Jabber SDK APIs: XMPP (CAXL), Web Phone (AJAX), Video\* (PVE)**
  - UC, Collaboration, Video capabilities everywhere
  - Example only – an ISV or IT Pro could do the project

Presence enabled

IM / Chat enabled

Click 2 WebEx enabled

Click 2 Call enabled

Click 2 Video\* enabled

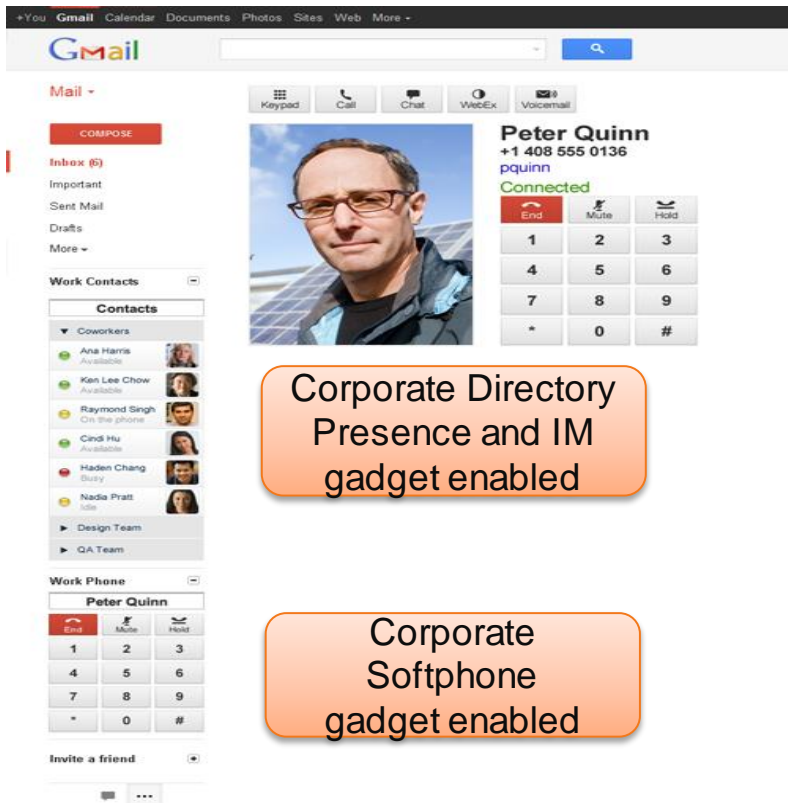
The screenshot displays the SAP StreamWork interface for a project titled "Project Brick Works". The top navigation bar includes "Home", "Activities", "People", and "Inbox", along with a user profile for "John" and a search bar. The main content area is divided into several sections:

- Work Canvas:** A sidebar on the left containing "Feed", "Action Items", "PARTICIPANTS (8)", and "WORK ITEMS".
- Communicate:** A central panel with a "Filter participants by:" dropdown set to "Open Action Items". It lists participants: Alice Chang (Available), Derek Houston (On the phone), and Nadia Pratt (In a meeting). A blue overlay menu is open over Alice Chang, showing options for "Email", "Call", "Chat", and "WebEx", along with task items like "Resolve Testing Issue" and "Complete Purchase Requisition".
- Insulator Type?:** A content area with a video thumbnail of Alice Chang and a text block starting with "We need to decide...".
- Chat:** A chat window on the right showing a message from John: "Do you have a moment to discuss open action items for Project Brick Works?" and a response from Alice: "Sure".

Two orange circles highlight the "End", "Mute", and "Hold" controls for Alice Chang's video in the top right, and the communication menu for Alice Chang in the center. A vertical orange dashed arrow points from the chat window up towards the video controls.



# Use Case: Jabber SDK with Gmail and Google Apps for Business



Corporate Directory  
Presence and IM  
gadget enabled

Corporate  
Softphone  
gadget enabled

- Cisco UC Enable Gmail and Google Apps for Business
- Cisco Jabber APIs
  - Web Softphone (AJAX)
  - IM / Presence (CAXL)
- User Capabilities
  - View Presence
  - Click 2 IM
  - Click 2 Call
- Deployment Requirement
  - Corporate VPN active session
- Flash Demo: Completed Integration
  - <http://www.youtube.com/watch?v=plG/EubjBrU>

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# Use Case: Esnatech Unified Messaging for Gmail / Zimbra

- Jabber SDK APIs: Unity Connection Visual Voicemail (REST), User Provisioning (CUPI)
- Use Case: Elegantly integrates disparate IPT vendor components into email accounts

User Provisioning

Unified Messaging

The screenshot displays a Gmail inbox with a list of emails. A voice message is highlighted with a red circle. The message details are as follows:

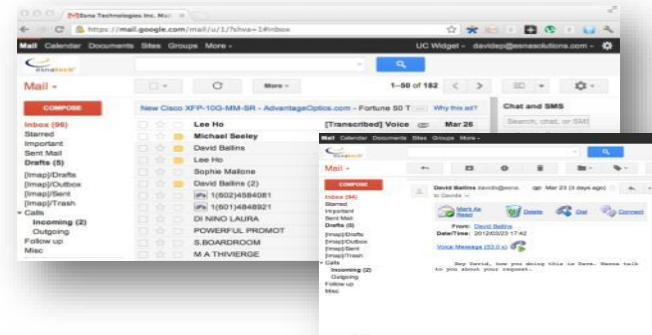
- Subject: New Cisco XFP-10G-MM-SR - AdvantageOptics.com - Fortune 50 T...
- Sender: Sue Esmard
- Message ID: VoiceMsgID=2676152 G=40 F=300 A=24A782FB-8D25-4B48-8D48-CE479458D01B C=1].mp3
- Date/Time: 2012/03/23 17:00:03
- Content: Hey David, how you doing this is Dave. Wanna talk to you about your request.

# Esnatech Integrates Cisco with Google



“Office-LinX Cloud Connect helped us solve our Cisco Unity Connection voice mail integration challenges during Eagle County’s conversion to Google Gmail.”

Scott Lingle  
IT Director  
Eagle County, CO



Esnatech leverages the Jabber SDK to integrate Cisco Unified Communications with Google Apps and Gmail.

Cisco *live!*

# Use Case: Cisco UC enabled Corporate Directory Portal

- **Jabber SDK APIs: XMPP (CAXL), Web Phone (AJAX), Video**
  - User Capabilities: Presence, Click 2 Call / IM / WebEx today, Click 2 Video

Presence  
enabled

IM / Chat  
enabled

Click 2 WebEx  
enabled

Click 2 Call  
enabled

Click 2 Video\*  
enabled

The screenshot displays the CWI Company Portal interface. At the top, the CWI logo and 'Company Portal' text are visible, along with a 'Logout' link. A search bar is located below the header. The main content area features a profile for Scott McDaniel, a Thermal Analyst at Motor Engineering. His status is 'On the phone' with a phone icon. A video call window is open, showing Scott McDaniel on the screen. Below the video window, there are three buttons: 'End', 'Mute', and 'Hold'. Above the video window, there are four buttons: 'Email', 'Call', 'Chat', and 'WebEx'. To the right of the profile, there is a 'Contact List' section with two categories: 'Coworkers' and 'Design Team'. The 'Coworkers' list includes Ana Harris (Available), Ken Lee Chow (Available), Raymond Singh (On the phone), Cindi Hu (Available), Haden Chang (Busy), and Nadia Pratt (In a meeting). The 'Design Team' list includes Derek Houston (Sharing desktop) and Stacy Ramon (Available).

# Salesforce.com Cisco UC Integration Overview – List of Transactions

Presence enabled

IM / Chat enabled

Click 2 Call enabled

Click 2 Video\* enabled

salesforce 12

Search Opportunities, Peo... Search

Options...

Home Chatter Campaigns Leads Accounts Contacts Opportunities Forecasts Contracts

Create New...

Recent Items

- MyOpp
- Jamie Jones
- Steve Smith
- dasfasd
- User Conference - Jun 17-19, 2002
- NewOpp
- Amy Wong
- Jamie Jones
- Nicky Nash
- Rebecca Raven

Messages and Alerts

Opportunity MyOpp

Show Chatter Following

Approval History [10+] | Products [0] | Open Activities [0] | Activity History [0]

Opportunity Detail

Unlock Record Edit

Opportunity Owner Steve Smith [Change]

Opportunity Name MyOpp

Account Name Jamie Jones

Lead Source

Order Number

Current Generator(s)

Tracking Number

Created By Steve Smith, 2/7/2012 11:58 AM

# Salesforce.com Cisco UC Integration Overview – IM session

- Use Cases: Real-time collaboration with relevant people for a SFDC transaction inside the SFDC workflow and approval processes.

Presence enabled

IM / Chat enabled

Click 2 Call enabled

Click 2 Video\* enabled

The screenshot displays the Salesforce.com user interface. At the top, the Salesforce logo and version number '12' are visible. A search bar is present with the text 'Search Opportunities, Peo...'. Below the search bar, a navigation menu includes 'Home', 'Chatter', 'Campaigns', 'Leads', 'Accounts', 'Contacts', 'Opportunities', 'Forecasts', and 'Contracts'. The 'Opportunities' tab is selected. On the left, a sidebar shows 'Recent Items' with a list of items including 'MyOpp', 'Jamie Jones', 'Steve Smith', 'dasfasd', 'User Conference - Jun 17-19\_2002', 'NewOpp', 'Amy Wong', and 'Jamie Jones'. The main content area shows an 'Opportunity MyOpp' record. The 'Opportunity Detail' section includes fields for 'Opportunity Owner' (Steve Smith), 'Private', 'Opportunity Name' (MyOpp), and 'Account Name' (Jamie Jones). The 'Account Name' field is circled in orange. On the right, a 'Salesforce.com Client' window is open, showing a chat conversation with 'jamijone@synergy-galway.cisco.com'. The chat window includes a 'Dial' button and a message: 'Have you time to talk about the deal?'. A response from the user is: 'Yes, I see you are available, I'll call you...'. The chat window is also circled in orange.

# Salesforce.com Cisco UC Integration Overview – Video Call

Presence enabled

IM / Chat enabled

Click 2 Call enabled

Click 2 Video\* enabled

The screenshot displays the Salesforce.com interface for an Opportunity record titled 'MyOpp'. The record is owned by Steve Smith and is in a pending approval state. The approval history table shows two actions: 'Reassign | Approve / Reject' and 'Approval Request Submitted', both dated 4/10/2012 at 4:25 AM. A Cisco Jabber Client window is overlaid on the right side of the screen, showing a video call in progress. The client window includes a 'Disconnect' button and a 'Local Preview' control set to 'On'. The video call shows two participants in a meeting room setting.

Action	Date
Step: Opportunity Approval Stem (Pending for first approval)	
Reassign   Approve / Reject	4/10/2012 4:25 AM
Approval Request Submitted	4/10/2012 4:25 AM



**CISCO**