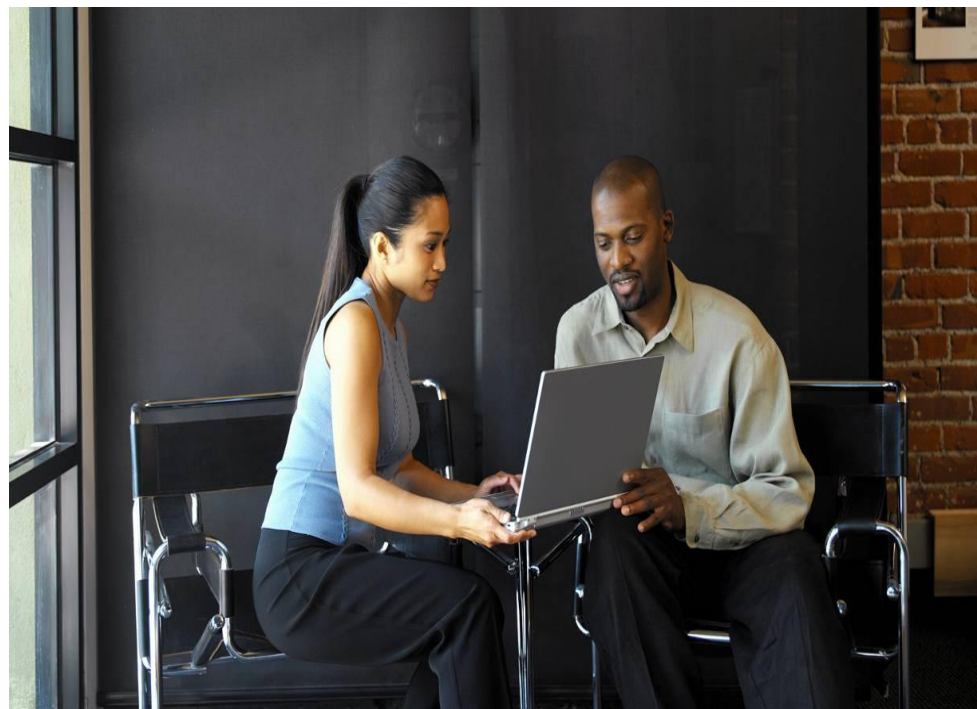




IBM Unified Communications and Collaboration (UC²_™)

What is the IBM/Cisco Unified Communications Solution?

Petar Kovačević – IBM Srbija
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November 2009

IBM's definition of Unified Communications

IBM defines Unified Communications & Collaboration as the deep integration of rich presence, instant messaging, email, unified messaging, telephony, web, audio and video conferencing...

...delivered through a unified user experience

... and available as a set of contextual services which can be accessed from and integrated with applications and business processes

IBM's Unified Communications and Collaboration Strategy

Vision: Foster innovation and business agility by making it easier for people to find, reach and collaborate through a unified user experience

Software platform

- Open & Extensible
- Intelligent Integration
- Unified experience
- Multi-vendor support

Integration services

- Plan, Deploy, Manage
- Reduce Risk
- Faster Time to Value

Business Partners

- Broad ecosystem
- Customer Choice
- Leverage existing investments



Industry expertise

- Business Process Optimization
- Responsiveness & Agility
- Competitive Advantage

IBM Lotus Sametime Product Family



Three tiers of capability

[Sametime.wmv](#)

IBM Lotus Sametime Product Family



Persistent Chat Rooms
 Social Networking Tools
 Instant Screen Share
 Location Services

VoIP chat, Video
 Telephony Integration
 File Transfer, Screen Capture
 Web Conferencing
 Mobile Clients

Enterprise & Public IM Federation
 Extensible Eclipse client & SDKs

Presence Awareness
 Secure IM with Rich text, emoticons
 Integration with Office

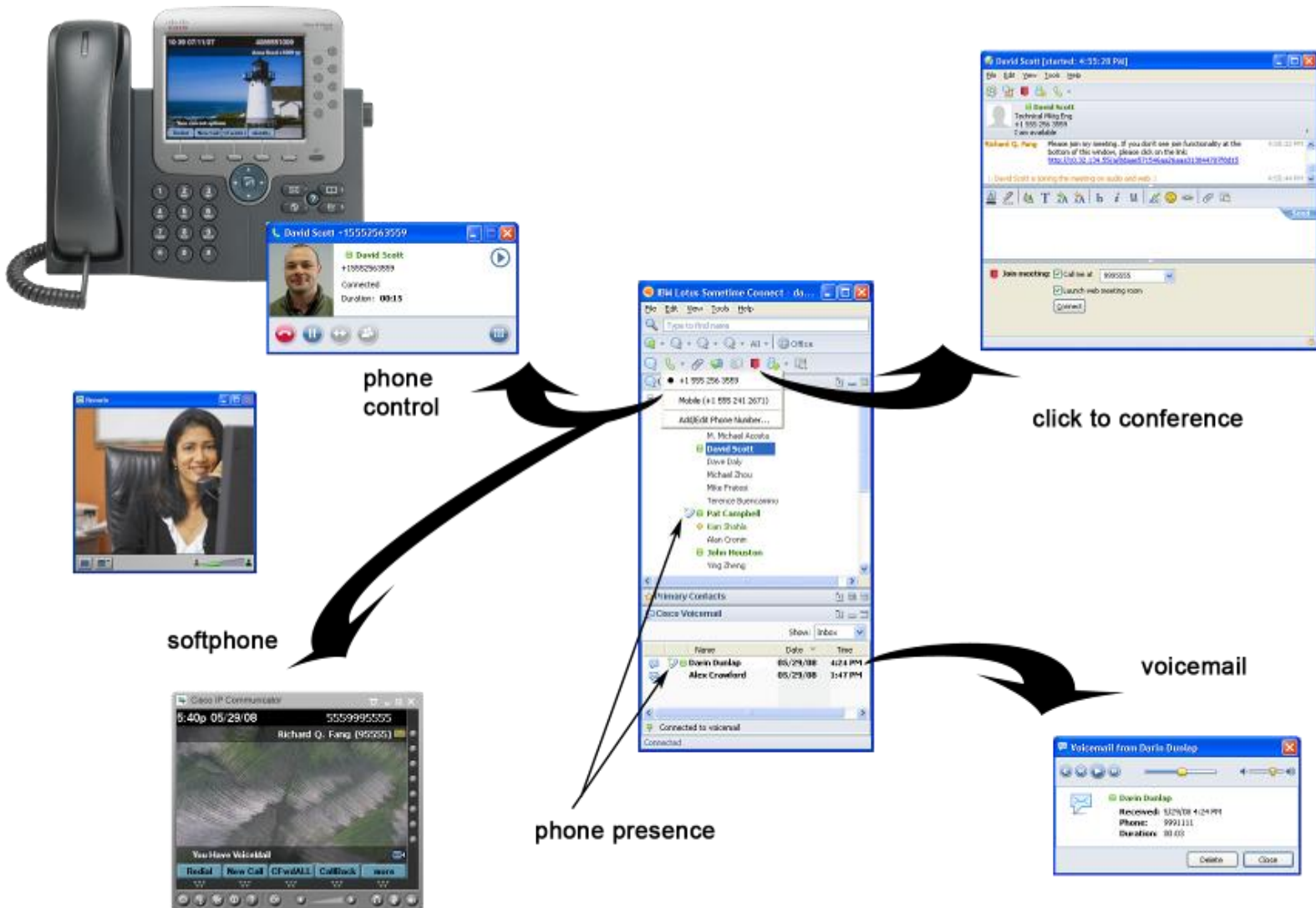
Integrating telephony with Lotus Sametime



IBM Lotus Sametime Standard & Advanced

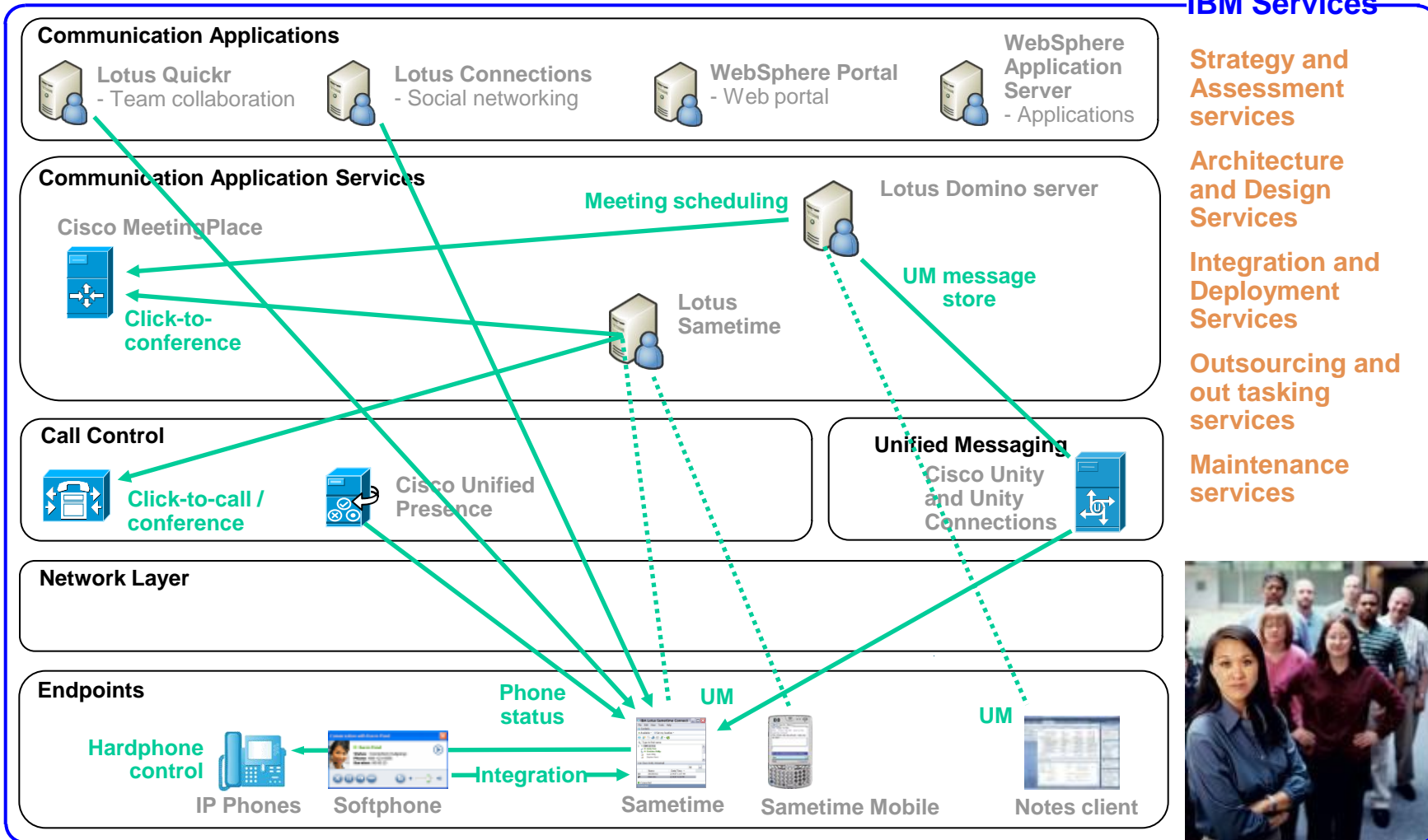
Integration with Cisco

Cisco & IBM Sametime Integration Features



Cisco & IBM Sametime Integration Interaction

IBM Services



Strategy and Assessment services

Architecture and Design Services

Integration and Deployment Services

Outsourcing and out tasking services

Maintenance services

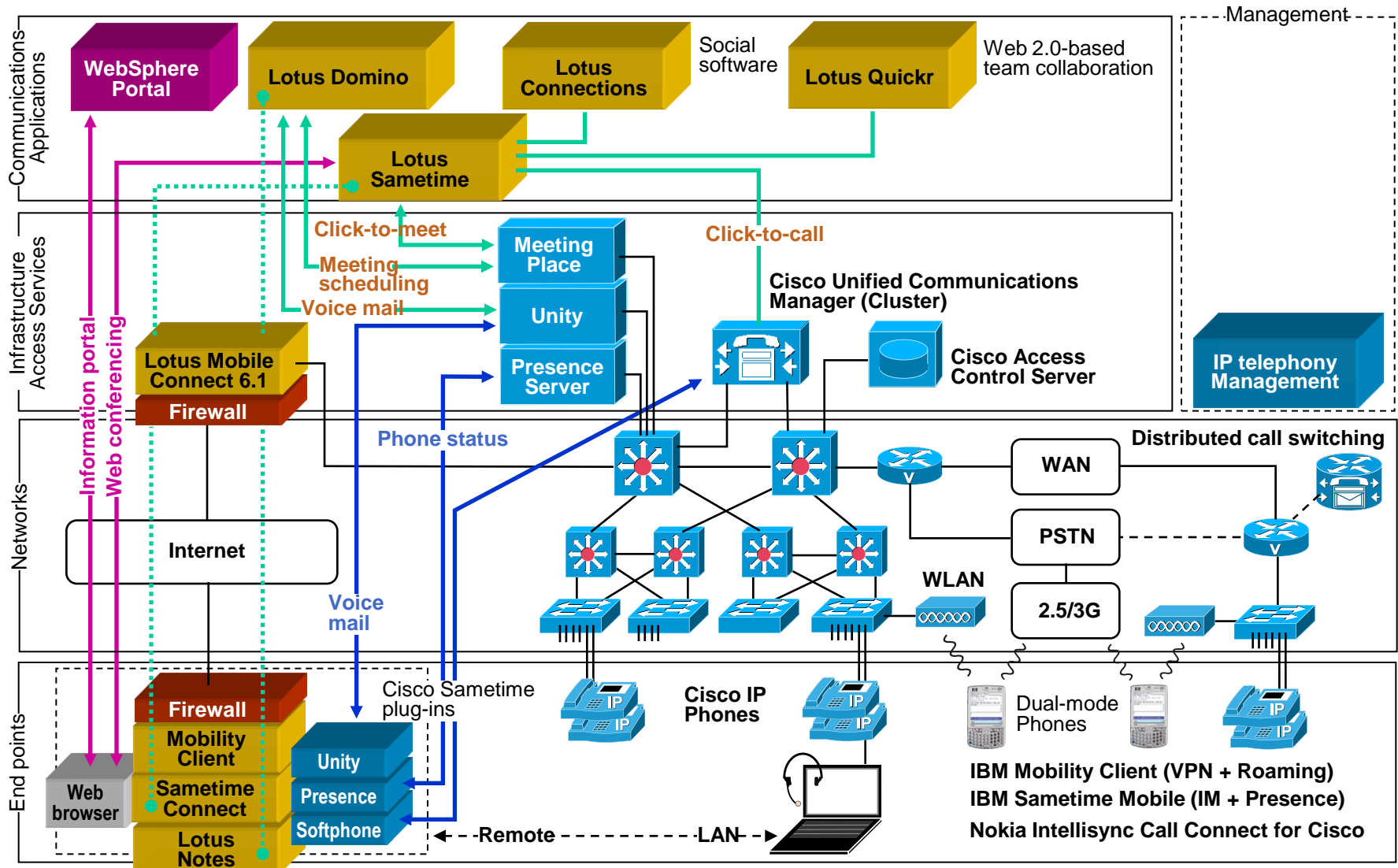


Blue Icons = Cisco Products



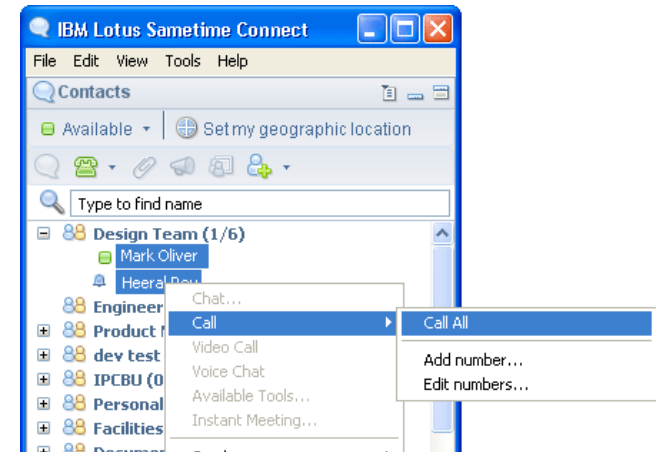
White Icons = IBM Products

Cisco & IBM Sametime Integration Architecture



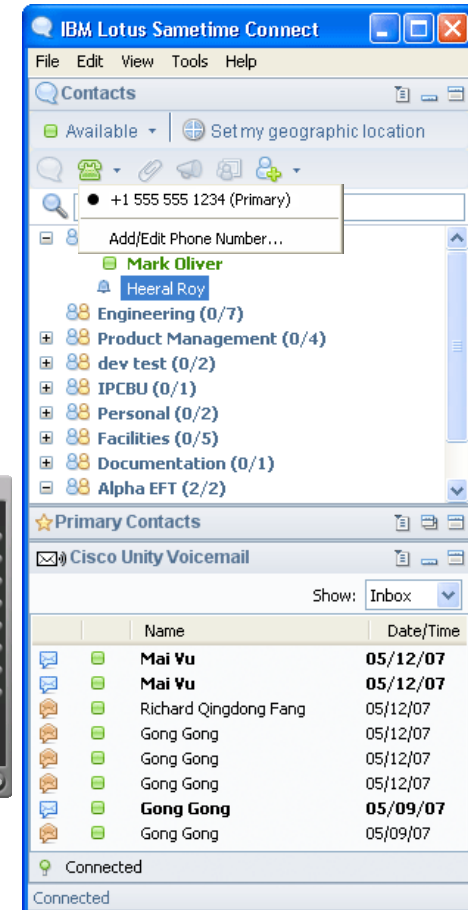
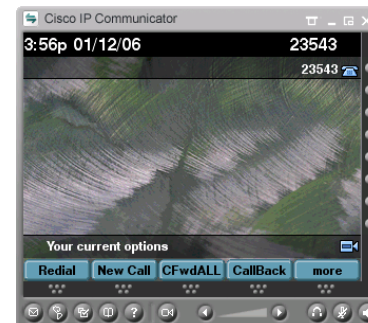
Click to Call & Conference with Lotus Sametime

- **Native Sametime controls to start a call from buddy list or IM session**
 - Sametime server sends call requests to Unified Communications Manager, which sets up the call between the initiator's and buddy's phones
- **Point-to-point and conference calling**
- **Requirements** (see slide notes for doc info)
 - Sametime server plug-in
 - Unified Communications Manager 6.0 or later
 - Sametime 7.5.1 CF1 or later



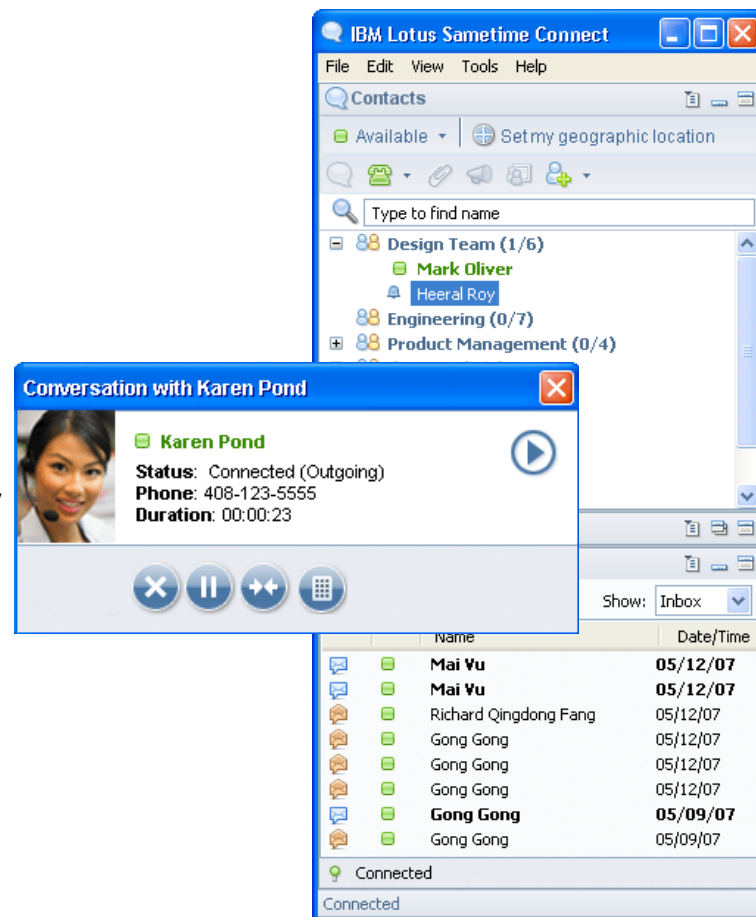
IP Communicator Click to Call with Lotus Sametime

- **Start IP Communicator calls from Sametime buddy list or IM session**
 - Passes phone number from Sametime to IP Communicator
 - Use default phone # or add others
 - Start multiples calls & conference in CIPC
- **Include video with Unified Video Advantage**
- **Requirements**
 - IP Communicator 2.1.3 or later with Sametime client plug-in *
 - Unified Communications Manager 4.1.3 or later
 - Sametime 7.5.1 CF1 or later



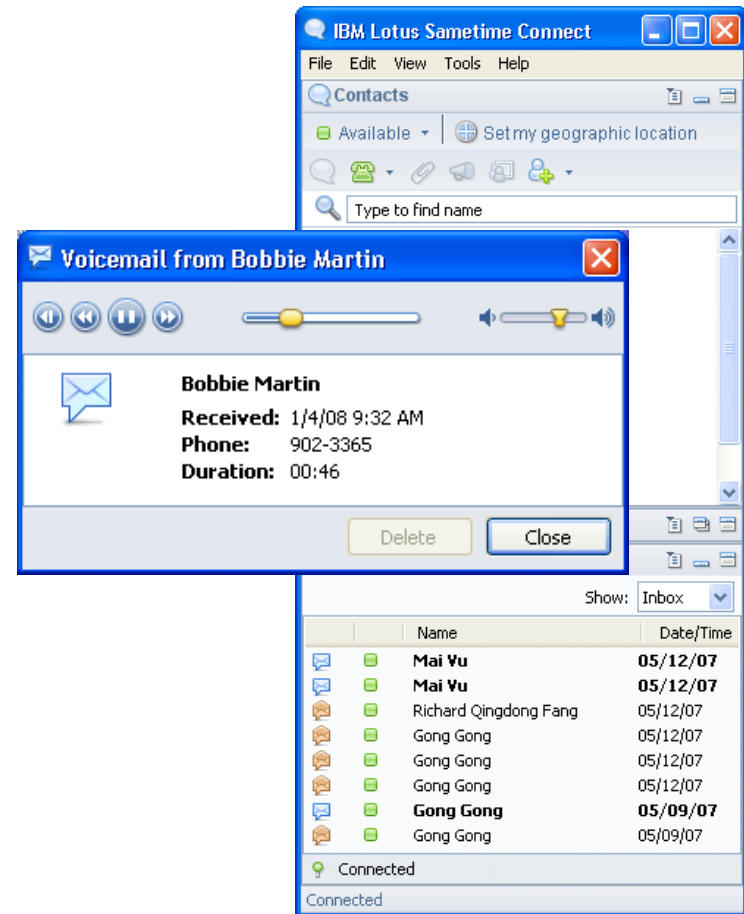
Cisco Phone Control with Lotus Sametime

- **Control Cisco IP Phone from Lotus Sametime**
- **Start call, conference from buddy list**
- **Escalate IM session to phone call**
- **Answer or redirect incoming call**
- **Have multiple calls active simultaneously**
- **Control active call**
 - hang up, hold/resume, merge, dial pad
- **Requirements**
 - Sametime client plug-in
 - Unified Communications Manager 4.1.3 or later
 - Sametime 7.5.1 CF1 or later



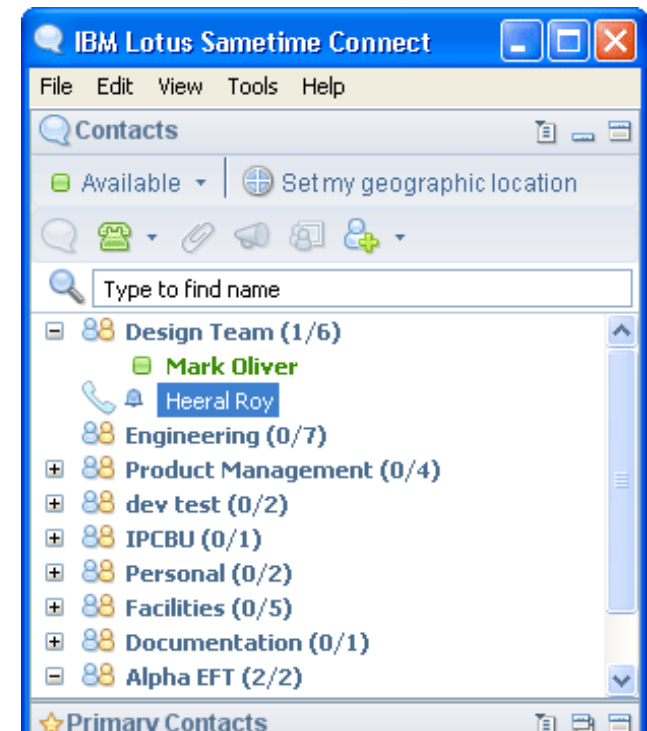
Cisco Unified Messaging with Lotus Sametime

- **View, play & manage Cisco voicemail from Sametime**
- **Filter by Inbox, Deleted, Heard, Unheard**
- **Presence shown with messages** (Sametime & phone, if enabled)
- **From voicemail entries, activate other Cisco plug-ins** (e.g. click to call or MeetingPlace conference)
- **Requirements** (doc info in slide notes)
 - Unity 4.2 or later, OR Unity Connection 2.0 or later
 - Sametime client plug-in
 - Sametime 7.5.1 CF1 or later



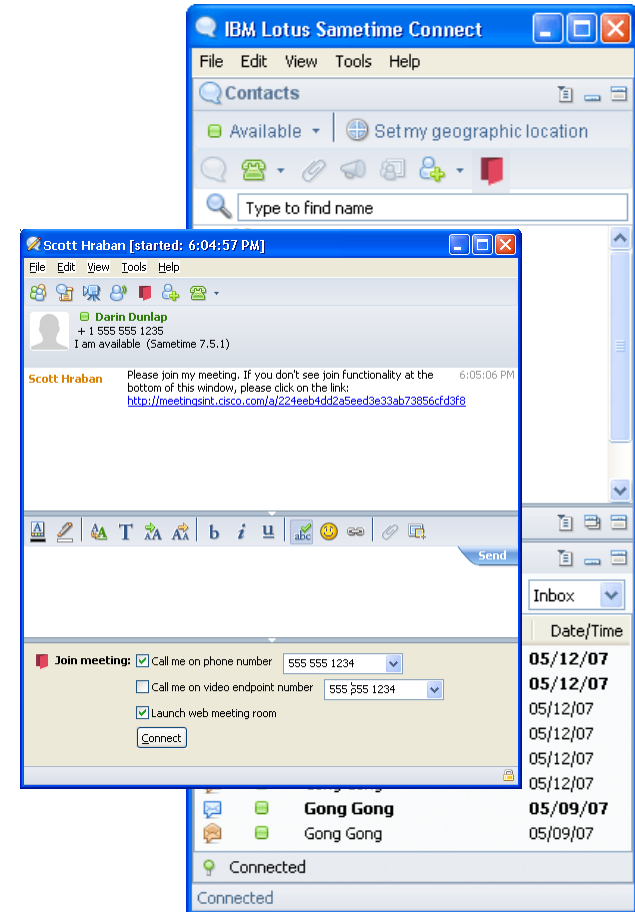
Cisco Phone Presence with Lotus Sametime

- **Phone presence info visible from Sametime**
 - Displays next to Sametime presence indicator
- **See if a person you need to reach is on the phone or not**
- **Requirements**
 - Cisco client plug-in
 - Unified Presence 6.0.2 or later
 - Unified Communications Manager 5.1 or later
 - Sametime 7.5.1 CF1 or later



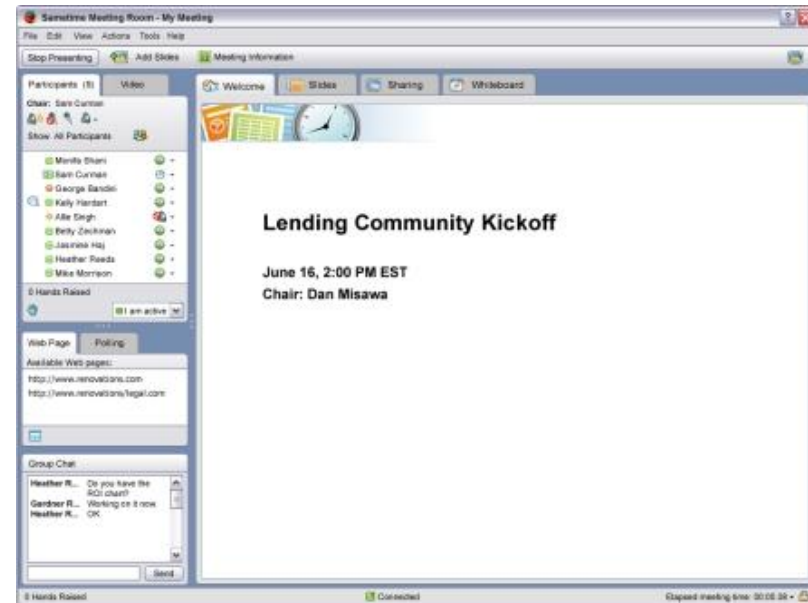
Unified MeetingPlace Click to Conference with Lotus Sametime

- **Click to MeetingPlace conference from Sametime buddy list or IM**
 - Controls integrated with IM window for users with plug-in
 - All users receive attend link in IM
- **Voice, video and web conferencing**
 - Configurable to use MeetingPlace or WebEx web conferencing
- **Requirements**
 - Sametime client plug-in
 - Unified MeetingPlace 6.0.2 or later
 - Sametime 7.5.1 CF1 or later



Unified MeetingPlace Audio with Lotus Sametime Web

- **Control MeetingPlace audio/video from Sametime web meeting room**
- **Native Sametime web controls**
 - Dial out to self, other users
 - Current speaker indications
 - Mute/unmute from web
 - Lock/unlock from web
- **Start meetings from Sametime client (“instant meeting”) or Sametime web meeting center**
- **Requirements**
 - Sametime server plug-in
 - Unified MeetingPlace 7.0 or later
 - Sametime 7.5.1 CF1 or later



IBM Lotus Unified Sametime telephony



IBM Unique Approach to UC2

IT and communications industries are moving to real-time collaboration

Telecommunications vendors

adding collaboration, presence and mobility capabilities

Alcatel-Lucent 

AVAYA


CISCO

NORTEL
NETWORKS

SIEMENS

Software vendors

adding voice, presence, video and mobility capabilities

IBM Lotus Domino / Notes
IBM Lotus Sametime

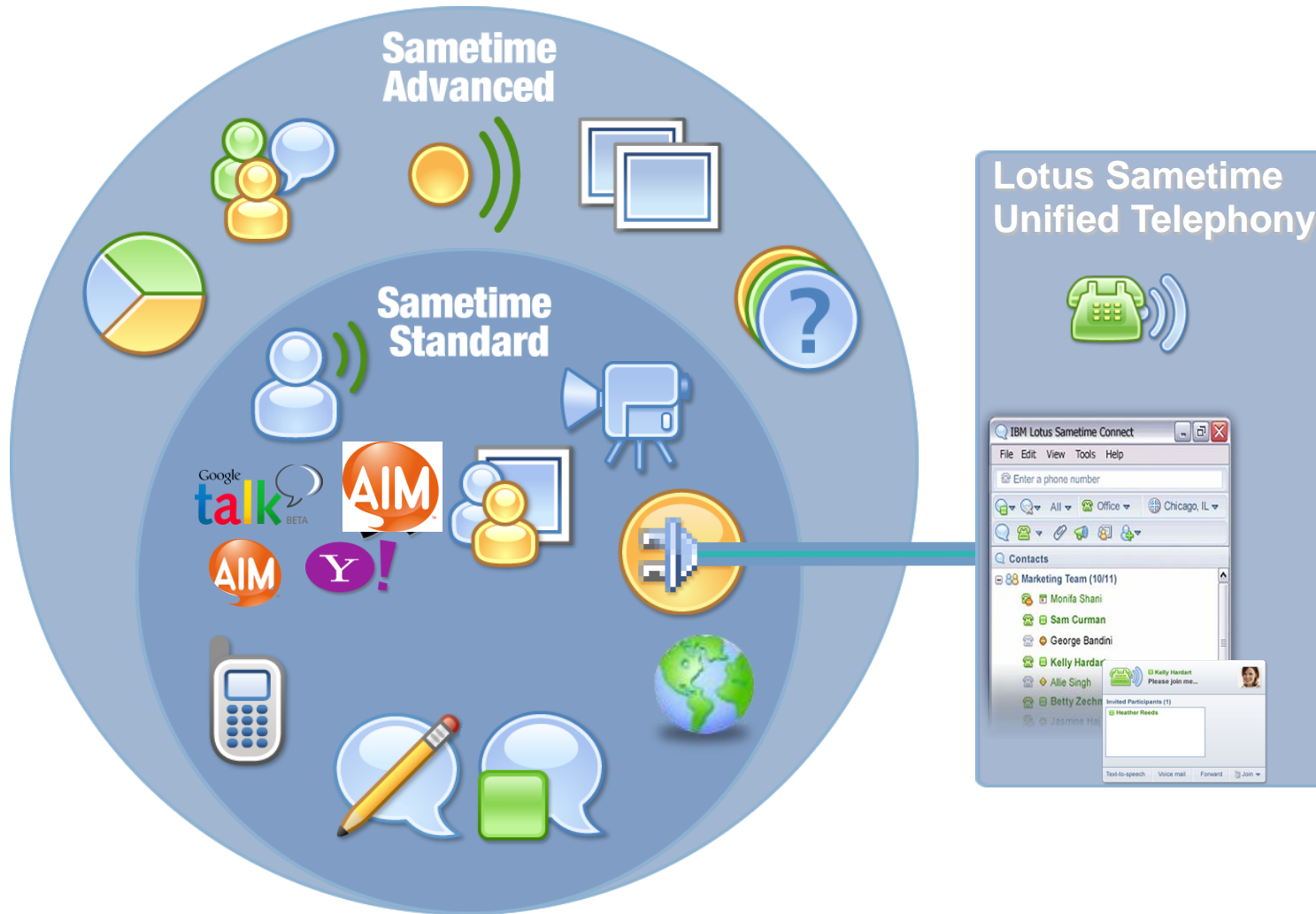
IBM follows a partnership strategy. Partner and integrate with leading telecommunications vendors.

Microsoft[®]

Exchange / Outlook
Office

Office Communications Server

IBM Lotus Sametime Unified Telephony



Why Lotus Sametime Unified Telephony?

- **IBM's unique approach to Unified Communications and Collaboration (UC²)**
 - Start from Presence
 - Find ► Reach ► Collaborate
 - From a Unified Experience
 - Leverage your collaboration and communication infrastructures

Why Lotus Sametime Unified Telephony?

- **A Middleware approach to Unified Communications**
 - Leveraging and simplifying the communications infrastructure
 - No rip-and-replace...not waiting for upgrades to the entire infrastructure to get benefits

Why Lotus Sametime Unified Telephony?

- **Making Users and organizations more productive/responsive**
 - Unified Experience for users
 - More effective communication and collaboration

Lotus Sametime Unified Telephony Features

- **Telephony presence**
- **Click-to-call & click-to-conference**
- **Embedded Softphone**
- **Incoming call management**
- **Integrates with YOUR(Cisco) telephony environment**

Telephony Presence

The screenshot shows the IBM Lotus Sametime Connect application window. The interface includes a menu bar (File, Edit, View, Tools, Help), a search bar for names or phone numbers, and filters for 'All', 'Office', and 'Chicago, IL'. Two contact lists are visible: 'Credit Card Team (7/7)' and 'Mortgage Team (12/15)'. Each contact has a small status icon to its left, such as a green square for 'Available' or a red telephone handset for 'On the Phone'. Two yellow callout boxes provide context: one points to the status icons in the Credit Card Team list, stating 'Users can see Sametime IM availability status', and another points to the 'On the Phone' icon for Larry Moriarty, stating 'Users can see if contacts are 'On the Phone''. The bottom of the window shows 'Primary Contacts' and a 'Connected' status indicator.

Click-to-Call

The screenshot shows the IBM Lotus Sametime Connect application window. The title bar reads "IBM Lotus Sametime Connect". The menu bar includes "File", "Edit", "View", "Tools", and "Help". Below the menu bar is a search bar labeled "Type a name or phone number". There are several icons in a toolbar, including a telephone handset icon. A context menu is open over the contact list, showing options: "Call Selected Contact", "Call a Phone Number...", "Create Call Invitation...", "Start Video with Selected Contact", "Sametime Phonebook", and "Call History". The contact list below shows "Jasmine Hallie" and a group "Mortgage Team (12/15)" with members: Gail Chao, Paula Starky, Thom Frankel, Heather Reeds, Larry Moriarty, Betty Zechman, Heather Reeds, Mike Morrison, Kristin MacGyver, and Mike Motler. At the bottom, there is a "Primary Contacts" section and a "Connected" status indicator.

Select a name in the contact list and select 'Call Selected Contact' from the call options

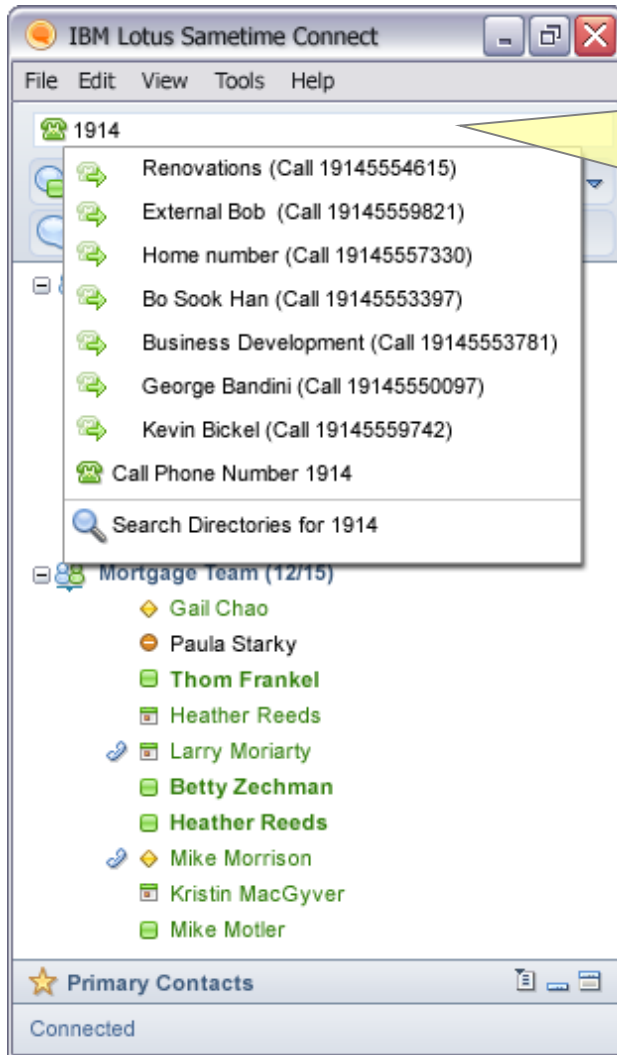
Enter a name or number in the QuickFind

Right-click on a name in the contact list and select 'Call' from the menu.

Click 'call a Phone Number' to access the dialpad

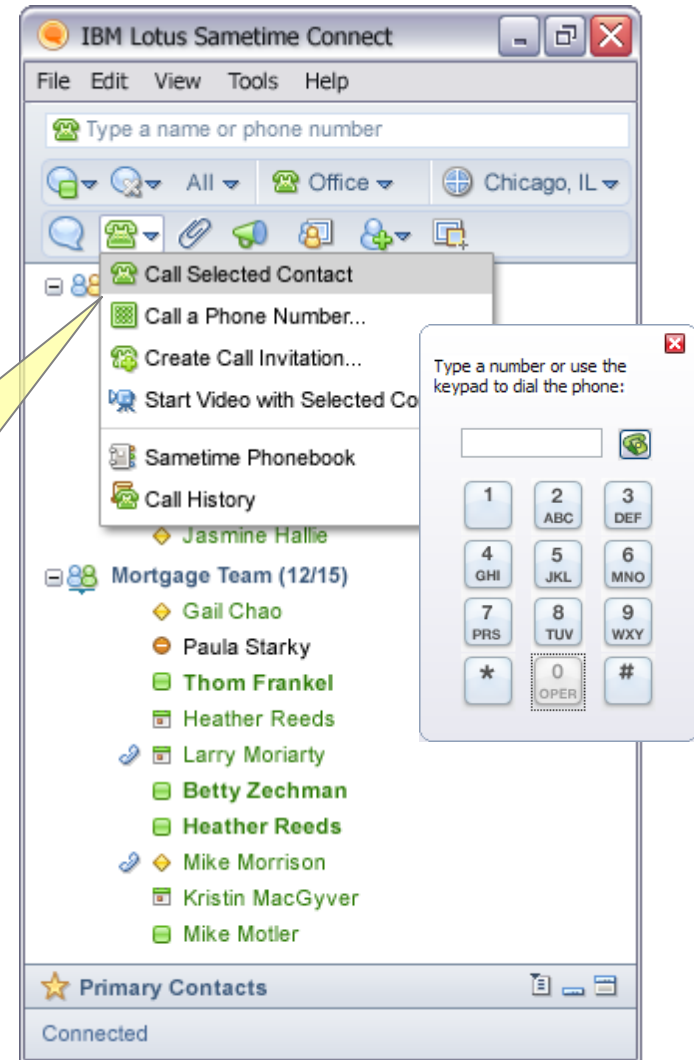
Start an IM session with a contact and click on the 'Call' icon from within the chat window

Making an external call



Start typing a name or number – select from results or 'Call Phone Number'

Select 'Call a Phone Number...!' and type a number into the phone keypad



Embedded Softphone

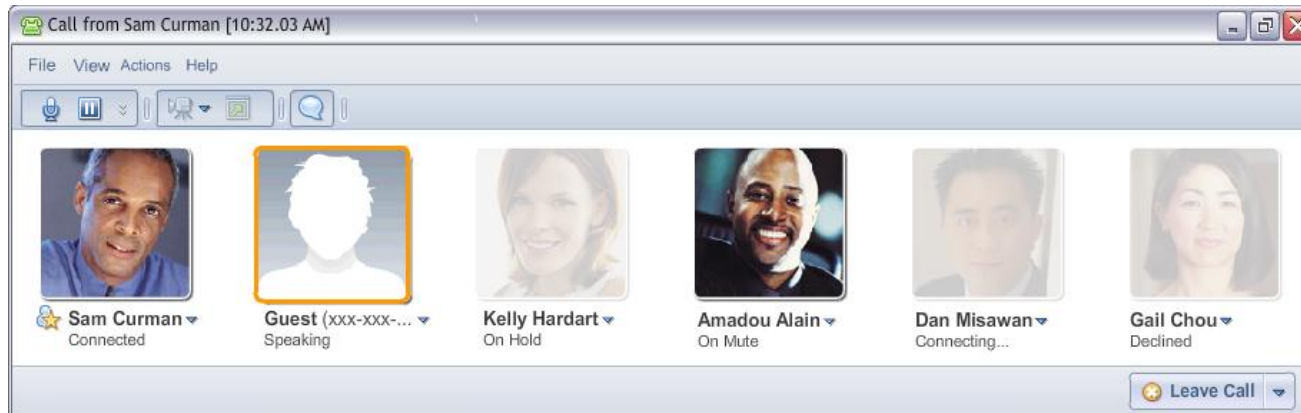
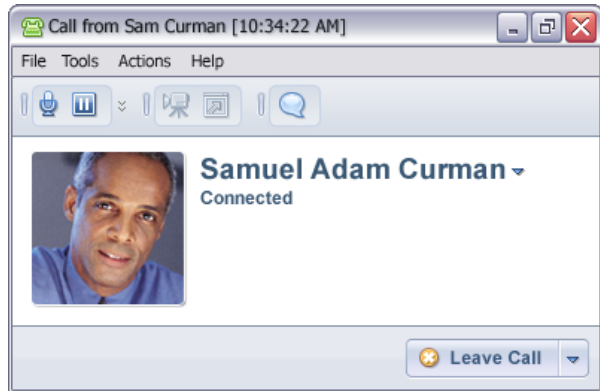


Call Window

Call window displays for when using SUT soft phone or other phone device designated by user

Consistent call window regardless of:

- number of people (1-1 or conference call)
- device (phone, computer, etc)



Participant List

- Connection status
- Business card
- Context menu

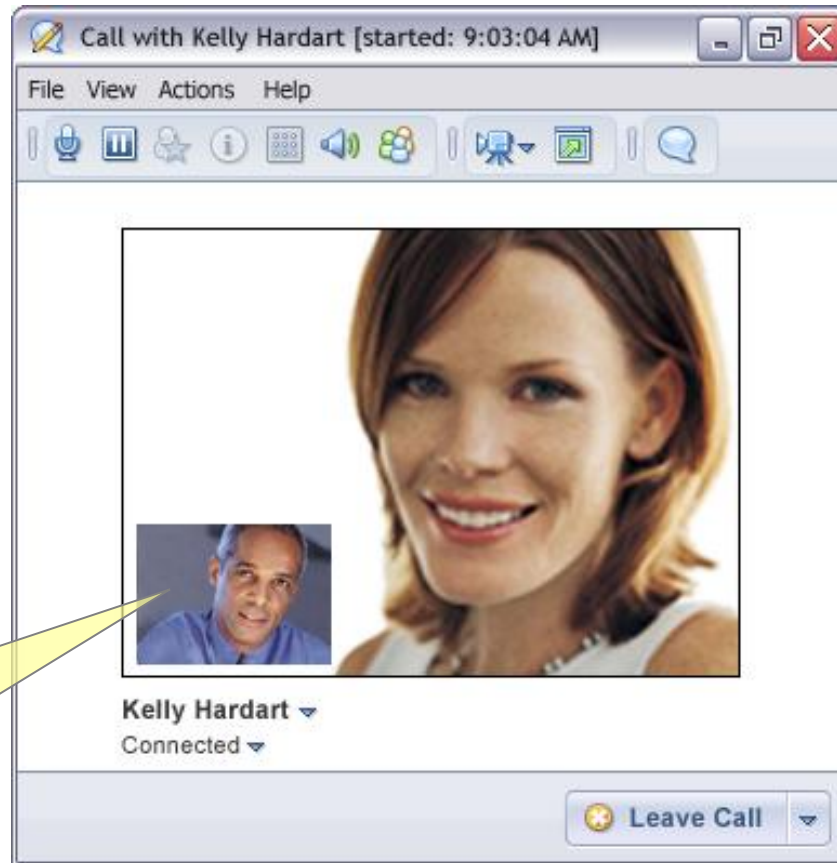
Participant Call Controls

- Mute/unmute
- Hold/resume
- Disconnect
- Call transfer to another device
- Call forward to another person
- Call merge
- Invite others
- Show call-in numbers

Moderator Call Controls

- Mute one or all participants
- Drop participant from call
- End call for everyone
- Adjust microphone volume for any participant

Video Call Window



You can show/hide your own video as picture-in-picture

Incoming Call Management

- **Rules for routing calls**
- **Preferred number/device setting**
- **Incoming call notification**

Rules for Routing Calls

Preferences

type filter text

- Accounts
- Auto-Status Changes
- Chat History
- Chat Window
- Contact List
- Emoticon Palettes
- External Applications
- File Transfers
- Geographic Location
- Language
- Notifications
- Privacy
- Server Communities
- Spell Checking
- Status Messages
- Telephony, Audio and Video
 - Call Window
 - Preferred Numbers
 - Routing Calls**
 - Sound Alerts
 - Telephony Connection
- Web Conference Tools

Routing Calls

Saved rules

Rules will be evaluated in the order you list them. The first rule that fits will be the one that is used. Use the buttons below to adjust the order in which your rules will be evaluated.

	IM Status	Location	Caller	Date and Time	Preferred Number
1	Away	Home Office	Anyone	Anytime	Computer: Sametime Computer ... Mobile: 19995559933
2	Any status	Home Office	Anyone	Anytime	Home Office: 18885553095
3	Any status	Office	Anyone	Anytime	Computer: Sametime Computer ... Mobile: 19995659933
4 ☆	Any status	Anywhere	Anyone	Anytime	Home Office: 18885553095

[New] [Delete] [Move Up] [Move Down] [Expand All] [Collapse All]

Edit rule

When my IM status is:
 Away

And my location is:
 Home Office

For this caller:
 Anyone

For this day or time:
 Anytime

Use this preferred number:
 Computer: Sametime Computer Phone

If that number isn't picked up, try a second number:
 Mobile: 19995659933

If that number isn't picked up, try a third number:
 None (don't try another)

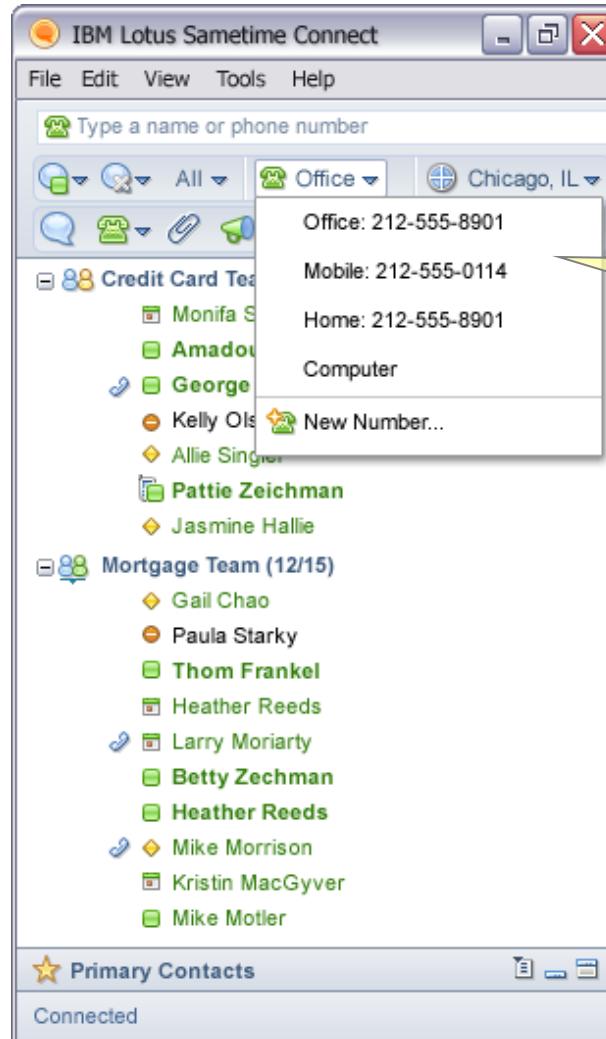
[Restore Defaults] [Apply]

[OK] [Cancel]

Rules can be set according to IBM Lotus Sametime IM status, dynamic location, and caller, date & time.

Calls can target a sequence of numbers.

Setting your Preferred Number



Which phone do I want to use to make and receive calls?

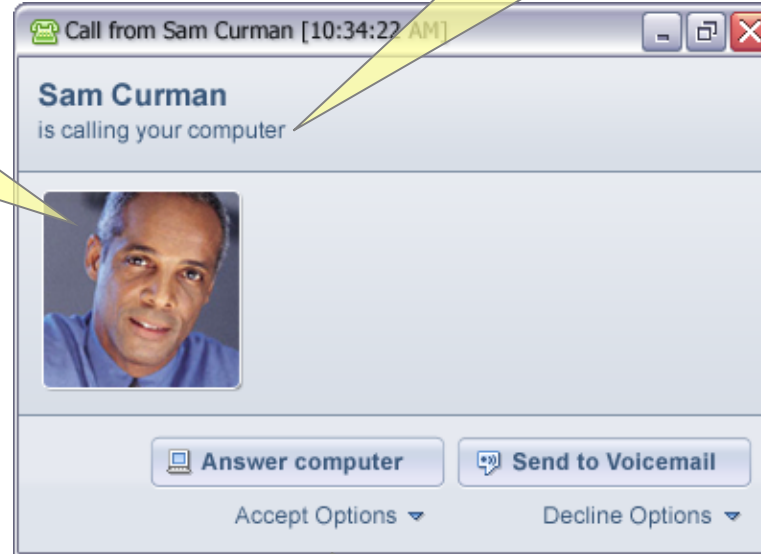
Incoming Call Notification

You can choose to be notified of incoming calls via Sametime incoming call notification, which provides:

- caller ID
- target device/number for that call
- flexible options for accepting/declining the call

Targeted device/number.

Incoming call notification shows who is calling.



Send to office voicemail, convert to chat or forward to another person.

Accept incoming call to your current preferred number/device. If another number is preferred, click the dropdown arrow and select from list.

Phone contacts

The screenshot shows the 'Sametime Phonebook: Kelly Hardart' window. It features a menu bar (File, Edit, Tools, Help) and a toolbar with 'New', 'Delete', and 'Add' icons. A search bar contains 'All Contacts' and a 'Search' button. The main area is a table of contacts with columns for Name, Company, Phone, and Sametime Contact List. A vertical alphabetical index is on the left. At the bottom, there is a form with fields for Name, Company, Instant Messaging ID, and Number (with a dropdown for 'Office'). A 'Look Up' button is next to the Instant Messaging ID field, and an 'Add Number' button is next to the Number field. A 'Show in Contact list' checkbox is checked.

Name	Company	Phone	Sametime Contact List
Rita Ferrar	Renovations	Work: 212-555-8947	✓
Betty Zechman	Zeta Bank	Work: 313-555-1842	
Amy Blanks	Renovations	Work: 987-555-0018	✓
Sam Curman	ABC Corporation	Home: 212-555-3931	✓
Vijay Nehru	Renovations	Work: 782-555-5504 Mobile: 617-555-3728	
Ted Amado	Zeta Bank	Work: 322-555-6820	
Samantha Daryn	Renovations	Home: 212-555-6820	
Kristin MacGyver	Renovations	Work: 212-555-8331	✓
Amadou Alain	Acme	Work: 978-555-9889	
Heather Reeds	Renovation	Work: 617-555-3725	✓
George Bandini	ABC Corporation	Home: 781-555-1818 Mobile: 781-555-1818	

Allow phone contacts to appear on your contact list for easy click to call action.

Anyone you add to your phonebook will turn up in Quickfind results, making it easy to type their name into the Quickfind and click to call.

Solution Components



IBM Software, Hardware
and Services

Lotus Sametime Unified Telephony – Solution components

▪ Software:

- Lotus Sametime Unified Telephony software
 - Lotus Sametime Unified Telephony Call
 - Lotus Sametime Unified Telephony Connect
- Pre-req: Lotus Sametime Standard or Advanced (Sametime Server 8.0 and Sametime Client 8.0.2)

– Hardware (IBM System xSeries) and OS – “appliance like”

- Minimum of four servers; 2 of each for failover and support
 - x3550 TAS server supports up to 15,000 users; additional TAS server for failover; running SuSE Linux Enterprise Server (version 10)
 - x3650T TCS server supports up to 100,000 users; additional TCS server for failover; running SuSE Linux Enterprise Server (version 9)
 - x3650T supports 5-9’s of availability
- Minimum of three servers for PoC ((1) x3550 TAS and (2) x3650T TCS)
 - Will not have full failover capability

▪ Services:

- IBM Global Technology Services (IBM Converged Communications Services for Lotus Sametime Unified Telephony)

SUT supported integration with Cisco UCM and Gateways

Integration with following Cisco Call Managers

- Working with following SIP RFCs: 3261, 3264, 4566
- Cisco Call Manager 4/5 – IP-IP gateway
- Cisco Call Manager 7 – direct SIP trunk

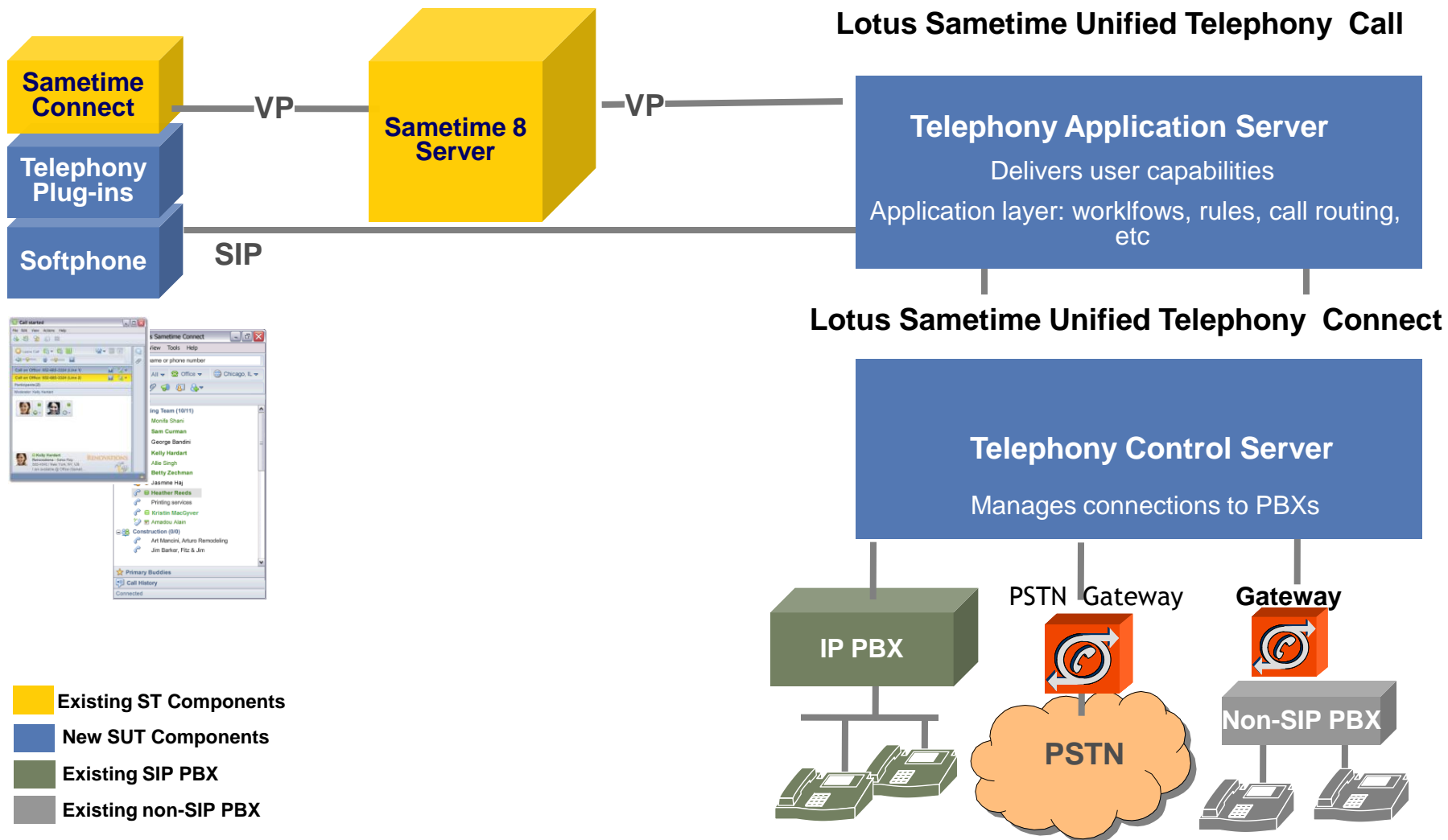
Tested interoperability with the following gateways:

- Cisco 3745 – MGCP gateway
- Cisco 3825 – MGCP gateway

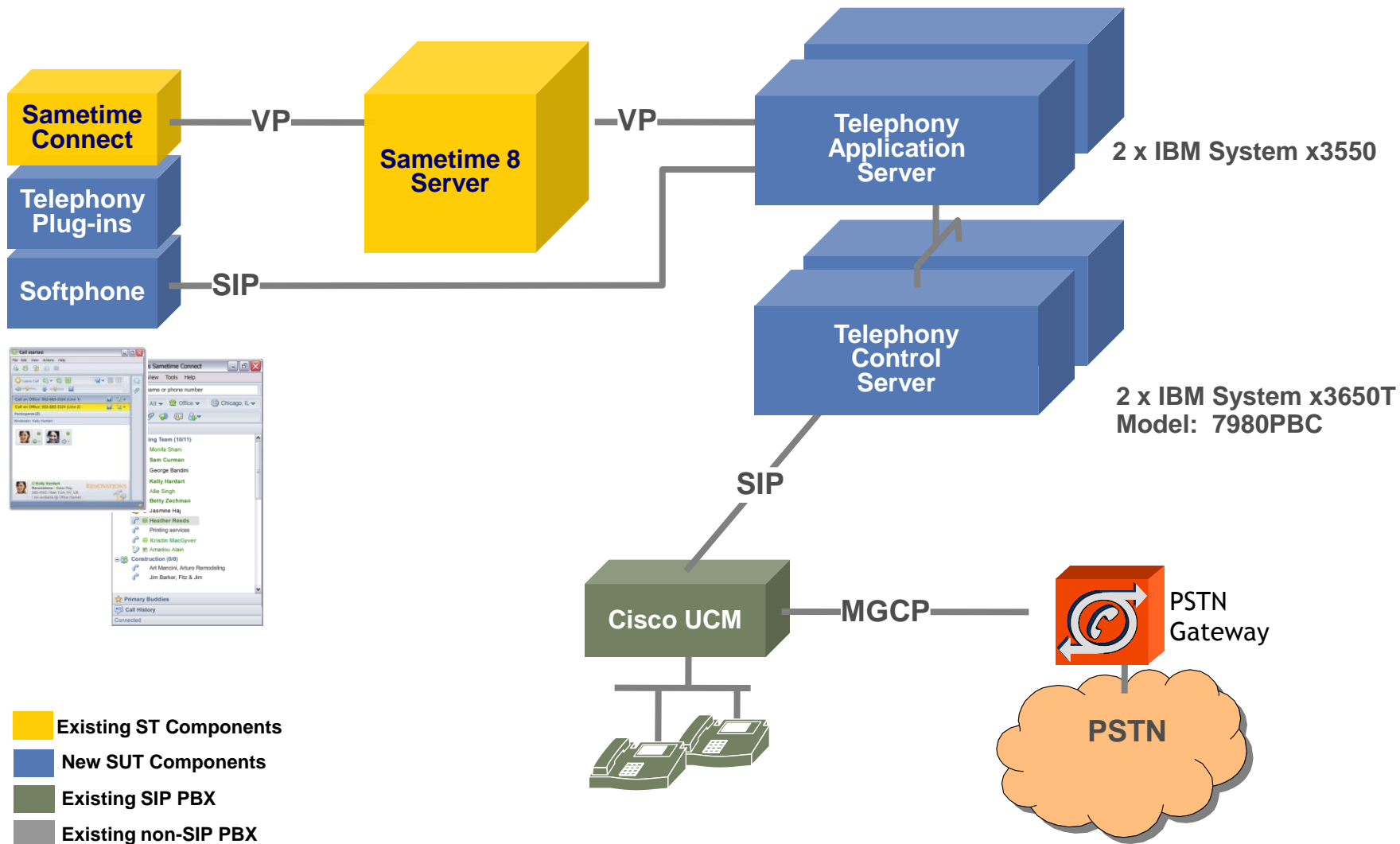
Lotus Sametime Unified Telephony Architecture



Sametime Unified Telephony High-level architecture

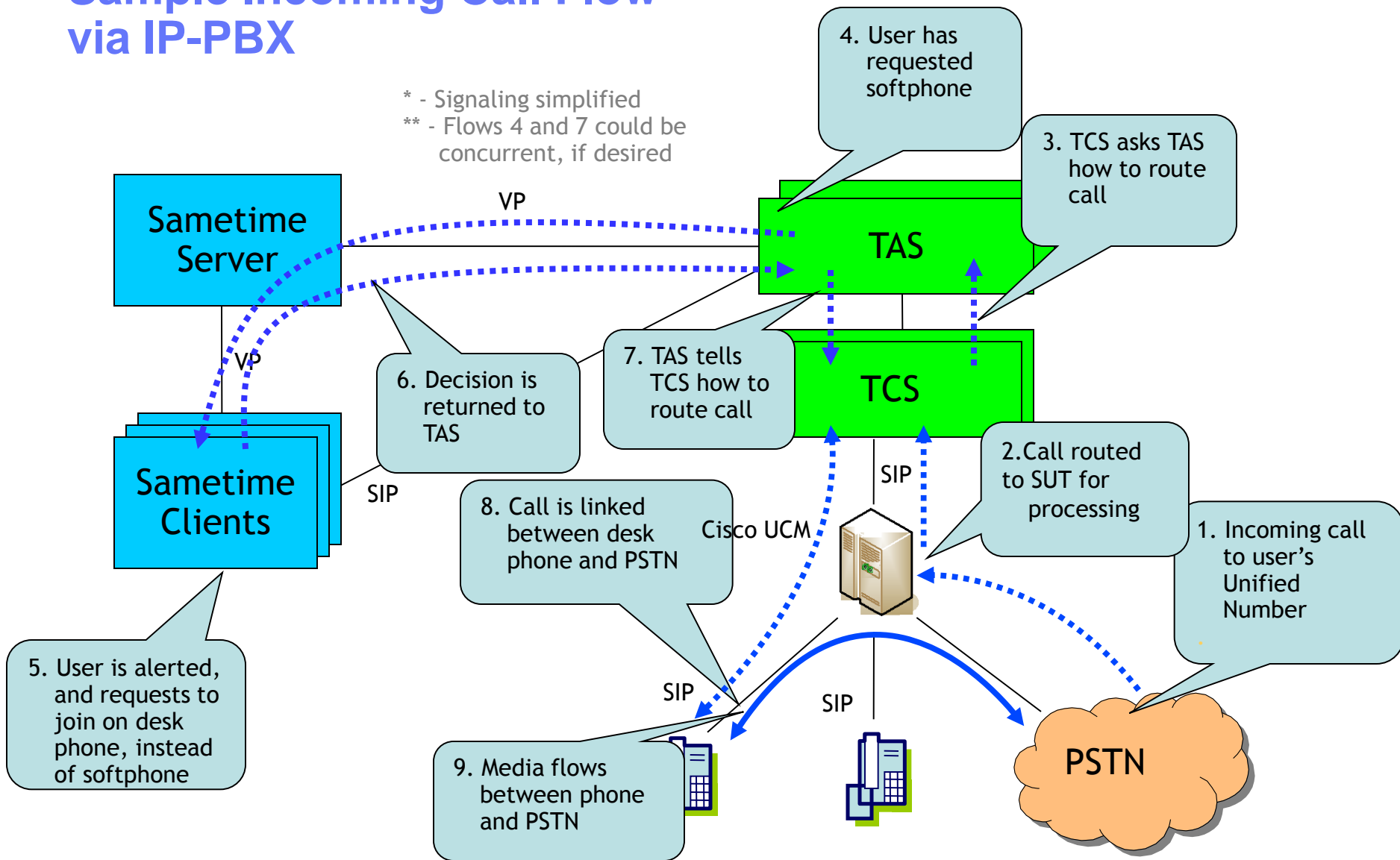


Minimum deployment architecture with Cisco



Sample Incoming Call Flow via IP-PBX

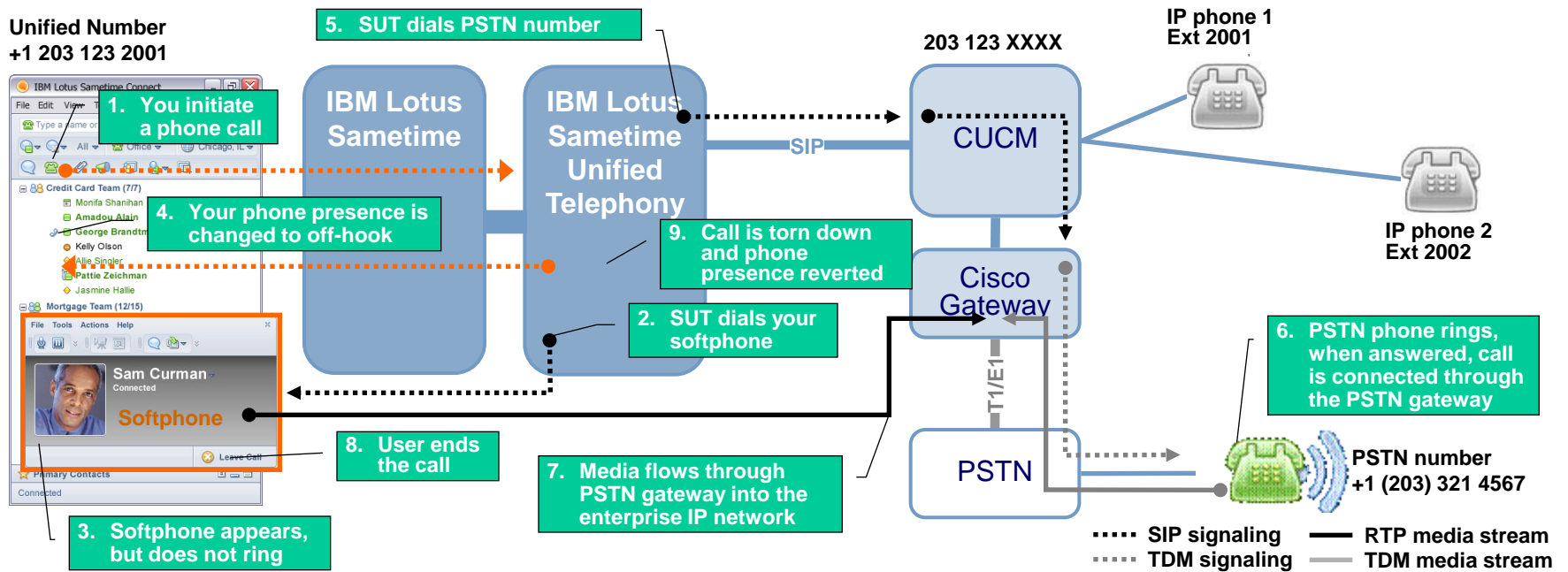
* - Signaling simplified
 ** - Flows 4 and 7 could be concurrent, if desired



Initiate a call to PSTN number using your softphone

Sametime opens your softphone and dials the called person / number

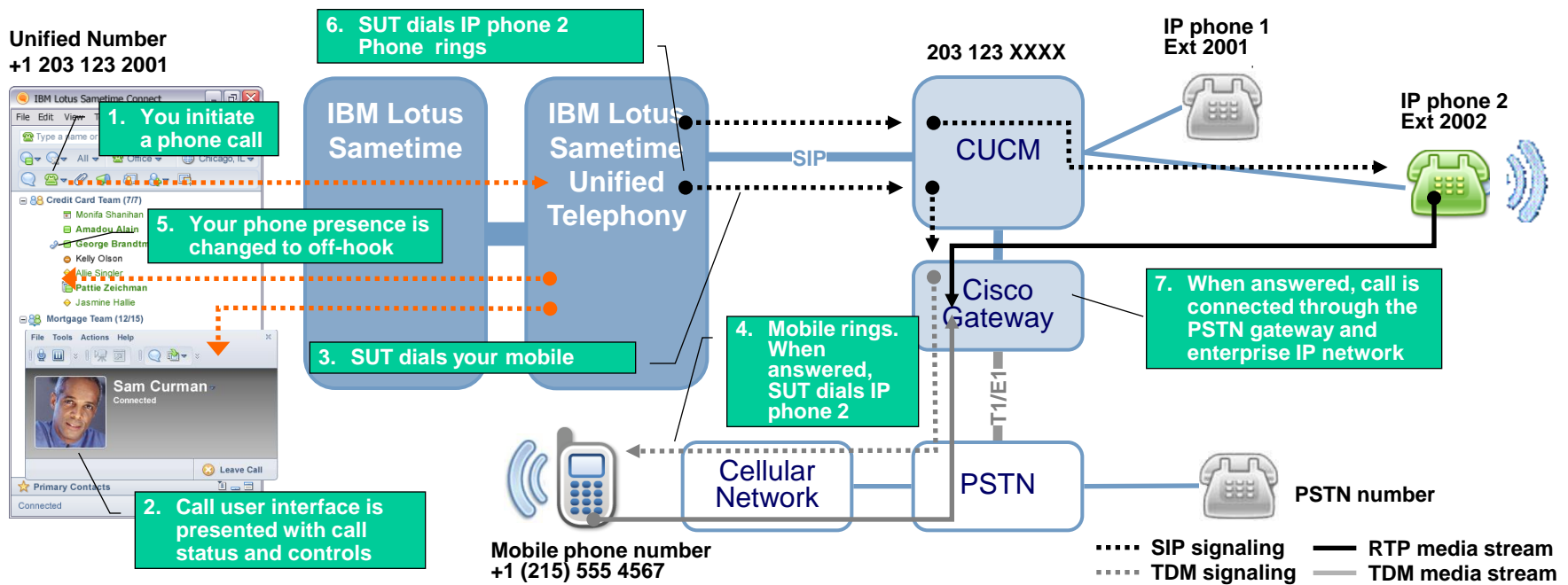
- Your phone presence is changed to “off-hook”
 - other Sametime users can see that you are on the phone
 - phone presence changes back when the call is terminated
- If the called party is a PSTN number, the RTP media flows through PSTN gateway
- Disallowed numbers and toll restrictions need to be configured in SUT and PBX



Initiate a call from Sametime using mobile phone

SUT dials your mobile phone and when you answer, the desk phone

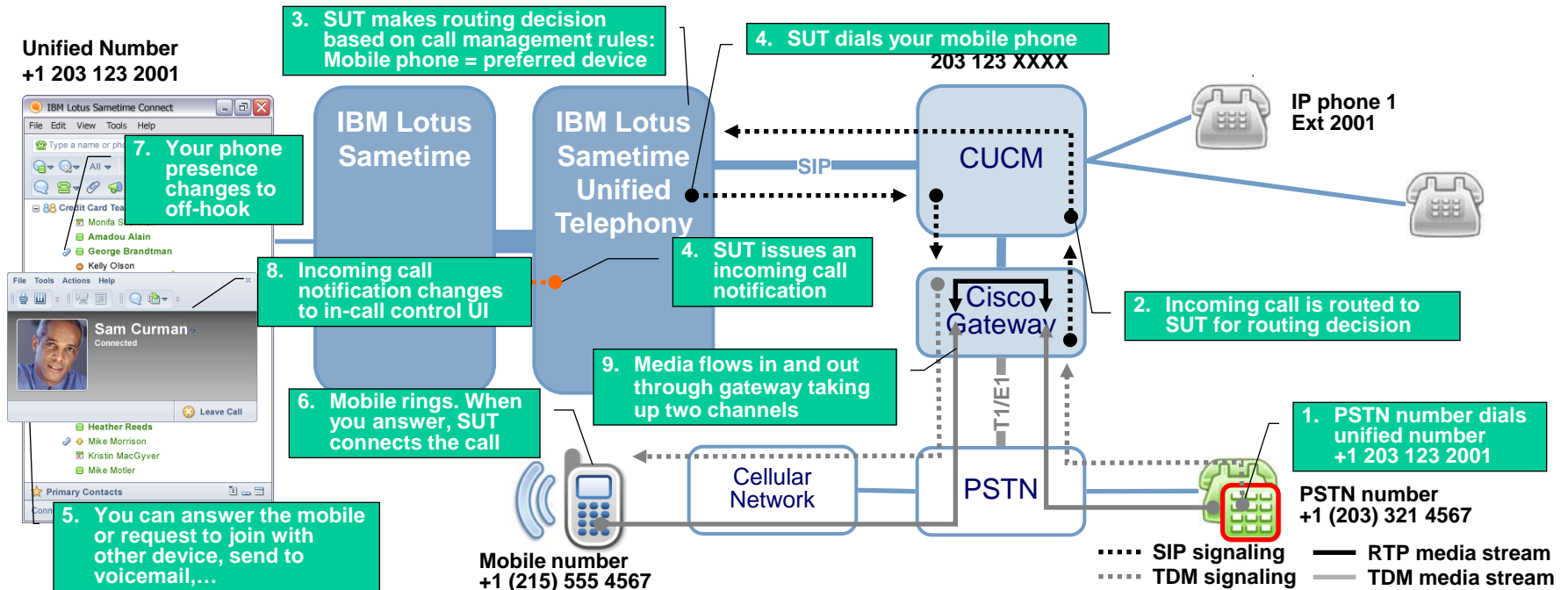
- If the called party is IP phone, the call flows in through gateway and over the IP network
- Your phone presence is changed to “off-hook”



Incoming call to your mobile phone

You have selected a mobile phone as your preferred device

- Incoming call to unified number is routed to Sametime by the IP PBX
- SUT will call your preferred device – mobile phone
- If you answer with your mobile phone, the RTP media flows in and out through the gateway taking up two media channels

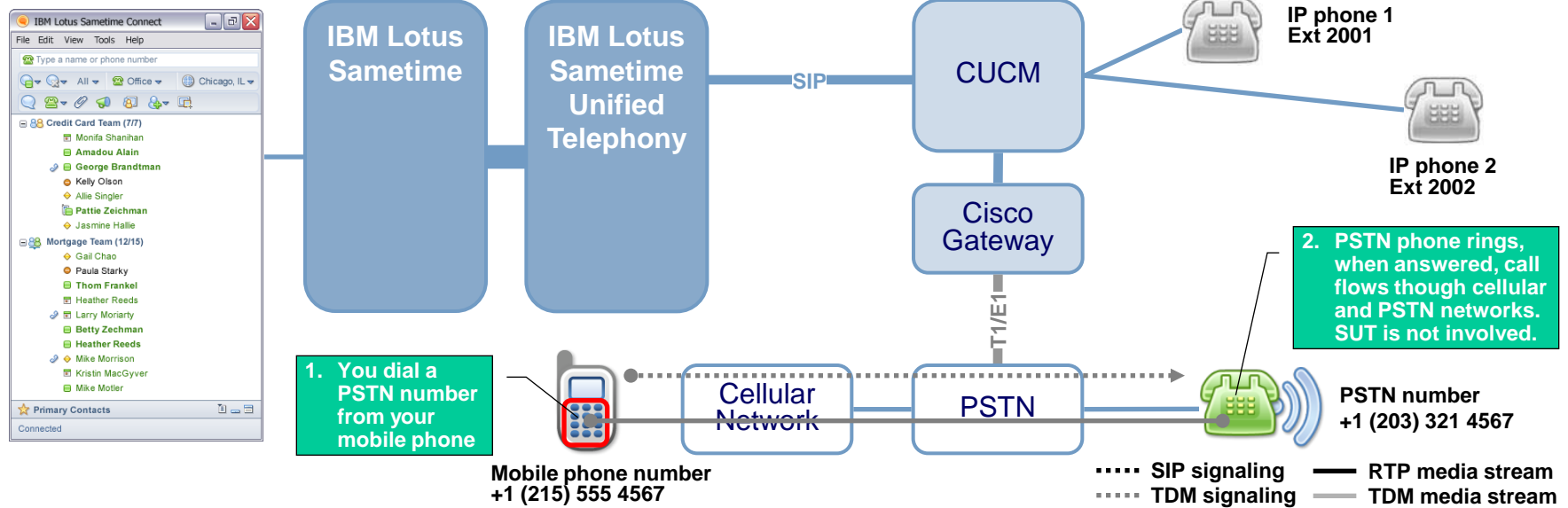


Initiate a call directly from your mobile phone

A direct call from your mobile phone to PSTN number does not involve SUT

- If you call somebody's PSTN or mobile phone number from your mobile phone, the call flows directly through cellular and PSTN networks
 - Sametime Unified Telephony can not detect your mobile phone's presence
- Your mobile phone presence is not visible unless you initiate the call from Sametime

Unified Number
+1 203 123 2001



Notes on Deployment Scenarios

- Acronyms in use
 - TCS = Telephony Control Server
 - TAS = Telephony Application Server
- TCSs must always be deployed in pairs
 - Required to achieve 5 9's of reliability
- The capacity of a TCS server pair is 100,000 users
 - Each server in pair is capable of handling all users if the other server fails
- The capacity of a TAS is 15,000 users
 - Each user is assigned to a TAS
 - If a TAS fails, the TCS will revert to default call routing for all affected users until the TAS is re-started (i.e. no failover)

IBM Global Services

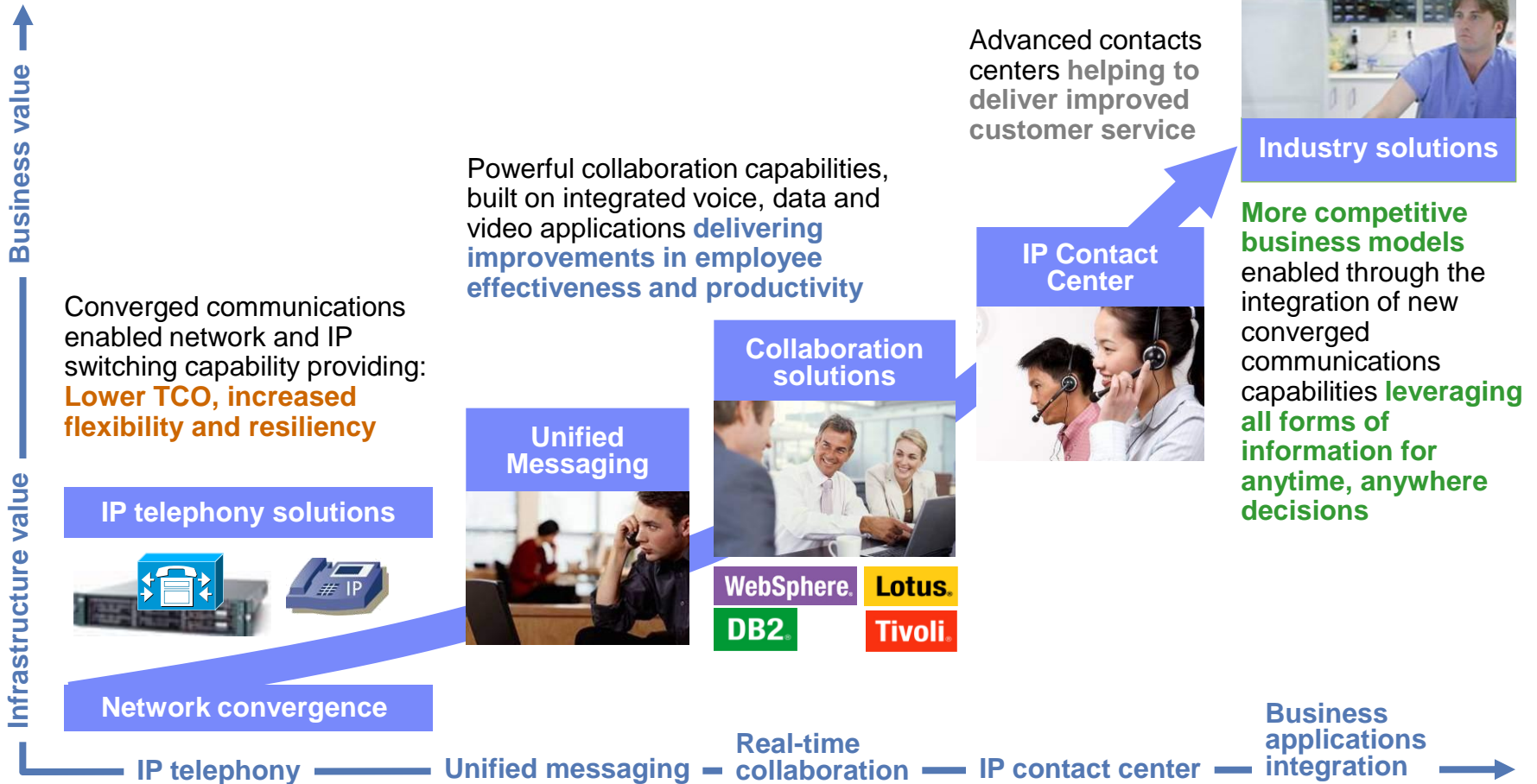


Faster time to value

Converged communications services from IBM – help clients to move towards new innovative solutions

Organizations will derive increasingly greater value as their implementation of converged communications evolves

Innovation

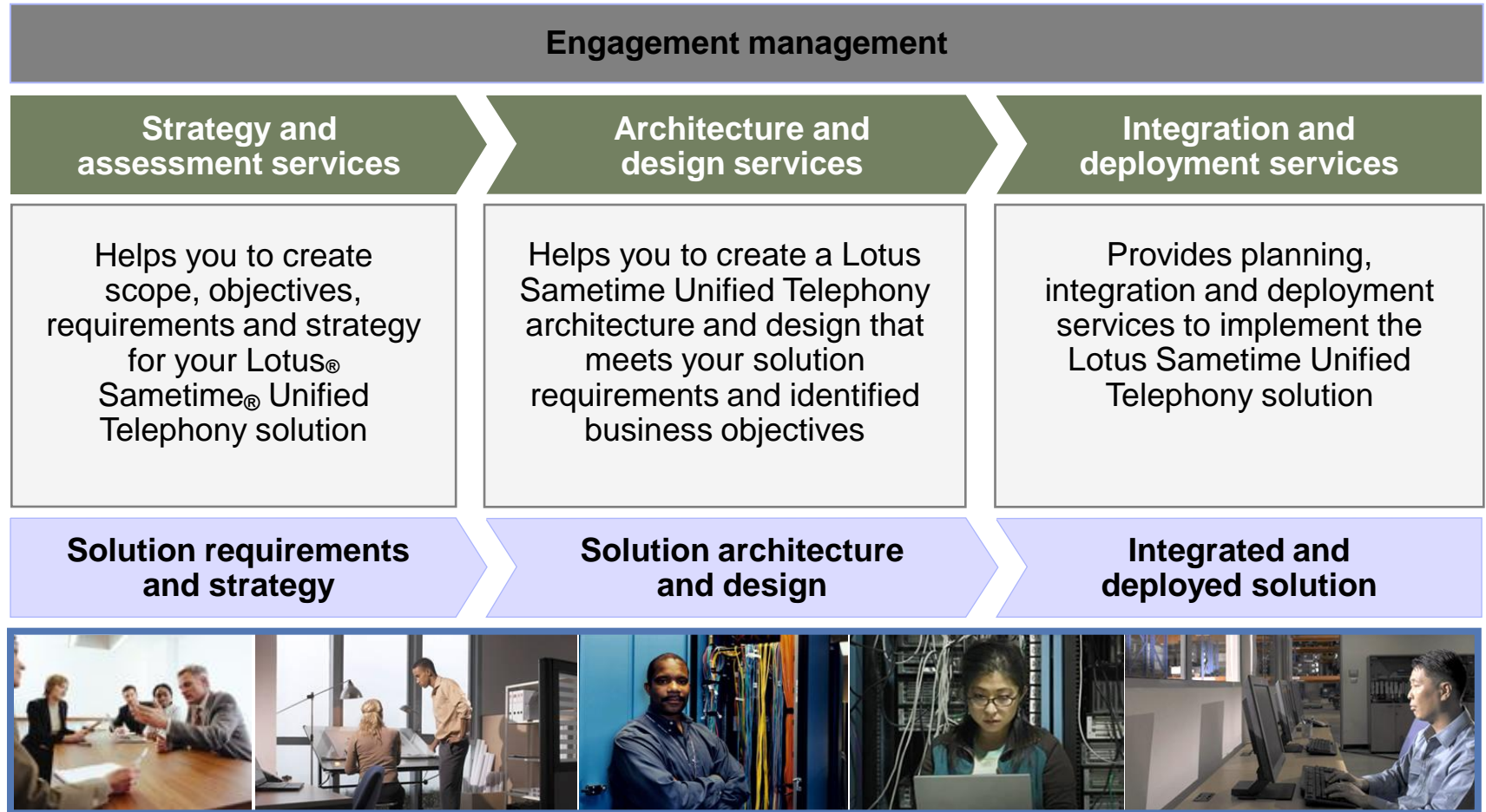


Why IBM?

- Deep experience in design and deployment of IP telephony and real-time collaboration solutions
- Experience in deploying very large-scale solutions
- Ability to offer end-to-end infrastructure and software solutions
- Integration experience with Cisco
- Proven global delivery method and IBM Reference Architecture
- Delivers strategic and operational resilience and security with its services
- Analyst-recognized marketplace leadership in network consulting and IP telephony services



IBM Lotus Sametime Unified Telephony – Services



Conclusion

[IBM-UC-
solution.wmv](#)



