

Exceptional service in the national interest



Lync at Sandia

Integrated and Federated

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Outline

- Enterprise Collaboration Services
- The History Sandia's Real Time Collaboration platform
- How Lync Relates to Unified Communications
- 2NV RightPath Implications and Opportunities
- Current Lync Status and Future Deliverables
- Native Capabilities Lync Provides
- Lync Integration Capabilities and Opportunities
- Lync Architectural Overview
- Questions and Answers

Enterprise Collaboration Services

- ECS is managed by Scott Rogers and lead by Scott Stephens
- We design, implement and maintain highly available, secure Enterprise Class information Systems on 5 different networks
- We have 5 service categories:
 - Email Messaging and Distribution List Management
 - Sharepoint Products and Technologies
 - General purpose self service Sharepoint
 - Business Intelligence Infrastructure and Self Service
 - Enterprise Project Management Infrastructure (Project Server)
 - Software Lifecycle Management Infrastructure (Team Foundation Server)
 - Personal Social Computing sites (Sharepoint Mysites)
 - Enterprise Search Infrastructure (FAST for Sharepoint Search)
 - Sharepoint for Applications
 - Lync Real Time Collaboration
 - Mobility Infrastructure
 - Other Items (transfer.sandia.gov, reidirect.sandia.gov, Reverse Proxy)

Enterprise Collaboration Services

Email, Unified
Messaging and List
Management

Sharepoint Products and Technologies

Real Time Collaboration

Mobility Platform
Support

Reverse Proxy,
Managed File Transfer
and Other Services

Exchange

Sharepoint
SRN SCN SIPRNet

Mysites

Lync Internal Support

Blackberry Enterprise
Server

TMG Reverse Proxy
(SRN / ECN)

SMTP Transport

SSRS

FAST

Voice Integration

ActiveSync
iPad support

MFT
transfer.sandia.gov

SPAM/AV

EPM

RMI

Federation

Good for Enterprise

redirect.sandia.gov

Voicemail

ECN
SP & Account Mgmt.

SAML

Desktop Video /
Desktop Dial tone

Lync Access

Active Directory User
Photos

List Management

WFS -> Sharepoint

Developer Farms

MOW Remote Access

MDM Study

Printers.sandia.gov

Public Folders

TFS

Conference Room
Integration

Conference Room
Scheduler

Mailgate/Majordomo

Sharepoint
Branding Support

The History Sandia's Real Time Collaboration platform

- Sandia started piloting IBM Sametime ~2003
- We went through a technology evaluation and decided to move to Microsoft Live Communications Server 2003 in ~2004
- We deployed Live Communications Server 2005 in ~2005
- Microsoft Changed the product to Office Communications Server 2007
- We deployed OCS 2007 in 2007, and enabled external business partner collaboration with on premise Live Meeting
- We skipped OCS 2007 R2
- Microsoft has once again rebranded the product to Lync
- Microsoft has combined Office Communicator and Live Meeting into one simple concise client also simply called Lync
- Sandia has completely migrated the backend infrastructure to Lync, and is now migrating desktop Clients

How Lync Relates to Unified Communications

- Unified Communications (UC)
 - A category of services intended to optimize an organizations communications and collaborative efforts in an integrated delivery
 - There are many definitions and derivations, but we have focused on the services offered, and the value it provides to the organization and how it enables people to be more effective
 - We have identified 4 major categories within UC
 - Enterprise Voice (Digital and Analog phones, Desktop Dial tone and mobile)
 - Unified Messaging (Email, Instant Messaging and Voicemail)
 - Real Time Collaboration (Web Conferencing, Application/Desktop Sharing)
 - Audio/Video Conferencing and Streaming (Conference Room & Desktop)
 - These categories of services are not limited to intranet or pc the delivery model extends to general Internet locations and mobility platforms
- Lync is a major component of Unified Communications for Sandia
 - Lync itself is not UC
 - The platform provides many capabilities and integrates with other UC components

Unified Communications

An evolving communications technology architecture which automates and unifies all forms of human and device communications in context, and with a common experience. Its purpose is to optimize business processes and enhance human communications by reducing latency, managing flows, and eliminating device and media dependencies [Rick McCharles](#)

ITIL Support Model

Enterprise Voice

A/V Conferencing

Real Time
Collaboration

Unified Messaging

Office Devices
ISDN, Analog, IP

Conference Room

Desktop / Application
Sharing

Email

Desktop Dial Tone
USB Type Devices, Web
Cams

Desktop

Web Conferencing

Instant Messaging

Kiosk Devices
Phones in Conference
Rooms

Mobile

White Boards

Voicemail

Applications /
Systems
Fire Alarms

Text Messaging

Mobile
Cell Phones, Pagers

Fax

Presence Awareness

Communication Based Process Automation (CBPA)

Location Based Services (LBS)

Application Integration

Business Partner
Federation

Public Federation

TDM

Ethernet

Cyber Security / Information Protection

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2NV RightPath Implications and Opportunities

- The ONEVoice portion of 2NV fits very well with Sandia's current and future strategy for Unified Communications
- We have looked forward to the opportunity to communicate and collaborate with our external business partners more effectively for many years
- Sandia is well positioned to take advantage of the 2NV effort
- Sandia has a leading role regarding the ONEVoice Sub Team in the RightPath Architecture Integrated Project Team
- We are working very close with the other Sub Teams Identity Management and One NNSA Network
 - Insure contact synchronization will support NSE presence awareness
 - Understand the impacts of Encryptors from site to site

Current Lync Status and Future Deliverables

Status

- Lync backend servers fully online and load balanced
- Lync environment is currently running in a backward compatible state with old OCS environment for CWA
- Client deployment is currently underway

Future Deliverables

- Continue to work with the ONEVoice Sub-IPT for architectural integration
- Turn off legacy OCS system
- Load balance edge servers
- Enable Lync federation and stand up XMPP Gateway
 - Dynamic Federation as well as Direct Federation with known Business Partners
- Configure Lync servers to enable iOS (iPhone/iPad) devices to support Lync Mobility Client
- Add Site Resilient Disaster Recovery and Branch Office Capabilities for California Site
- Splunk integration for complete holistic intrusion detection capabilities similar to what has been accomplished with email and inbound SMTP

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- Deploy IMExpert into production

Native Capabilities Lync Provides

- Lync builds on an existing rich toolset of real-time collaboration capabilities
- Instant messaging, presence awareness for groups and individuals
- Desktop sharing, application sharing, whiteboard and polling
- Lync adds HD Audio and Video conferencing capabilities (720p)
 - Available for internal and external business partners
- Mac Client Lync 2011, on par with Windows Client
- Mobility Client provides native support rather than via web proxy
- Server site reporting capabilities

Native Capabilities Lync Provides

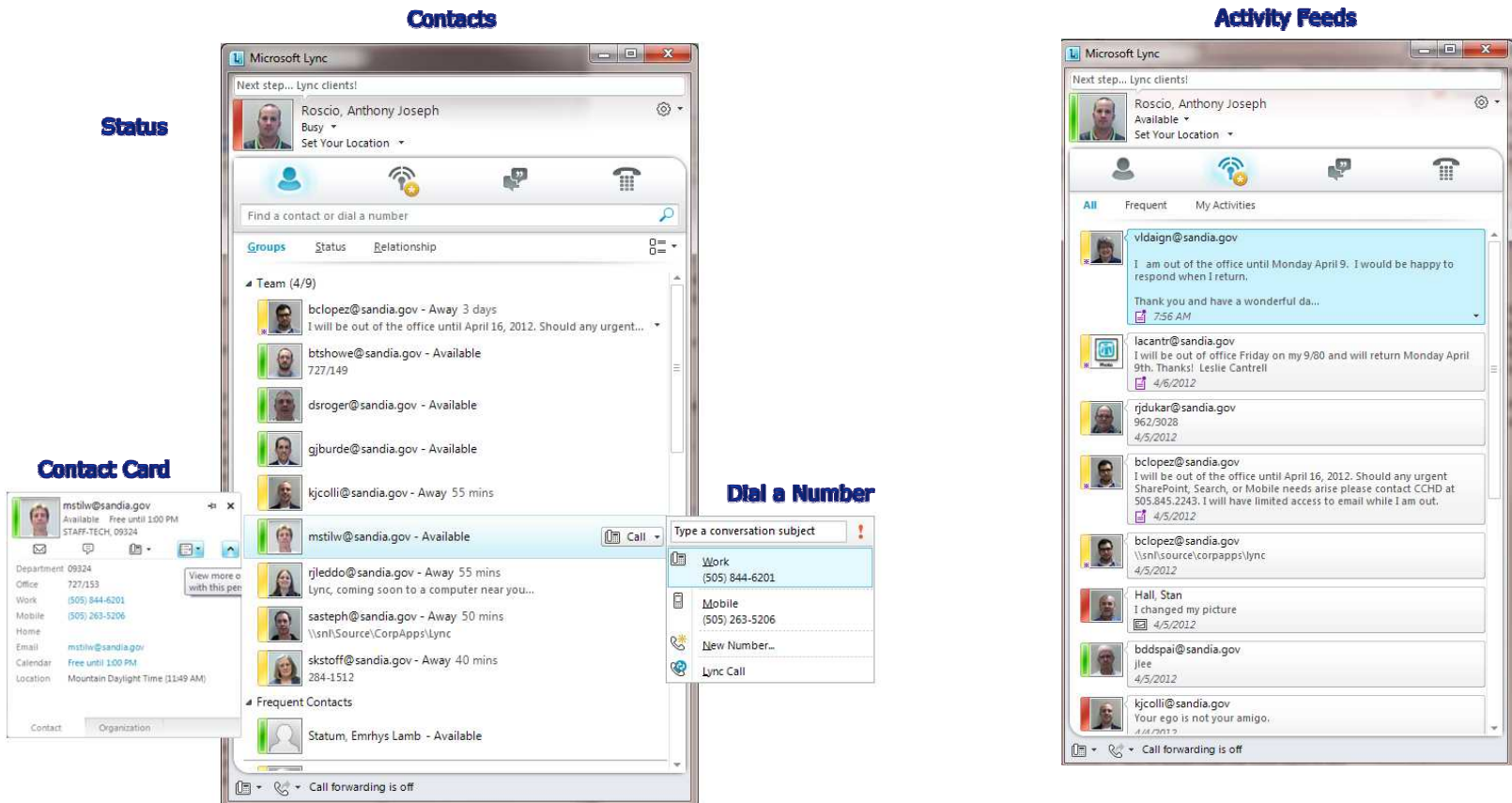
Status

Contacts

Contact Card

Dial a Number

Activity Feeds

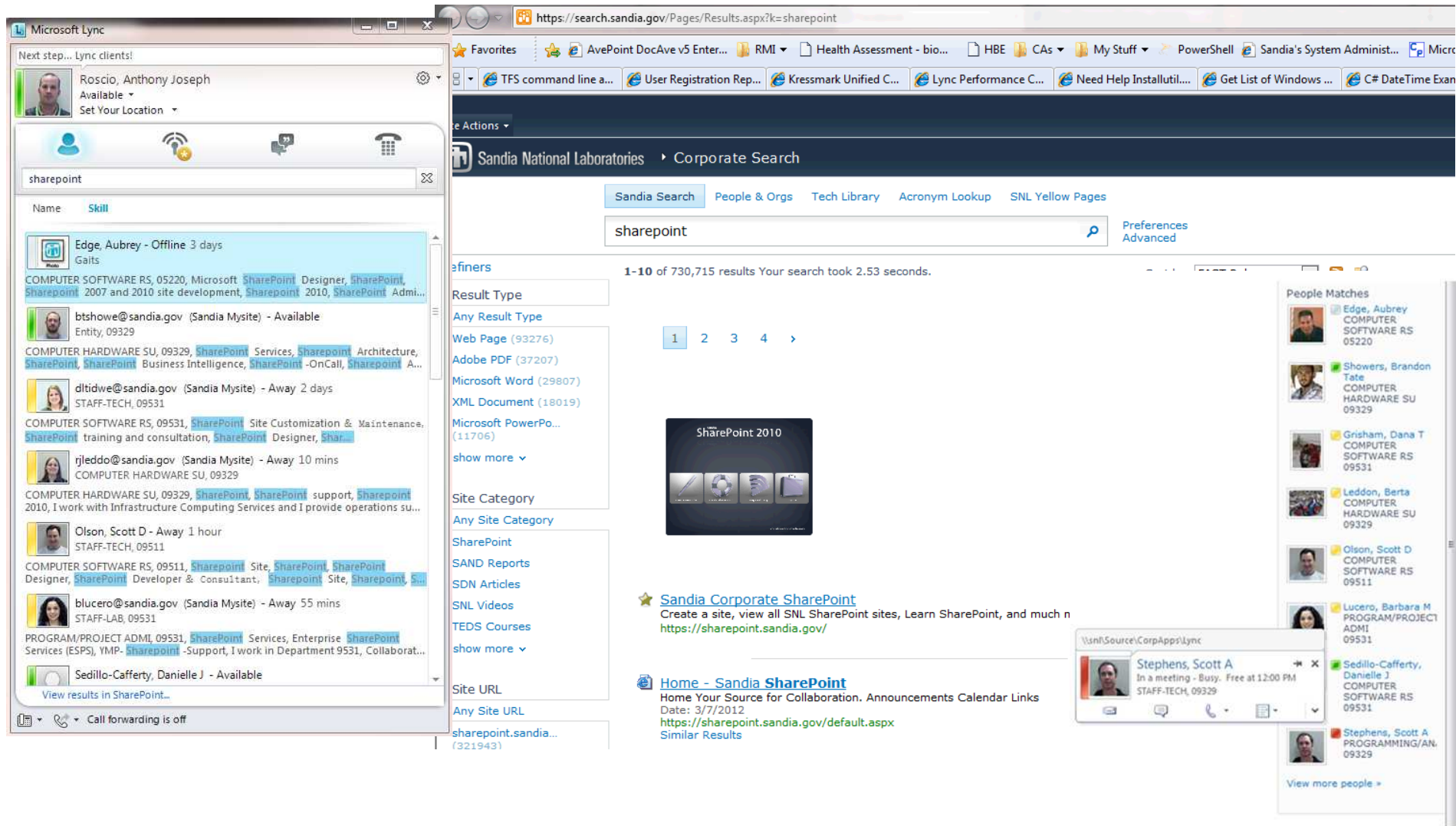


The screenshot displays the Microsoft Lync application interface. The main window is titled 'Microsoft Lync' and shows a 'Next step... Lync clients!' section with a user profile for Roscio, Anthony Joseph, who is 'Busy'. Below this is a search bar 'Find a contact or dial a number' and a list of contacts under the 'Team (4/9)' group. A 'Contact Card' for mstliw@sandia.gov is shown, displaying contact information such as Department 09324, Office 727/153, Work (505) 844-6201, Mobile (505) 263-5206, Home, Email mstliw@sandia.gov, Calendar free until 1:00 PM, and Location Mountain Daylight Time (11:49 AM). A 'Dial a Number' dialog is open, showing a list of contacts and a 'Type a conversation subject' field. The 'Activity Feeds' section on the right shows a list of activities, including messages from vldaign@sandia.gov, lacantr@sandia.gov, rjdukar@sandia.gov, bcllopez@sandia.gov, Hall, Stan, bddspai@sandia.gov, and kjcolli@sandia.gov.

Lync Integration Capabilities and Opportunities

- Lync has a natural and seeming less transparent integration with Microsoft's entire product line
 - Outlook integration with Lync Meeting Scheduling and contact synchronization
 - Listen to Exchange based Voicemail from the Lync Client
 - Contact card and presence information available at a glance
 - Skill search integration with Sharepoint Mysites
 - Integrated presence awareness throughout the Sharepoint stack and Office products
 - Browser integration to enable phone number recognition and dial initiation
 - Photos pulled from Active Directory
- In addition to native federation Lync can also be integrated with any XMPP system/device via the XMPP Gateway
 - Jabber, IBM Sametime
 - 2NV will be releasing Socialcast which will utilize Lync Federation via XMPP
- Lync can integrate with phone systems to enable inbound and outbound desktop to phone audio calls
- In addition to using native conference room camera systems that have built in Lync Clients, there are integration paths with traditional VTC systems
- Lync offers a much more enhanced Web-Services API layer for custom applications to leverage presence as well as messaging in and out of the platform

Lync Integration Capabilities and Opportunities



The image displays a Microsoft Lync client window on the left and a web browser window on the right, illustrating the integration of Lync with corporate search capabilities.

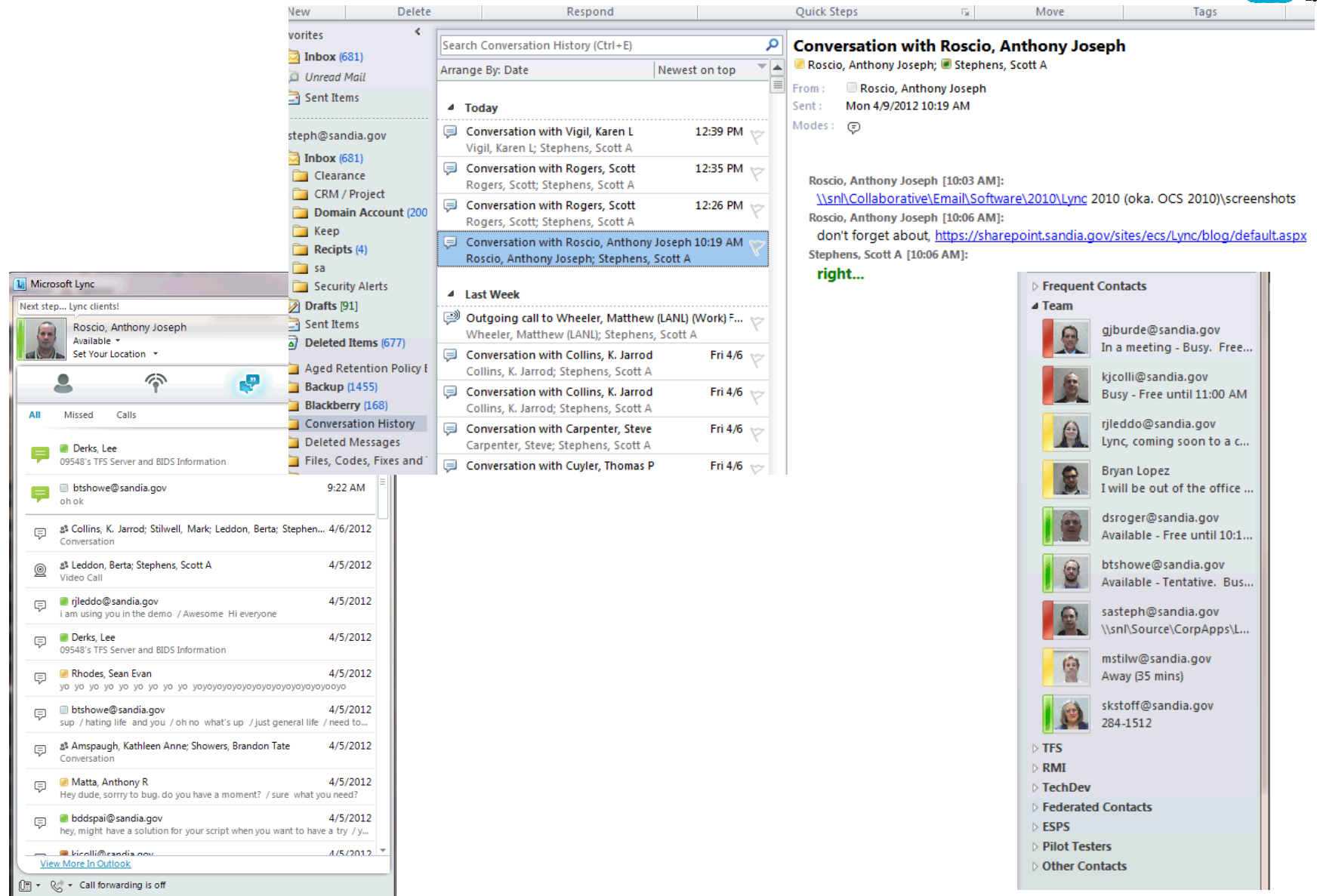
Microsoft Lync Client (Left):

- Next step... Lync clients:** Roscio, Anthony Joseph (Available, Set Your Location).
- sharepoint** (Search bar).
- Edge, Aubrey - Offline 3 days** (Gaits).
- btshowe@sandia.gov (Sandia Mysite) - Available** (Entity, 09329).
- dltidwe@sandia.gov (Sandia Mysite) - Away 2 days** (STAFF-TECH, 09531).
- COMPUTER SOFTWARE RS, 09531, SharePoint Site Customization & Maintenance, SharePoint training and consultation, SharePoint Designer, SharePoint...**
- COMPUTER SOFTWARE RS, 09511, SharePoint Site, SharePoint Site, SharePoint Designer, SharePoint Developer & Consultant, SharePoint Site, SharePoint...**
- blucero@sandia.gov (Sandia Mysite) - Away 55 mins** (STAFF-LAB, 09531).
- PROGRAM/PROJECT ADML, 09531, SharePoint Services, Enterprise SharePoint Services (EPS), YMP- SharePoint -Support, I work in Department 9531, Collaborat...**
- Sedillo-Cafferty, Danielle J - Available** (View results in SharePoint...).
- Call forwarding is off**.

Web Browser (Right):

- URL:** <https://search.sandia.gov/Pages/Results.aspx?k=sharepoint>
- Search Results:** Sandia National Laboratories Corporate Search. Search term: **sharepoint**. Results: 1-10 of 730,715 results. Your search took 2.53 seconds.
- Result Type:** Any Result Type. Web Page (93276), Adobe PDF (37207), Microsoft Word (29807), XML Document (18019), Microsoft PowerPo... (11706). show more v
- Site Category:** Any Site Category. SharePoint, SAND Reports, SDN Articles, SNL Videos, TEDS Courses. show more v
- Site URL:** Any Site URL. sharepoint.sandia.gov (321943).
- People Matches:** Edge, Aubrey (COMPUTER SOFTWARE RS 09520), Showers, Brandon Tate (COMPUTER HARDWARE SU 09329), Grisham, Dana T (COMPUTER SOFTWARE RS 09531), Leddon, Berta (COMPUTER HARDWARE SU 09329), Olson, Scott D (COMPUTER SOFTWARE RS 09511), Lucero, Barbara M (PROGRAM/PROJECT ADML 09531), Sedillo-Cafferty, Danielle J (COMPUTER SOFTWARE RS 09531), Stephens, Scott A (PROGRAMMING/AN 09329). View more people >
- Search Results Preview:** **SharePoint 2010**. **Sandia Corporate SharePoint**. Create a site, view all SNL SharePoint sites, Learn SharePoint, and much n <https://sharepoint.sandia.gov/>. **Home - Sandia SharePoint**. Home Your Source for Collaboration. Announcements Calendar Links Date: 3/7/2012 <https://sharepoint.sandia.gov/default.aspx>. Similar Results.

Lync Integration Capabilities and Opportunities



The screenshot displays the Microsoft Lync application interface integrated with Outlook. The Lync window on the left shows a list of contacts and a chat window for 'Roscio, Anthony Joseph'. The Outlook window on the right shows the 'Conversation History' for the same contact, listing various conversations and their timestamps. A 'Frequent Contacts' list is also visible on the right side of the Outlook window.

Microsoft Lync Interface:

- Next step... Lync clients!
- Contacts: Roscio, Anthony Joseph (Available), Set Your Location
- Buttons: All, Missed, Calls
- Chat window: Derks, Lee (09548's TFS Server and BIDS Information), btshowe@sandia.gov (oh ok)

Outlook Conversation History:

Conversation with Roscio, Anthony Joseph

From: Roscio, Anthony Joseph
Sent: Mon 4/9/2012 10:19 AM
Modes: [Icon]

Roscio, Anthony Joseph [10:03 AM]:
<\\sn\Collaborative\Email\Software\2010\Lync> 2010 (oka. OCS 2010)\screenshots

Roscio, Anthony Joseph [10:06 AM]:
don't forget about, <https://sharepoint.sandia.gov/sites/ecs/Lync/blog/default.aspx>

Stephens, Scott A [10:06 AM]:
right...

Frequent Contacts:

- Team
- gjbude@sandia.gov: In a meeting - Busy. Free...
- kjcolli@sandia.gov: Busy - Free until 11:00 AM
- rjleddo@sandia.gov: Lync, coming soon to a c...
- Bryan Lopez: I will be out of the office ...
- dsroger@sandia.gov: Available - Free until 10:1...
- btshowe@sandia.gov: Available - Tentative. Bus...
- sasteph@sandia.gov: \\sn\Source\CorpApps\L...
- mstilw@sandia.gov: Away (35 mins)
- skstoff@sandia.gov: 284-1512
- TFS
- RMI
- TechDev
- Federated Contacts
- ESPS
- Pilot Testers
- Other Contacts

Lync Integration / Logical Architecture



Lync Architectural Overview

- Lync Infrastructure is a Multi-Tier, Highly Available Enterprise Edition deployment
 - 2 Front End Servers
 - 2 Director Servers
 - 2 Mediation Servers
 - 2 Edge Servers
 - 2 Sets of redundant load balancers for internal and external traffic
 - 2 Node Server array running Threat Management Gateway for Reverse Proxy capabilities
- Forefront Edge protection for SIP Hygiene and Antivirus protection
- Backend Database located on Enterprise Edition SQL Cluster
- Additional Monitoring Server running for statistics and reporting

Physical Lync Architecture



Questions and Answers

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