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Outil de web conférence

tutoJRES #16 – 2 octobre 2013

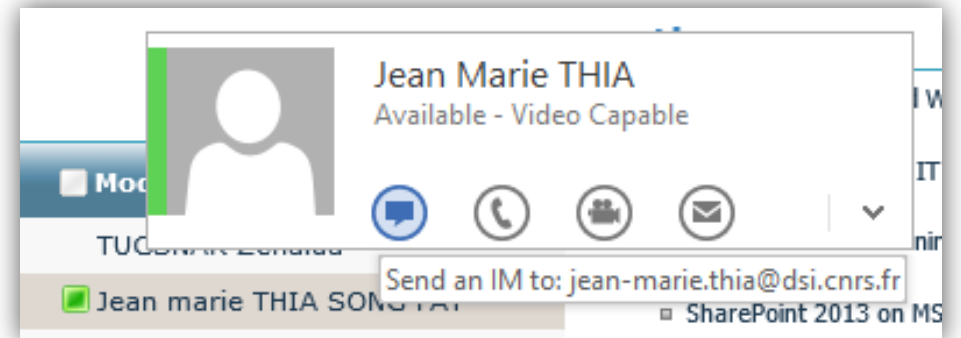
Jean Marie THIA – CNRS / DSI / ARESU



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Objectif

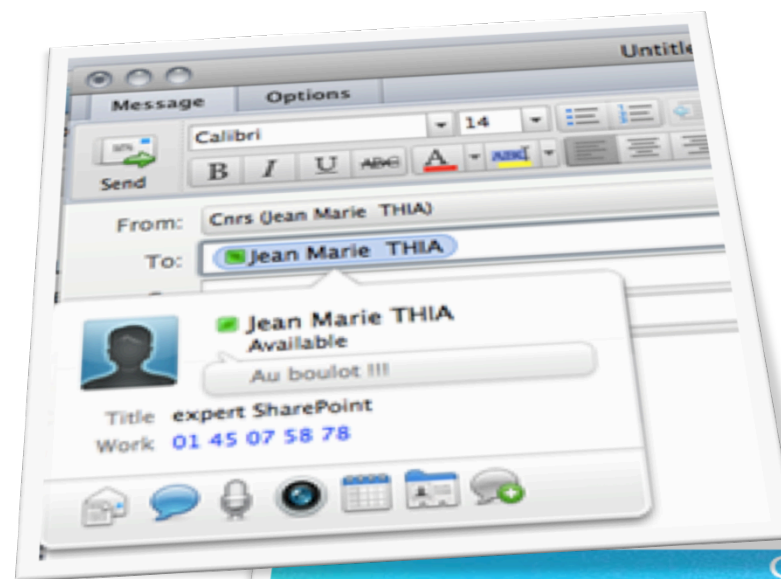
- Offrir une collaboration entendue pour tous les personnels du CNRS depuis son poste.
 - Chat
 - Vidéo conférence
 - Partage d'écran





Contraintes

- Intégration
 - CoRe
 - Messagerie centralisée
- Mobilité
- Interopérabilité





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Choix

- Par :
 - Opportunisme (Office 365 Education gratuit)
 - Facilité (Offre de services – Exchange, SharePoint)
- Pour :
 - Apprendre (la technologie)
 - Appréhender (le besoin)

Lync 2013 Hybride

- On cloud pour une offre non sécurisée
- On premise pour une offre sécurisée

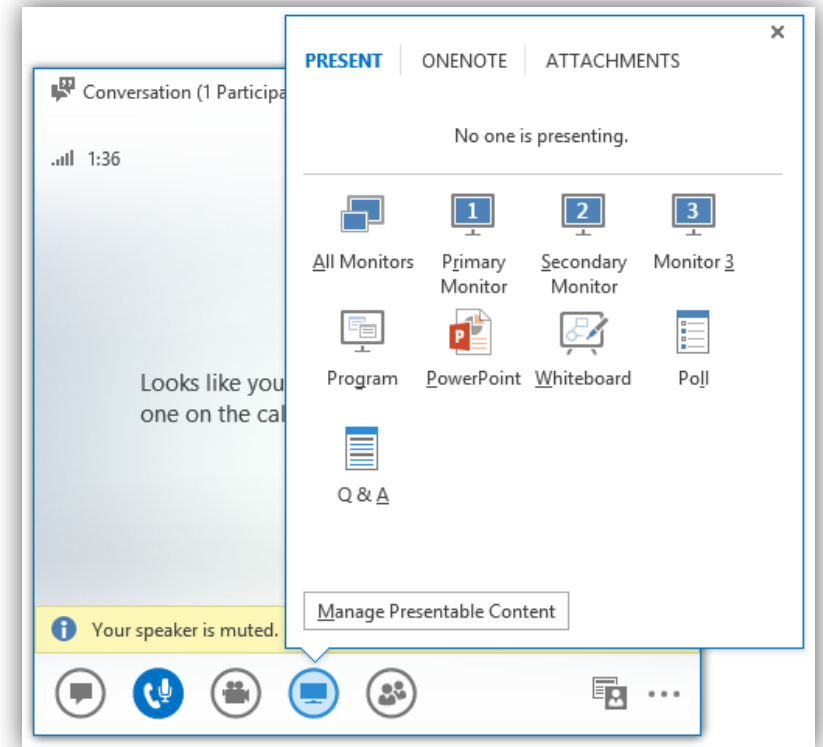




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Fonctionnalités

- Messagerie Instantanée
- Présence
- Audio Vidéo
 - Partage d'écran
 - Présentation PowerPoint
 - Tableau blanc
 - One Note
- ~~Téléphonie~~





Protocoles

- SIP (signalement)
- H264 SVC (AV)
- RTV (AV)
- XMPP (IM)

Protocols used by Lync

Posted: January 24th, 2013 | Author: Michael | Filed under: Lync Development | Tags: C3P, protocols, RTP, SDP, SIP, SRTP | No Comments »

<http://blog.greenl.ee/2013/01/24/protocols-lync/>

SIP (Session Initiation Protocol)

Session Initiation Protocol (SIP) is a standard protocol used to initiate sessions.

SIP is defined in RFC 3261. It provides a framework for understanding of the things like authentication and, under normal circumstances, an important point to re

Video Interoperability in Lync 2013

July 23, 2012 by Jeff Schertz · Comments (65)

The covers have been removed from Lync 'Wave 15' and the general public is now privy to [download and install](#) a preview version of Lync Server 2013. This presents the opportunity to finally discuss a topic which has been broadly misunderstood for quite some time throughout the industry: what does "H.264 AVC/SVC" support mean exactly in the upcoming Lync platform, and how might it relate to the rest of the video conferencing industry? Microsoft has been talking about introducing a standards-based video codec as a replacement for their proprietary Real-Time Video (RTV) video codec for some time and there have even been announcements released and specification documents published in the past year, but until last week those statements were never officially confirmed. But a brief look at the newly released features will show quite a focus on the video experience in the next Lync platform.

Yet the simple declaration that "Lync 2013 supports H.264 video" tends to lead one to believe that the next version of Lync will be able to connect to any existing standards-based video conferencing system.

<http://blog.schertz.name/2012/07/video-interoperability-in-lync-2013/>

Basic Concepts

In order to establish a video call between endpoints a series of events must be able to successfully take place over a variety of protocols and systems. One of the most basic concepts to understand is that these communication sessions are generally comprised of two separate types of communication streams: signaling and media. Signaling is primarily control

Microsoft PC Productivity Applications Protocol Documentation : <http://msdn.microsoft.com/en-us/library/gg134038.aspx>

http://download.microsoft.com/download/A/F/B/AFBF8CBE-3A45-472A-93F3-AD8521FBD502/UC_Specification_for_H264_AVC_and_SVC_encoder.pdf



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Clients

- Riche
 - Windows
 - Mac OS X
- Mobile
 - Apple Store
 - Google Play
 - Windows Store
- Lync Web App

The screenshot shows the Microsoft Lync Web App interface in a browser window. The address bar displays the URL: <https://meet.lync.com/cnrs365-dsi/jean-marie.thia/SYQYY5L8?sl=1>. The page title is "Conversation (4 Participants)". The meeting controls bar shows the time as 22:16 and the current slide as "Privately viewing: tutoJres16_Lync_CNRS.pptx". There are buttons for "Present Now" and "Return to Presenter's View". Below the controls, there are four video thumbnails for participants: Jean Marie T..., Jean Marie T..., Badre Bensa..., and a fourth participant. The main content area displays a presentation slide titled "Fonctionnalités" with the following list of features:

- Messagerie Instantanée
- Présence
- Audio Vidéo
 - Partage d'écran
 - Présentation PowerPoint
 - Tableau blanc
 - One Note
 - Téléphonie

The slide also includes a small inset image of the Lync Web App interface showing the "PRESENT" menu with options like "No one is presenting", "Program", "PowerPoint", "Whiteboard", and "PDF". At the bottom of the slide, it says "Jean Marie THIA | TutoJRES 16 – 2 octobre 2013". The bottom of the browser window shows a yellow notification bar that says "Your speaker is muted." with an "Unmute" button. The bottom toolbar contains icons for chat, microphone, video, screen sharing, and participants.



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Démo



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Web conférence

Vidéo conférence entre un PC (client riche lync 2013) et un MAC (Lync Web App).

Pour joindre la conférence :

<https://meet.lync.com/cnrs365-dsi/jean-marie.thia/>



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Interopérabilité



Equipement de salle

Polycom Expands Industry-Leading Portfolio of Microsoft® Lync™ Interoperable Offerings with New Software Extensions to Polycom® RealPresence® Platform that Deliver Lync 2013 Interoperability Across Polycom Video and Voice Solutions for Superior Collaboration Experience

Cisco Blog > Video

TC 6.2 Enhances Redundancy and Resiliency



Finn Helge Lunde | June 21, 2013 at 1:12 am PST

(4 Comments)

Tweet 9

Like 72

Share 1

+1 0

<http://blogs.cisco.com/tag/h-264/>

I know it just seems like yesterday I was talking about the Cisco TelePresence TC 6.1 software update. But we are moving fast and at InfoComm 2013 we unveiled TC6.2 software release for Cisco TelePresence endpoints including the EX, MX and C Series as well as the Profile and SX20.

This latest release includes enhanced capabilities for redundancy and resiliency when registering endpoints directly to Cisco Unified Call Manager. With this new system, calls can never be lost during a switch. Another great benefit is "active conference control", where end-users now can take more control of their conference experience from the Cisco Touch User Interface, something that was previously only enabled by an administrator. Also, as part of Cisco's strong architectural approach on interoperability we are adding support for H.264 SVC to our TC based endpoints. This means we can do native interoperability with other vendor's solutions like Microsoft Lync 2013 and Polycom endpoints using the H.264 SVC standard.

... achieves Microsoft Lync 2013 qualification for Polycom® VVX® Media Phones

... VVX® Series, Polycom® RealPresence® Group Series and Polycom® ... form to be compatible with Lync 2013 in June

CONNECT 2013, ORLANDO, Fla - Mar 18, 2013: Polycom, Inc. (Nasdaq: PLCM), in open, standards-based unified communications and collaboration (UC&C), broad interoperability for Microsoft® Lync™ 2013 that includes new qualified solutions and a new software extension to the Polycom® RealPresence® Platform interoperability between Lync 2013 and the full portfolio of Polycom standards-collaboration and content sharing solutions. These announcements further the ship between the two companies, building on Polycom's portfolio of 40 video, t sharing solutions that are interoperable or optimized to work with Lync 2010 Microsoft and Polycom offer the most complete UC&C portfolio at the lowest total

... announcement, Polycom will deliver the broadest interoperability for Lync 2013 in ... Andy Miller, President and CEO, Polycom. "The majority of ...

Polycom and Microsoft over other vendors

http://www.polycom.com/company/news/press-releases/2013/20130318_2.html

... combination of Polycom and Microsoft software ... a seamless UC solution for video, voice, conferencing and collaboration, from anywhere, anytime, and drives increased productivity across organizations."



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Linux

LINUX LYNC Chat, VoIP, Video, File transfer, Screen

<http://fisil.com/products.html>

Francois Doremieux
CTO, Unified Communication Strategist

@Gregory, thank you for your comments, I understand and appreciate.

Part of the problem is, there has been no business case on Linux because most users (unlike you) are unwilling to pay, and the numbers of enterprise seats are small. Enterprise customers actually

<http://www.linkedin.com/groups/Is-it-possible-run-Lync-2878149.S.55602116>

...commercial vendor that has done all the work to create an absolutely fantastic client for the Linux embedded platform and see if they are willing to license it for a fee (and probably do some amount of tweaking to it to run on the desktop platform).

No need to recreate something that works well, and has been tested and validated by Microsoft.

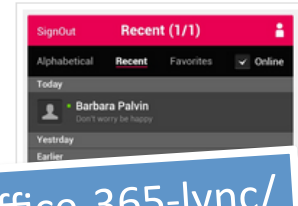
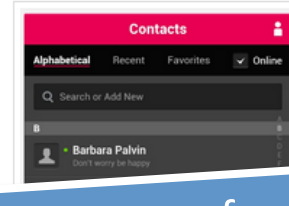
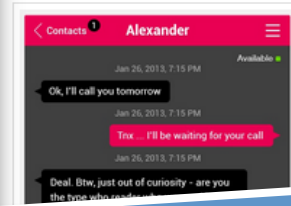
Eventually the answer will be a browser based solution - HTML5 and an (hopefully much improved) WebRTC type story. That will alleviate the need to do custom stuff. Do check out what we already can do with our UC WebAPI: <https://ucwa.lync.com>

@Michel: Android is a commercial venture, and an extremely successful at that, making billions of dollars for multinational corporations - completely the opposite of Linux. Linux had its chance, but the train has left the station already a few years ago ;)

Here is what you were looking for: <http://www.microsoft.com/en-us/download/details.aspx?id=18568>

Like • Flag as inappropriate • 6 months ago

<http://www.vincentpassaro.com/2013/02/01/configuring-pidgin-instant-messenger-for-office-365-lync/>





Le futur : WebRTC ?

Microsoft's Open Technologies unit [published a prototype implementation](#) of browser-based video chat today that allows a user of a Mac OS-based Chrome browser to chat with a user running IE 10 on Windows.

<http://gigaom.com/2013/01/17/microsoft-cu-webrtc-prototype/>

Microsoft has been working for some time on web-based real-time communication, and [could one day use this kind of technology to take Skype to the browser](#), as well as make it interoperable with other messenger platforms and applications. The company [started to participate in efforts to standardize this kind of browser-based communication last summer](#), albeit with a somewhat different take than others.

Previous efforts around web-based, plugin-free voice and video chat were largely driven by Mozilla and Google, with the latter contributing a lot of its technology to an effort dubbed WebRTC, which is short for web-based real-time communications. Work on WebRTC had been progressing in 2012, and parts of the technology has already been implemented in Chrome and Opera.

However, Microsoft argued that some of the core assumptions of that approach were wrong. In particular, the company took issue with efforts to make **Google's VP8 video codec the default choice for WebRTC**. Microsoft's own proposal, dubbed CU-WebRTC, would instead leave it up to the developer of each app to settle on a codec as well as on other specifics, like the data formats used to communicate.



L'aventure : SDK Lync

Code samples: Lync SDK

Lync 2013 | This topic has not yet been rated - [Rate this topic](#)

C# Code sample

<http://msdn.microsoft.com/en-us/library/lync/jj933140.aspx>

UCWA 1.0 reference

This topic has not yet been rated - [Rate this topic](#)

Microsoft Unified Communications Web API 1.0 is a REST API that exposes Lync Server 2013 instant messaging (IM) and presence capabilities.

UCWA 1.0 enables developers to make their enterprise applications and intranets more lively and connected to business contacts.

Key use cases enabled by this API include:

- Lighting up Lync presence in business apps and intranets.
- Embedding IM experience in enterprise-specific Line of Business apps across platforms/browsers/devices (contextual communications), especially Windows 8, Apple iPad, and others.
- Enabling Web Chat - pro-active chat feature for e-commerce site, helpdesk, support, and other scenarios.

Although UCWA 1.0 is language-independent, developers can use any programming language from C/C++ to Java, and the API is fine-tuned for web developers who are familiar with ordinary web technologies such as HTTP, OAuth, JSON, and JavaScript.

UCWA 1.0 is available only to customers who have Lync on-premises.

<http://msdn.microsoft.com/en-us/library/lync/dn324971.aspx>

Application reference samples that are installed with Microsoft Lync 2013 SDK.

Provide a broader look at the API. Use a reference sample to see how to build an application combinations of Lync Controls and objects from the Lync 2013 API object model.

Files in the %PROGRAMFILES%\Microsoft Lync\SDK\Samples folder on 32-bit computers and %PROGRAMFILES(X86)%\Microsoft Lync\SDK\Samples folder on 64-bit computers.

With Microsoft Lync 2013 SDK, you get a set of quick-start sample applications, including Windows Forms, Windows Presentation Foundation (WPF), and Silverlight projects. These quick-start samples focus on specific API features. Refer to these samples when you want to see how to complete a small task such as putting a contact list control on a page in your WPF application.

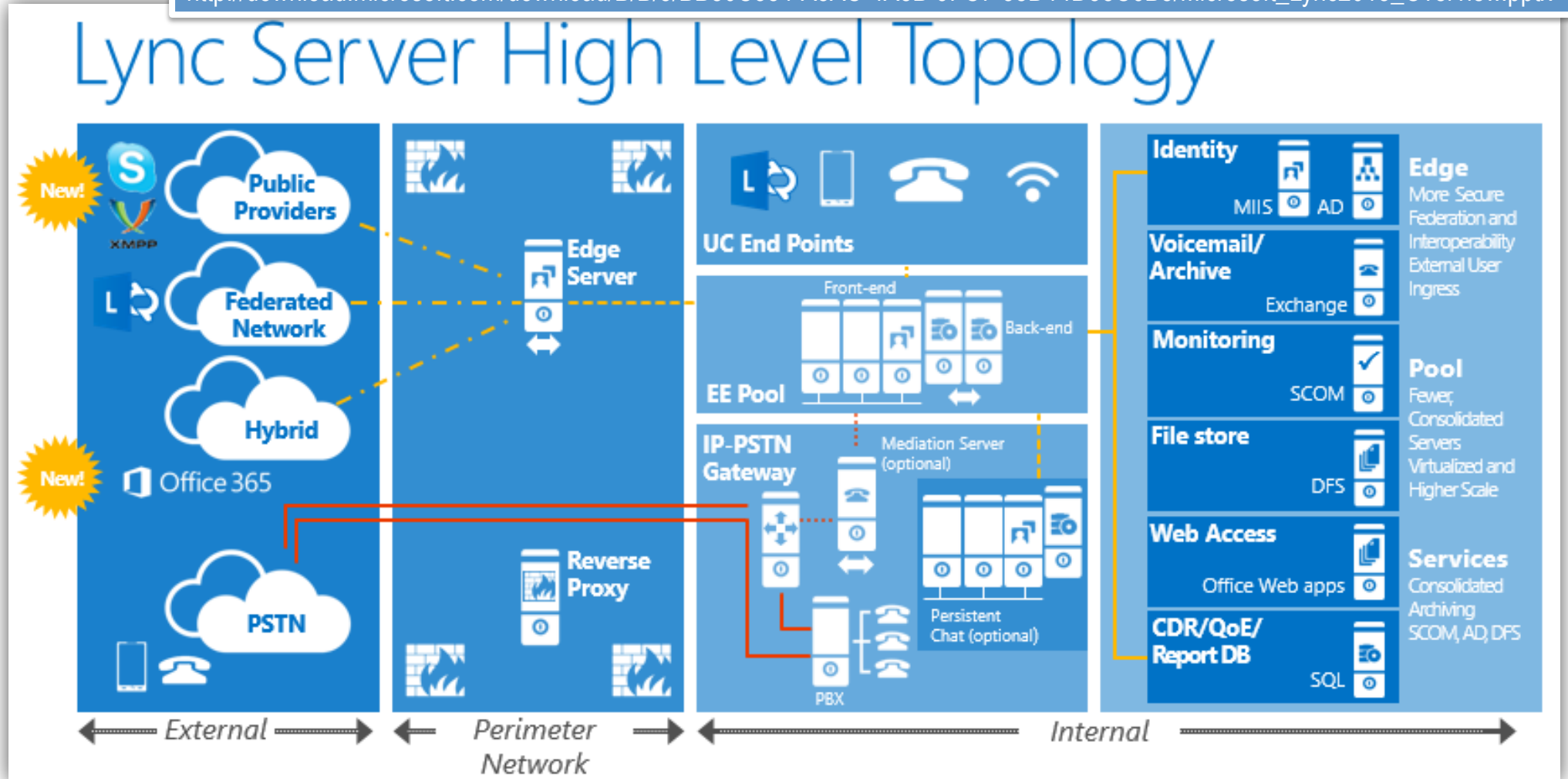


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Architecture

Schéma d'une ferme Lync

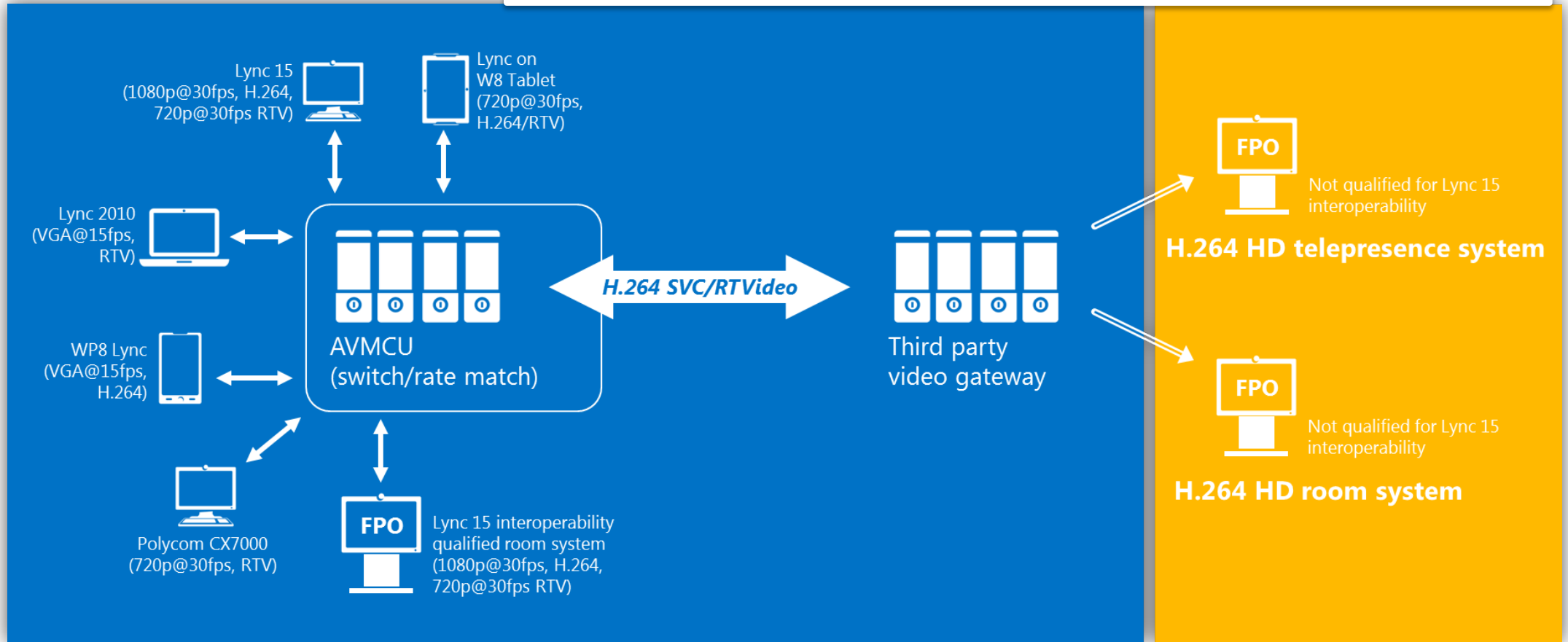
http://download.microsoft.com/download/B/B/5/BB50C384-A8AC-4A8B-9FC7-35D14D38C6B8/Microsoft_Lync2013_Overview.pptx





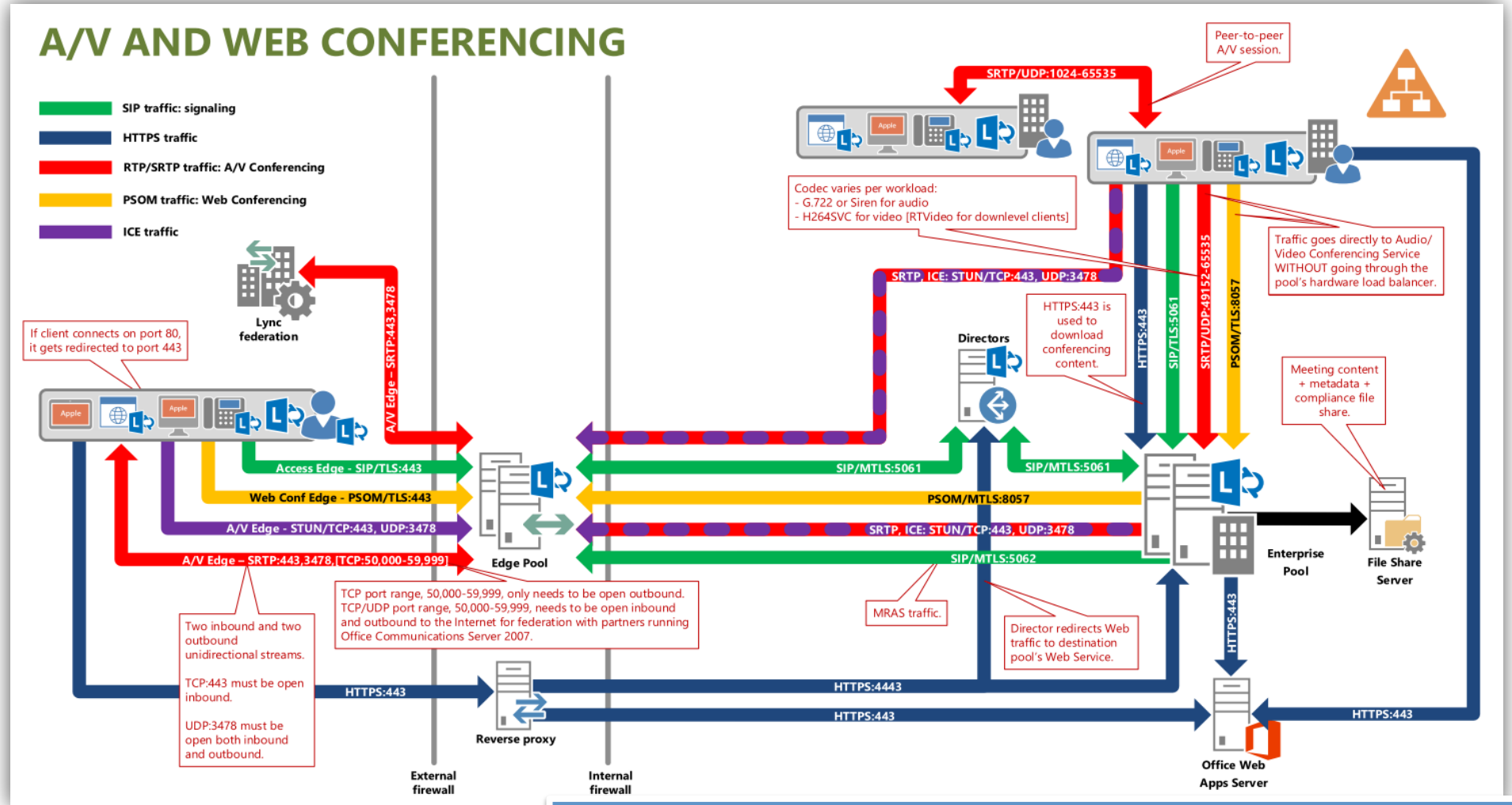
Détail Audio Vidéo

<http://lync-2013.azurewebsites.net/SessionDetail.aspx?id=1025>





Protocol poster



<http://www.microsoft.com/en-us/download/details.aspx?id=39968>



Office 365 : IP et ports

- IP Datacenter Microsoft

<http://technet.microsoft.com/en-us/library/hh373144.aspx>

- Ouverture de port

| | |
|---------------------------------------|---|
| PSOM/TLS 443 | Lync Online (outbound data sharing sessions) |
| STUN/TCP 443 | Lync Online (outbound audio, video, and application sharing sessions) |
| STUN/UDP 3478 | Lync Online (outbound audio and video sessions) |
| TCP 5223 | Lync mobile client push notifications |
| UDP 20000-45000 | Lync-to-phone outbound (Jahjah Voice) |
| RTP/UDP 50000-50019 - Outbound | Lync (outbound audio sessions) |
| RTP/UDP 50020-50039 - Outbound | Lync (outbound video sessions) |
| UDP 50040-50059 - Outbound | Lync Application sharing and file transfer |

<http://technet.microsoft.com/en-us/library/hh852522.aspx>

65.52.148.27
 65.52.184.75
 65.52.196.64
 65.52.208.73

65.54.74.0/23
 65.54.80.0/20
 65.54.82.0/24
 65.54.165.0/25
 65.55.86.0/23
 65.55.233.0/27
 65.55.239.168
 70.37.97.234
 70.37.128.0/23
 70.37.142.0/23
 70.37.159.0/24
 94.245.68.0/22
 94.245.82.0/23
 94.245.84.0/24
 94.245.86.0/24
 94.245.117.53
 94.245.108.85
 111.221.70.0/25
 111.221.71.0/25
 111.221.111.196
 111.221.127.112/28
 132.245.0.0/16
 157.56.23.32/27
 157.56.53.128/25
 157.56.55.0/25
 157.56.58.0/25
 157.55.59.128/25



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Conclusion



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Roadmap

- Connexion de nos salles
 - SIP
 - H323
- Interconnexion : RenaVision, ...
- Persistant Chat vs Conversation de Sharepoint 2013
- Communauté technique



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Questions - Réponses



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Merci de votre attention

jean-marie.thia@dsi.cnrs.fr



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Ressources

- **Lync Conference 2013**

<http://lync-2013.azurewebsites.net/sessions.aspx>

- **Microsoft**

- IT pros : <http://technet.microsoft.com/en-us/lync/fp123621>

- Dev : <http://msdn.microsoft.com/en-us/lync>

- Utilisateur :

<http://office.microsoft.com/fr-fr/microsoft-lync-videoconference-et-messagerie-instantanee-FX010172905.aspx>

- **Office 365 Education**

<http://office.microsoft.com/fr-fr/microsoft-office-365-pour-l-education-FX103213541.aspx>



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Ressources

- **Blog**

- <http://blogs.technet.com/b/nexthop/>
- <http://blog.schertz.name/>
- <http://windowspbx.blogspot.fr/>
- ...

- **Tuto**

- <http://officeignitelabs.cloudguides.com/Lync%20Guides.htm>