



# Solving the Lync Integration Challenge

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Bridging the Unified Communication Islands

**Fact Sheet.**

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The UM Labs Lync Connector solves a common set of problems. How can enterprises deploying Microsoft Lync or adopting Lync as a hosted service achieve full integration between Lync and other Voice or Unified Communication services? How can network services providers deliver enhanced voice services to Lync users and how can a unified set of UC services be delivered in a multi-vendor network?

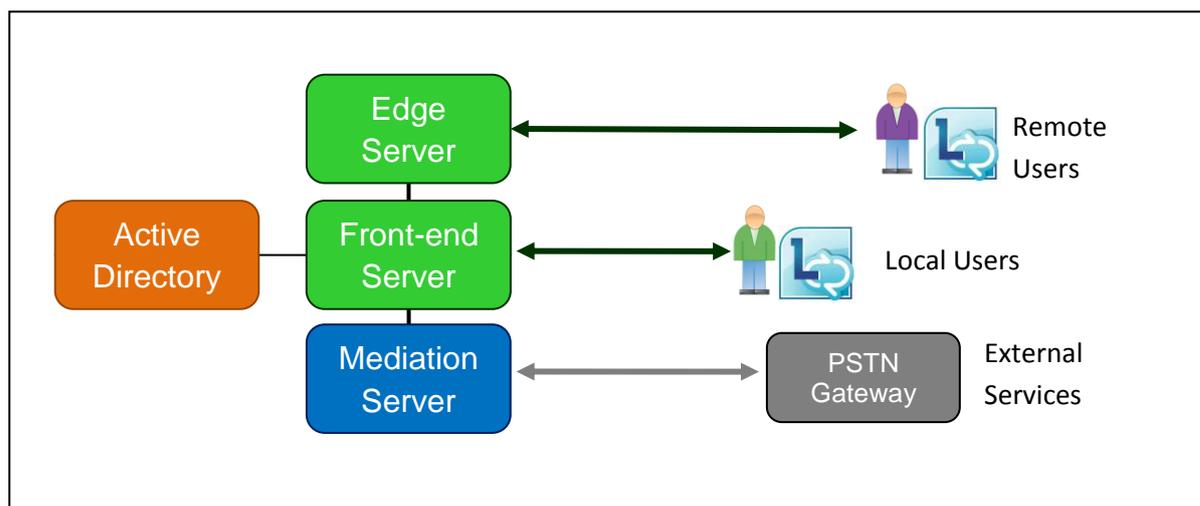
## UM Labs Lync Connector

The UM Labs Lync<sup>1</sup> Connector is an add-on option for the UM Labs SIP Security Platform, a cloud based security and interoperability platform. The Lync Connector is designed to provide an enhanced level of connectivity between Microsoft's Lync Unified Communication package and other Voice over IP (VoIP) and Unified Communication (UC) products and services. The UM Labs Lync Connector removes the limitations inherent in the existing mechanism provided to connect Lync to hosted VoIP services and to SIP trunk connections.

### The Problem

Microsoft's Lync is based on the Session Initiation Protocol (SIP) which is the preferred standard VoIP protocol adopted by most IP-PBX vendors, by hosted service providers and which is used to provide SIP trunk connections. SIP trunks are direct IP connections to IP-PBXs. However the version of SIP used by Lync includes a number of extensions and features not included in the standard. This combined with the architecture and design of Lync limits the connectivity and interoperability between Lync and other SIP based products and services.

Lync is a complex product; a typical Lync installation spans multiple servers and is dependent on a number of additional services.



<sup>1</sup> Lync is a trademark of the Microsoft Corporation

Lync provides a number of connection points, these include:

- Edge Server, this is used to connect Lync client applications from remote networks
- Front-end Server, this is used to connect Lync client applications from local networks
- Mediation server, this was designed to connect to the PSTN via a media gateway and may also be used to connect to SIP trunk services

The Edge Server and Front-end server provide fully authenticated and encrypted connections and provide access to the full range of UC services including voice and video calls plus presence and Instant Messaging. However the use of a non-standard authentication mechanism and other SIP extensions mean that only Lync Client applications provided by Microsoft are able to connect via these servers.

Connections to other SIP services and to SIP based telephony systems from other vendors must be made via the Mediation Server. These connections do not provide the same level of service as connections to the Front-end Server or Edge Server. The limitations on Mediation Server connections are:

Mediation Server Limitation	Consequences
<b>No encryption</b>	Cannot extend the call encryption security provided by Lync to other systems and services
<b>No authentication</b>	All connections are anonymous, cannot identify or validate a device connected via this channel
<b>No Presence support</b>	Cannot provide presence (ability to view colleague's availability) between Lync and other UC or IP phone systems
<b>No Instant Messaging Support</b>	Cannot provide a full Unified Communication Service between Lync and other services or systems
<b>Specific Lync dial plan rules needed for calls via Mediation Server</b>	Cannot easily provide direct peer to peer voice or video calls between Lync users and users on other VoIP or UC systems in a multi-vendor network

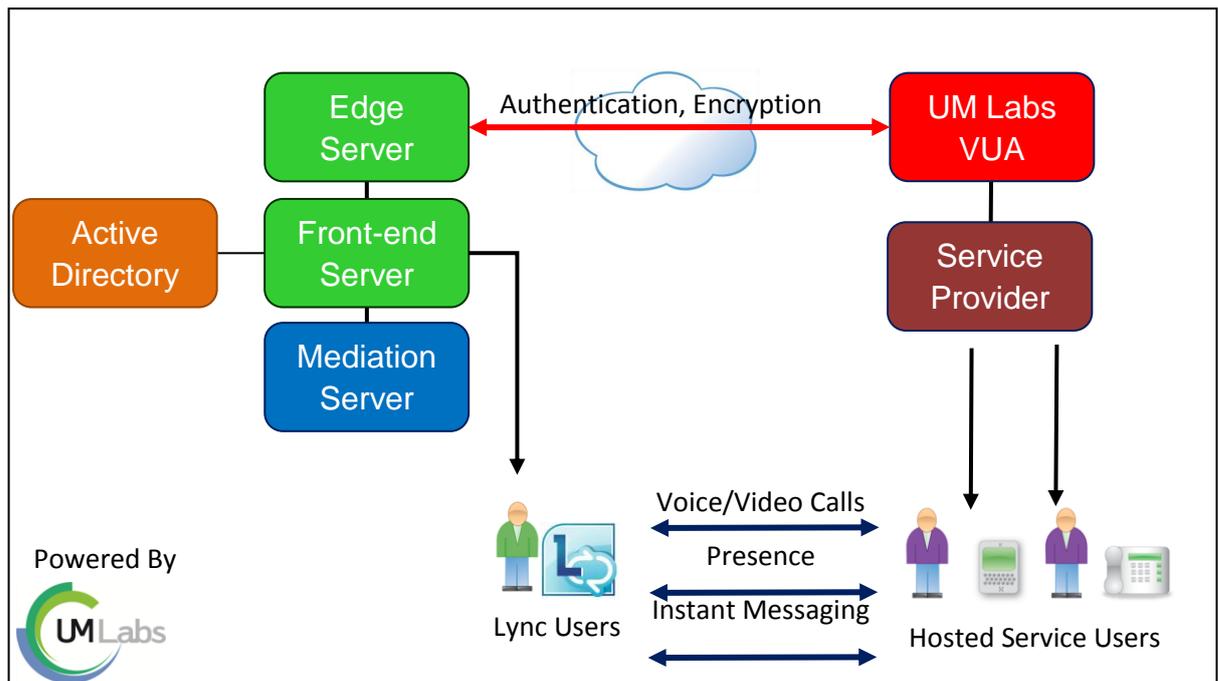
The bottom line is that Microsoft's mechanism for enabling connections between Lync and other systems was designed for supporting PSTN connections and not for enabling multi-vendor VoIP and UC services. This means that organisations deploying Lync for its collaboration and Unified Communication capabilities are building *Islands of Isolation* as they cannot easily integrate Lync with other VoIP or UC systems.

## The Solution

To solve this problem, UM Labs have developed the *Lync Connector* as an option for their SIP Security Platform. The Lync Connector bridges the Lync and standard SIP worlds providing a fully functional VoIP and UC connection between Lync and any SIP based service or VoIP PBX.

The Lync connector implements a UM Labs copyrighted design for a *Virtual User Agent (VUA)*. A VUA is a software module running in the UM Labs SIP Security Platform. Each VUA has two identities, a Lync identity and a standard SIP identity. Multiple VUAs can run in a single instance of the SIP Security Platform.

The UM Labs VUA establishes the same grade of connection to a Lync server as a standard Microsoft Lync client. It can connect to either the Lync Front-end Server or Edge Server (depending on network topology). The connection is fully encrypted and authenticated. The VUA also establishes authenticated and encrypted connections to the standard SIP Hosted Service or Enterprise PBX. The VUA then relays all calls, Instant Messaging and presence information between the Lync and standard SIP systems.



The UM Labs Lync Connector solves the Lync integration problem by enabling full voice, video and UC services between a Lync system and any standard SIP system. The Lync connector provides the necessary translation between Microsoft's extended version of Lync and the standard version used by other vendors.

Feature	Benefit
Connectivity to Lync front-end server or edge server	Fully functional VoIP and UC, including voice, video, presence and IM between Lync and other SIP systems
Choice of Lync authentication mechanisms	Ability to manage interconnections to SIP PBX and services supporting multiple users and to connect multiple single user devices (e.g. mobile VoIP apps)
Automatic conversion between Lync user names and standard SIP names or numbers	Simplified direct calls between Lync users and users on standard SIP systems.
Mapping between Lync presence messages and standard SIP presence messages	Full presence capability between Lync users and users on standard SIP systems
Configurable dial plan	Direct dialling between Lync users and users on standard SIP systems

The UM Labs Lync Connector is designed to support connections to multiple Lync systems. This capability allows service providers to deliver cloud based services including hosted PBXs and Unified Communication systems to multiple enterprise Lync systems and to users of hosted Lync services.

