Thought Leadership on
Skype for Business
& Unified Communications
in Classified Environments
Problem Sets – Maryland Procurement Office (MPO) required a modern unified communications (UC) service that supported integrated chat/IM, presence, persistent/group chat, telephony, VTC, app/desktop sharing and white boarding in one tool that seamlessly integrated with office automation and collaboration suites already in service for the agency.

At the same time the agency had massive quantities of legacy software, infrastructure, and endpoints that could not be forklift replaced and any solution moving forward needed to account for integration with these legacy products for at least the duration needed to fund and replace those services over multiple years of a refresh and modernization program.

In addition, MPO was the U.S. lead for an international group of partnered agencies across four other nations to modernize the unified communications between organizations. Dozens of additional organizations across the U.S. and four other countries required collaborative access to these new capabilities and were added to requirements of MPO.

Seeing the successes of MPO and having a similar attempt fail in the U.S. federal government, a new attempt to integrate similar and dissimilar unified comms products and services was begun under the title of Collaboration Reference Architecture (CRA). MPO must take a leading position and provide subject matter expertise on guiding the multitude of agencies through this path.

MPO brought in a plethora of Microsoft Engineers and PMs to kick start deployment of Lync 2010 in FY2011. Microsoft understood their product, but was not well positioned to understand how MPO mission and MPO security requirements would be met and did not have the expertise in integrating Microsoft Lync with a litany of legacy communication and collaboration services. MPO and Microsoft needed help from experienced contractor architects, engineers, ISSOs, project and program managers familiar with the last decade of technology deployed at the agency and how to connect them all in a secure and mission effective way.
MPO identified in 2011 their new Tyto Athene Unified Communications Lifecycle (LC) Program Manager to lead the deployment of Lync 2010, Lync 2013, Skype for Business (SfB) 2015, alongside agency telephony and VTC modernization efforts. This Tyto Athene LC Program Manager was responsible from cradle to grave, for all Unified Communications product refreshes, modernization, O&M, and decommissioning efforts.

This same Tyto Athene LC Program Manager was the only contractor named as official liaison and member of the MPO leadership team with international and national UC working groups and helped guide each nation and partner to an effective UC solution that could be integrated and modernized. This continues today.

Tyto Athene architects and engineers are widely seen across the Fed Gov as critical subject matter experts willing to help each partner nation and agency connect their missions and customers in a modern and efficient manner. These Tyto Athene personnel’s expertise range across all modalities of unified communication both modern and legacy and serve MPO and others on a daily basis.
All Microsoft PM’s, Architects and Engineers were let go in 2012 with the exception of one engineer kept on staff directly supporting the Tyto Athene leadership, architecture and engineering staff.

Examples of Architectural and Engineering Problems MPO required Tyto Athene to solve both internally to MPO and with partner integrations and federations

1. SfB needs to seamlessly connect with customers on Windows VDI, thick clients, LINUX boxes, TCS desktops, Tablets, etc.

2. SfB needs to be made available to internal customers in disparate Active Directory domains across highly sensitive network security boundaries

3. SfB persistent/group chat was required to be made available via PKI to external partners and nations needing to have access to specific chat rooms for time sensitive mission support

4. SfB persistent chat connected to ABAC controls to provide customers the ability to maintain highly sensitive and compartmentalized data (INT B, INT C) accredited

5. To provide an ethical wall solution between federated SfB partners to individually manage customers and the modalities they could use between edge connected agencies
6. To provide optimized audio and video services to customers in a VDI environment.

7. To interconnect Cisco telephony and VTC services with SfB telephony and VTC while maintaining TLS and SRTP encryption.

8. To deploy soft and hard phones and VTCs across a myriad of locations as well as VDI and thick clients.

9. To manage a multi-regional, multi-vendor, worldwide network of SfB, Telephony, and VTC services totaling over 80,000+ SfB customers, 50,000+ telephony, and 10,000+ VTC end-points.

10. Build a redundant, diverse path, and survivable UC infrastructure utilizing multiple vendor products across 800+ different locations worldwide.

11. Integrate and migrate TDM based telephony services to and with SfB telephony.

12. Migrate TDM gateways to IP peering with partner nations and U.S. agencies.

13. Migrate Jabber MIM customers to SfB.

14. Migrate IRC chat customers to SfB.

15. Integrate SfB VTC video bridging, content sharing, and scheduling with Cisco VTC.

16. Create VTC/Teleconferencing on demand and self-scheduling capabilities and put it in the hands of customers while preventing over-subscription.

17. Integrate partner Jabber with SfB through a SIP gateway.

18. Integrate XMPP partner agency products with SfB.

19. Federate multiple partner’s SfB services with MPO.

20. Deploy telephony end-points fully integrated with SfB and its contact lists and number for life approach to extension mobility.

21. Obtain and maintain RMF accreditation across all UC services.
22. Deploy Session Border Controllers (SBCs) for both international and national partnerships IP peering for both audio and video services

23. Integrated Voice to text and emailed voicemail with MS Exchange/Outlook

24. Integrated 3rd party Web Client for SfB for external customers and unique environments internal to MPO

25. Bot creation and API access methods for Persistent Chat services

26. Create a modernization path to Teams for services of SfB at MPO
Questions that could help determine the needs for SNL

1. What modalities of SfB are required at SNL over how many phases?
   a. IM
   b. IM conferencing
   c. Persistent/Group Chat
   d. Presence
   e. Telephony or Audio Chat
   f. VTC or Video Chat
   g. Desktop and/or App Sharing
   h. White boarding
   i. File sharing
   j. Polling

2. What end-points will SfB be utilized over (Windows VDI, Windows thick client, LINUX, TCS, tablets, IOS, Android etc.)?

3. Which external and distinctly separate internal customers and modalities need to be federated or integrated into SNL Unified Communications?

4. Over what timeframe and priority are the services and modalities needed?

5. MPO is the O365 integration efforts lead and Tyto is positioned to provide constructive guidance on adoption of Teams down the road due to this access.