Ribbon SBC Core Interop using Multiple User Registration with CUCM : Interoperability Note

Table of Contents

- Interoperable Vendors
- Copyright
- Scope / Non-Goals
- Audience
- Product and Device Details
- Network Topology Diagram
    - Interoperability Test Lab Topology
    - In Brief
    - Call Flow
- Supplementary Services & Features Coverage
- Caveats
- Support
- References
- Conclusion

Confidential and Proprietary. Copyright © 2020-2023 Ribbon Communications Operating Company, Inc. © 2020-2023 ECI Telecom Ltd.

Interoperable Vendors

Copyright

© 2021 Ribbon Communications Operating Company, Inc. © 2021 ECI Telecom Ltd. All rights reserved. The compilation (meaning the collection, arrangement and assembly) of all content on this site is protected by U.S. and international copyright laws and treaty provisions and may not be used, copied, reproduced, modified, published, uploaded, posted, transmitted or distributed in any way, without prior written consent of Ribbon Communications Inc.

The trademarks, logos, service marks, trade names, and trade dress (“look and feel”) on this website, including without limitation the RIBBON and RIBBON logo marks, are protected by applicable US and foreign trademark rights and other proprietary rights and are the property of Ribbon Communications Operating Company, Inc. or its affiliates. Any third-party trademarks, logos, service marks, trade names and trade dress may be the property of their respective owners. Any uses of the trademarks, logos, service marks, trade names, and trade dress without the prior written consent of Ribbon Communications Operating Company, Inc., its affiliates, or the third parties that own the proprietary rights, are expressly prohibited.

Scope / Non-Goals

This is an Interoperability Note and is **not** intended as a full Configuration Guide / Interoperability Guide.

This Interoperability Note is an informational document that describes the interop achieved between Ribbon products and various third-party products.

It focuses on the feasibility aspects in providing a Ribbon interoperable solution instead of the actual configuration involved for the Ribbon and third-party product(s).

It includes the test setup details used, along with full details of the Ribbon and third-party products, including details of any hardware and software versions used.

It also details results of the interop, and any notes or caveats related to the interworking.

Audience

This is a technical document intended for telecommunications engineers with the purpose of configuring the Ribbon SBC.

To configure this interop, you need

- to use the graphical user interface (GUI) or command line interface (CLI) of the Ribbon product.
- to understand the basic concepts of TCP/UDP/TLS and IP/Routing.
- to have SIP/RTP/SRTP to complete the configuration and for troubleshooting.

Product and Device Details

The sample configuration uses the following equipment and software:

Table 1: Requirements

	Equipment/Product	Software Version
Ribbon Communications	Ribbon SWe Core	V09.00.00R000
	Ribbon SWeLite	9.0.0v257
Third-Party Products	Polycom	6.0.9319.0
	Cisco UCM	12.5.1.11900-146
	Phonerlite	2.84

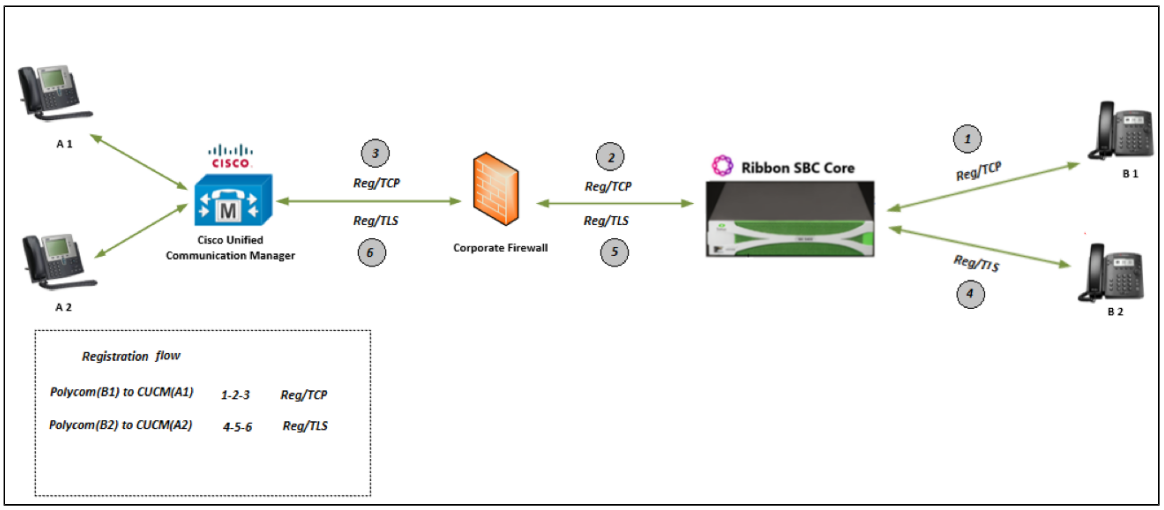
Network Topology Diagram

Interoperability Test Lab Topology

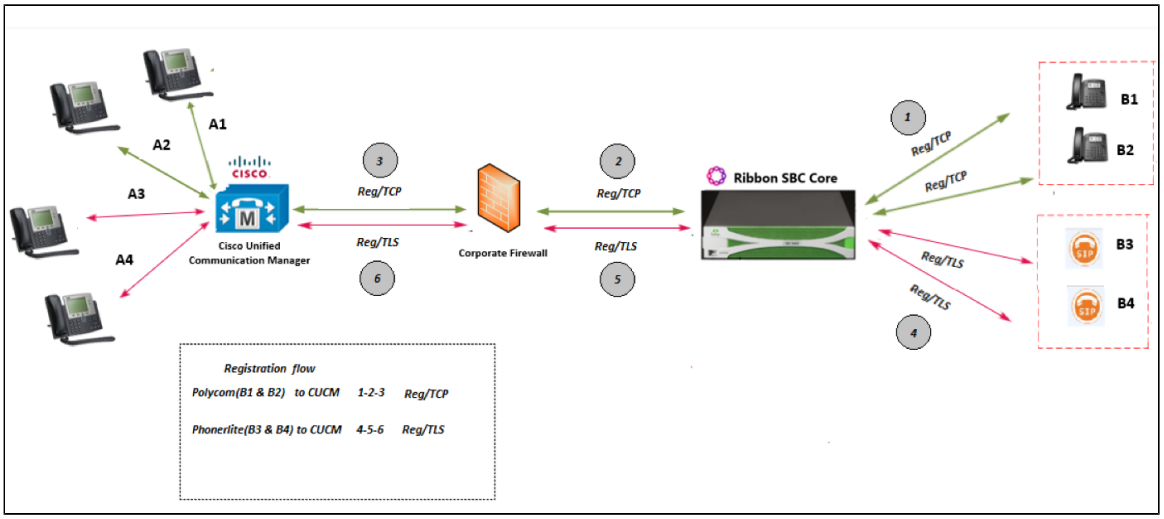
The IOT high level architecture covering call flows and overall topology is shown below.

- Single user successful TCP and TLS verification between SBC Core & Cisco Unified Communications Manager (CUCM)

Confidential and Proprietary. Copyright © 2020-2023 Ribbon Communications Operating Company, Inc. © 2020-2023 ECI Telecom Ltd.



- Multiple user **unsuccessful** TLS verification between SBC Core & CUCM
- Multiple user successful TCP verification between SBC Core & CUCM



In Brief

This document discusses the implementation of the Ribbon SBC Core in registrations of Polycom/Phonerlite endpoints to the CUCM.

Call Flow

- At the time this document was created, TLS registrations were successful for single endpoint using Phonerlite with CUCM.
- TCP registrations are successful for single/multiple endpoints using Polycom with CUCM.
- For achieving the interop aspects, registrations were tested between CUCM and Polycom/Phonerlite endpoints through Ribbon SBC Core.

Highlights

- Single and Multiple Polycom endpoints were registered successfully via TCP to CUCM.
- Registration was also tested with TLS between Phonerlite endpoints and CUCM.
- Single user registration with TLS was successful between Phonerlite and CUCM.
- Multiple users registration was not successful between SBC Core & CUCM due to multiple registration constraints over TLS in CUCM.

⚠ SBC Core relays the Contact header in its existing state to CUCM and adds a path header for each REGISTER before relaying the REGISTER with Contact header to CUCM.

Confidential and Proprietary. Copyright © 2020-2023 Ribbon Communications Operating Company, Inc. © 2020-2023 ECI Telecom Ltd.

Note
For information regarding SBC Core and Edge configuration, refer to the product documentation on https://doc.rbbn.com/

Supplementary Services & Features Coverage

The following checklist depicts the set of services/features covered through the configuration defined in this Interop Guide.

Sr.No.	Supplementary Features/Services	Coverage
1	Single TCP registrations	✓
2	Single TLS registrations	✓
3	Multiple TCP registrations	✓
4	Multiple TLS registrations	✗

Legend

Supported	✓
Not Supported	✗

Caveats

The following caveats were observed during this Proof of Concept (POC):

- Multiple endpoint TLS registration fails since Cisco Unified Communications Manager (CUCM) does not allow multiple registrations over TLS using the same IP or Port.
- Multiple endpoint TLS registration is successful only if we use different "SIPSIG IP" for each endpoint, which is difficult to provision /manage from an operations standpoint.

Support

For any support related queries about this Interoperability Note , please contact your local Ribbon representative, or use the following details:

- Sales and Support: 1-833-742-2661
- Other Queries: 1-877-412-8867
- Website: https://ribboncommunications.com/about-us

References

For detailed information about Ribbon products and solutions, please visit:

https://ribboncommunications.com/products

For detailed information about Cisco Unified Communications Manager solutions, please visit:

https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucm/im_presence/configAdminGuide/12_5_1/cup0_b_config-and-admin-guide-1251.html

Conclusion

This Interoperability Note describes successful testing of registrations of Polycom/Phonerlite endpoints to Cisco Unified Communications Manager involving Ribbon SBC Core.

Confidential and Proprietary. Copyright © 2020-2023 Ribbon Communications Operating Company, Inc. © 2020-2023 ECI Telecom Ltd.

© 2021 Ribbon Communications Operating Company, Inc. © 2021 ECI Telecom Ltd. All rights reserved.

Confidential and Proprietary. Copyright © 2020-2023 Ribbon Communications Operating Company, Inc. © 2020-2023 ECI Telecom Ltd.