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Collaboration Security and Cloud Transitions

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BRKCOL-2895



Cisco Webex App

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How

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- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 17, 2022.



https://ciscolive.ciscoevents.com/ciscolivebot/#BRKCOL-2895

Agenda

- Introduction
- Migration Use Case
- Privacy and Data Residency
- Identity and Auth(entication/orization)*
- Encryption and Network Considerations
- Compliance and Data Control
- Conclusion





Collaboration Security

Privacy

What? / How long?





Identity





Encryption

Encrypted? / How?





Compliance







Logistics

- This is a 45-minute session, so we have limited time for both content and Q&A.
- We'll stop a few places along the way to handle 1 or 2 questions.
- It's very likely we won't be able to get all the questions in the allotted time. If we don't get to your question:
 - » See me after the session
 - » Put your questions in the Webex space for this session
 - » Send me a 1:1 Webex message or email (mjordy@cisco.com)



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Here Today, Gone Tomorrow

Refer to the latest documentation for the most up-to-date information on supported features, best practices, and platform operation.

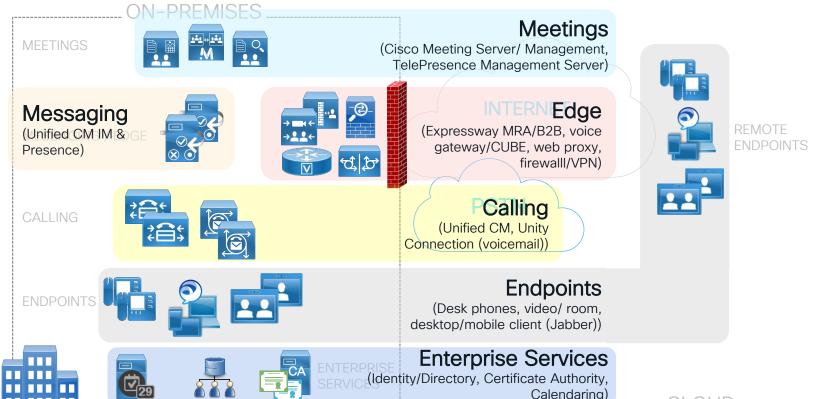
- · Cloud software changes: how it is configured, where it is located, and sometimes even how it operates. (On-premises software changes too)
- People make mistakes, certificates expire, defects happen, updates occur, products end-of-life, new integrations are required, ...

Migration Use Case



Collaboration Deployment: On-Premises

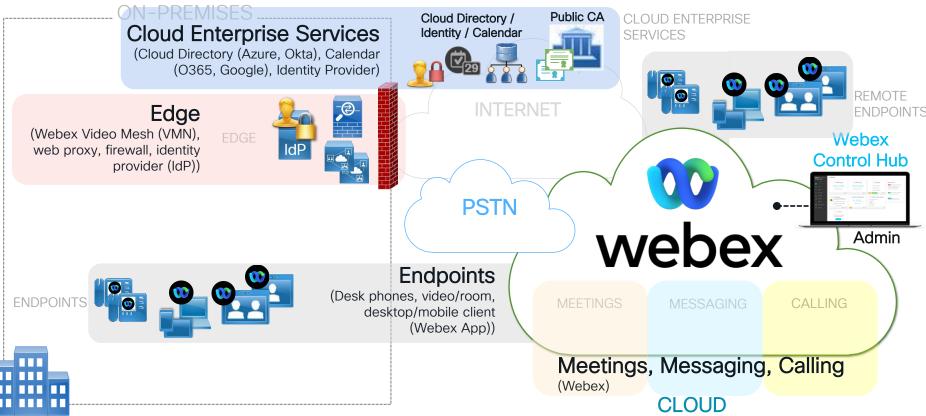






Collaboration Deployment: Cloud

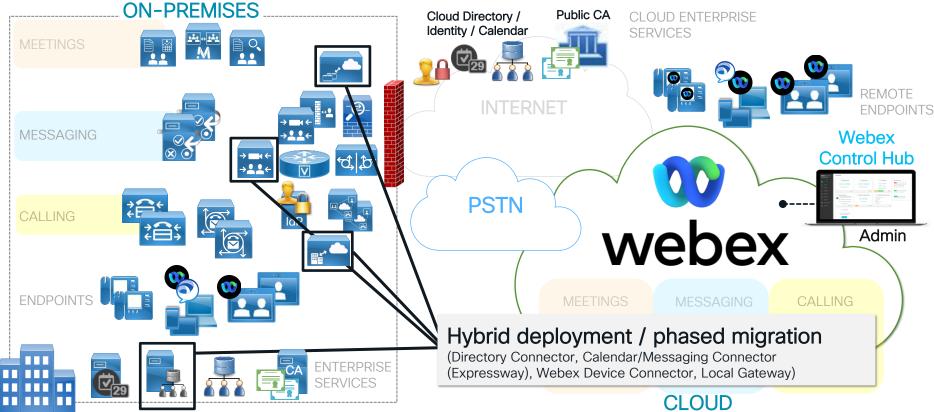




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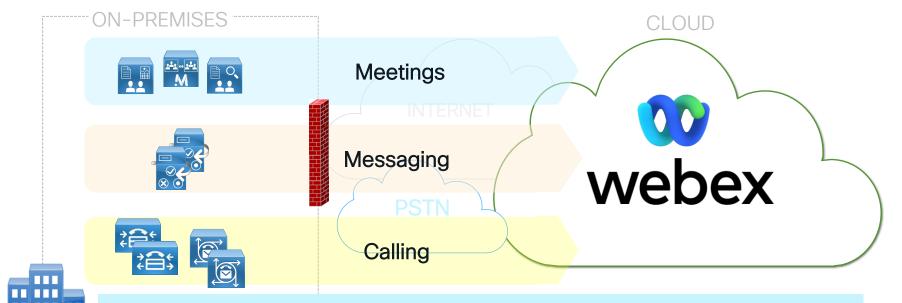
Collaboration Deployment: Hybrid/Phased





Migration by Workload



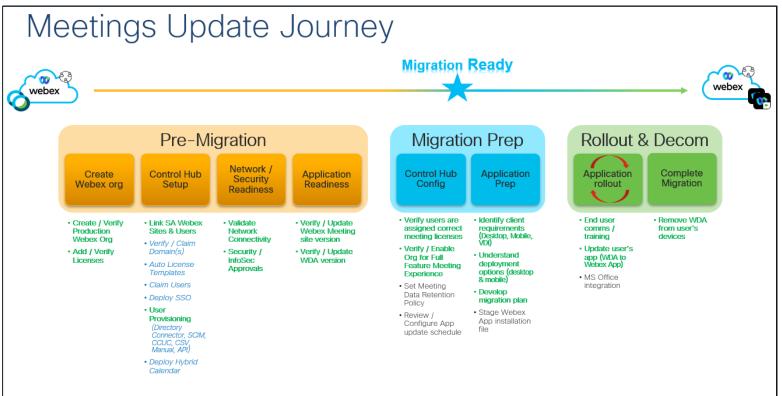


For detailed guidance on specific workload/product migrations refer to the *Collaboration Transitions* transition maps and deployment guides available at https://www.cisco.com/go/ct



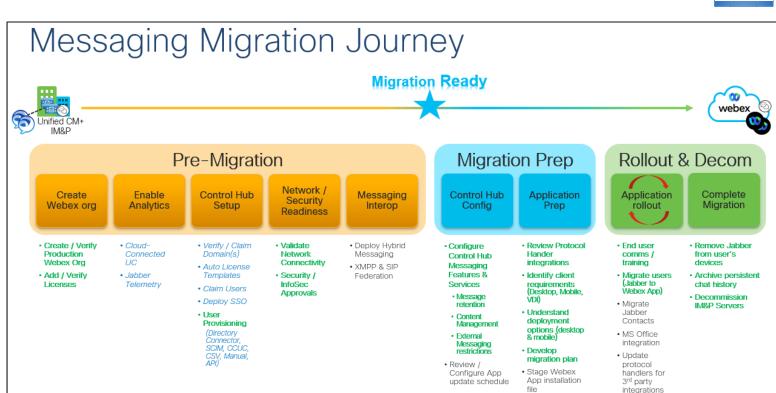








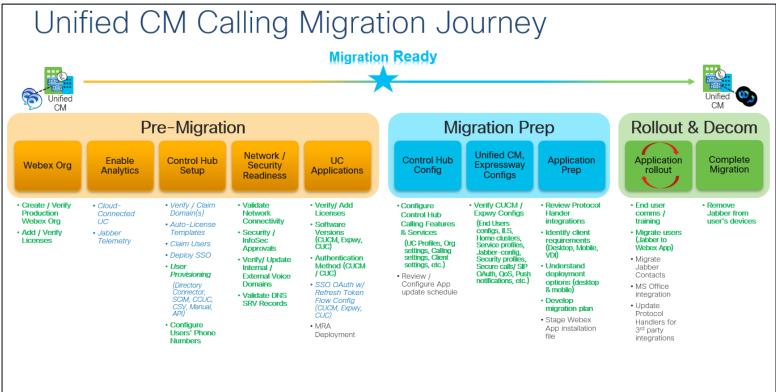






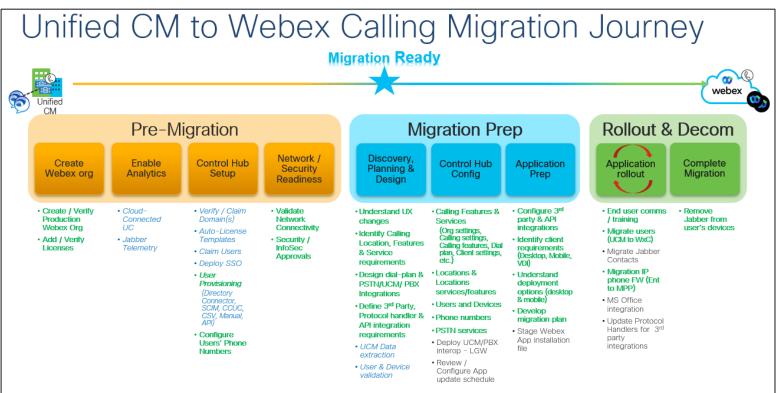








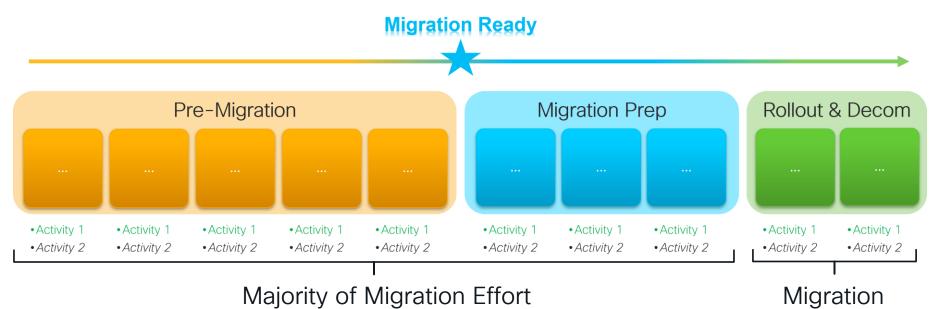






Migration: 3 Phase Approach



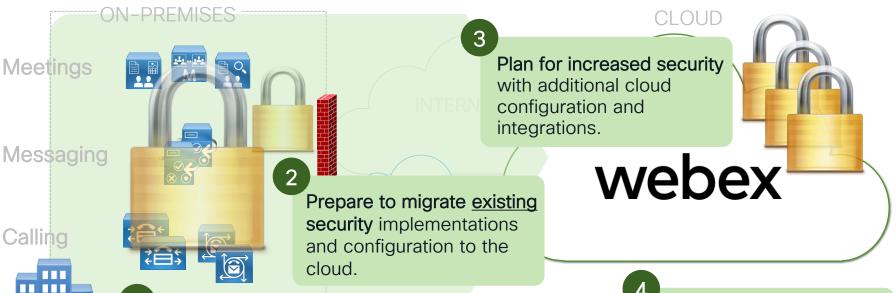


Security considerations for the migration should be addressed here.



Cloud Migration Best Practices - Security





Assess security of existing on-premises collaboration deployment and create security migration plan.

Monitor migration progress and regularly validate security functionality throughout the migration.



Privacy and Data Residency



Privacy and Data Residency



Privacy is a critical aspect of collaboration security and relates to the handling of personally identifiable information (PII) and private organizational information.

- What personal and organizational information is retained?
- Why is this information retained?
- How long is it retained?

Data residency refers to the protection and <u>storage</u> <u>location</u> of <u>personal and organizational data</u>.

- Where is personal and organizational data used, stored, or transferred?
- How is this data protected?



Privacy & Data Residency: On-Prem v. Cloud











Personal and organizational data stored in **customer premises data centers**.



Personal and organizational data stored in globally distributed **Webex** data centers.



For distributed multi-DC deployments, data transfers over secure private network (e.g., MPLS).



For organizations with global deployments, **data transfers** over encrypted private backbone.



Data retention controlled by organization's app/service admin. (e.g., retention period for CDRs, logs, PII, etc.)



Data retention controlled by organization admin(s) – with limits.



Data optionally encrypted in transit and at rest.



Data <u>always</u> encrypted in transit and at rest.



Privacy Data Sheets

https://trustportal.cisco.com



Avoid delays during migration rollout

Security and compliance teams within the organization should review appropriate

Webex product/service privacy data sheets

to understand how Cisco/Webex handles and protects personal and organizational data including:

- Types and purpose of personal data Webex processes
- Details of Webex data center locations and legal mechanisms for data transfer across international boundaries
- Who has access to personal data and why
- Data retention and deletion rules
- Details of third-party service providers
- Incident management (PSIRT)



Privacy Data Sheets

https://trustportal.cisco.com





DID YOU KNOW?

Privacy data sheets have been available for Cisco on-premises collaboration products for years.



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Privacy: Meetings / Messaging / Calling Data

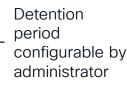




<u>User generated meeting content</u> (including chat) <u>is not</u> persisted in the cloud (unless the meeting is recorded). Option to store and manage meeting recordings, transcripts and file uploads in the Webex cloud.



<u>User</u> generated messaging content <u>is</u> persisted in the Webex cloud. (messages, files)





<u>User generated calling content is</u> persisted in the Webex cloud. (voice messages, call recording files)





<u>System</u> generated and service-related content for messaging / meetings / calling <u>is</u> persisted in the Webex cloud. (host / user / usage data for business records, billing, analytics, and troubleshooting)

Refer to privacy data sheets

Webex Meetings Privacy Data Sheet

Webex Messaging Privacy Data Sheet

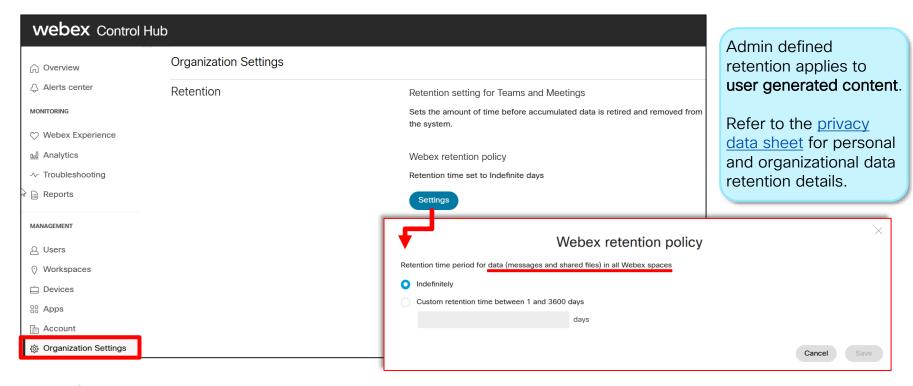
Webex Calling Privacy Data Sheet



Privacy: Messaging Retention



Messaging retention policy: Indefinite (default) / Custom (1 - 3600 days)

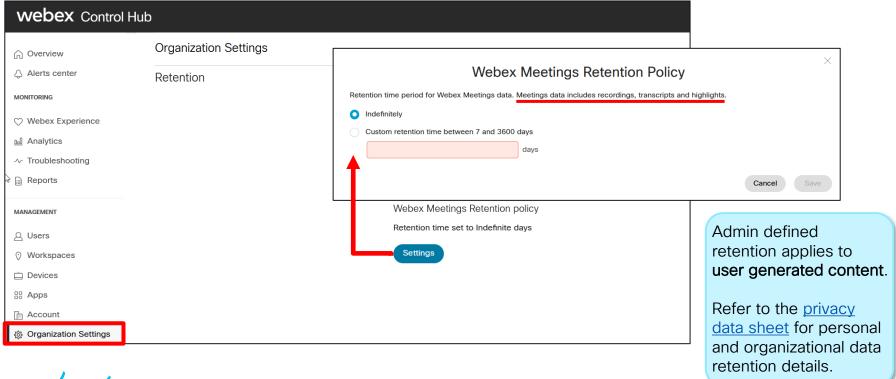




Privacy: Meeting Retention



Meeting retention policy: Indefinite (default) / Custom (7 - 3600 days)





Data Residency



Before proceeding with migration to cloud, ensure regulatory and organizational policy requirements for cloud data residency are understood

- Increasingly, organizations are <u>requiring</u> cloud service vendors to store their personal and organizational data in <u>specific geographic locations</u> to meet regulatory and/or policy requirements (legal, taxes, etc.)
- Regulatory requirements vary per region and per country.
- Data stored in the organization's specified location is governed by the privacy and security protection laws of that jurisdiction (data sovereignty)
- Recent Webex DCs have been added to address geographic data residency regulatory requirements: EU (Frankfurt, Amsterdam)

Canada (Toronto, Montreal)



Data Residency v. Sovereignty v. Localization

PRESENCE.

<u>Data localization</u> refers to the principle of ensuring data created within a country boundary remains within the boundary (use/storage)

MOST RESTRICTIVE



Data Localization

<u>Data sovereignty</u> refers to countryspecific <u>privacy and security protection</u> laws encompassing data storage location



Data Residency



LEAST RESTRICTIVE

<u>Data residency</u> refers to when an <u>organization</u> specifies that their data is stored in a particular geographical location for regulatory or policy reasons



EU Data Residency Plan for Existing Customers

EU DC - July 2021



- New primary DC. Both Primary/backup DCs in EU
- · Operates Meetings, Users, Messaging, Analytics and Calling

Billing and Operational Data - July 2022

- PII transfer to US for billing and administration is stopped for all customers.
- All Webex Orgs created since July 2021 have full data residency.

UK->EU - Dec 2021 ✓



- Migrate User Profiles from London to EU
- · Migrated all meeting sites, recordings, transcripts, files

User Profiles & Analytics US -> EU - May 2022

- Customers have option to migrate user profiles (Identity) from US to FU
- Analytics data gets migrated along with User profiles.

Org and Messages US -> EU - Q4CY2022

- Customer has option to migrate their Webex organization & messages.
- Once migration is finished, the org has full data residency
- Early customer trials start Q3CY22

Note:

- 1. User profiles, Org and Messages migration are optional steps that customers will need to schedule once the functionality is available.
- 2. More details on the migration functionality will be available as we get closer to the release.



Identity and Auth(entication/orization)



Identity and Auth(entication/orization)



Identity relates to users and their privileges.

- What is the source of user information?
- Who has <u>access</u> to resources/services?
- What services are users provisioned for?

Authentication/Authorization refers to the methods by which user identity is verified and service access is granted.

- How are users <u>authenticated?</u>
- How is access to resources/services protected?



Identity & Auth: On-Prem v. Cloud



On-Premises Collaboration





User source: Local user database or LDAP sync (secure LDAP optional)



User source: Webex cloud identity service (org level) or directory sync (e.g., Directory Connector, SCIM).



User provisioning: Manual (BAT for bulk)



User provisioning: Manual (CSV for bulk) or automated via Directory Connector / SCIM (e.g., Azure AD Wizard).



User authN/authZ: Local per server/ per service username / password + static access roles. Optionally, LDAP sync + auth, OAuth (OAuth access/refresh tokens).



User authN/authZ: Username / password. OAuth framework. Optionally, multi-factor authentication.



SSO optional (LDAP sync/authentication achieves unified accounts/passwords, no dependency on non-collab IT/security teams).



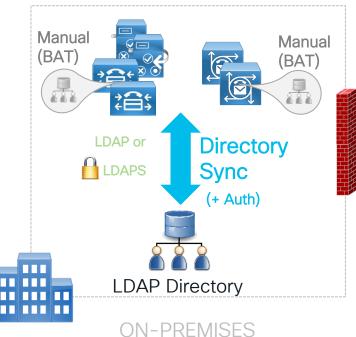
SSO <u>highly recommended</u>.

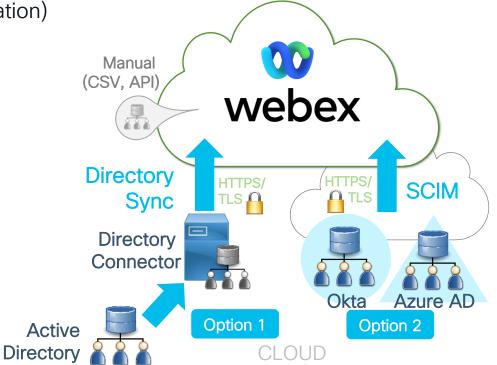


Identity & Auth: User Identity and Provisioning

Replicate on-premises user identity & provisioning source

in the cloud (manual or synchronization)



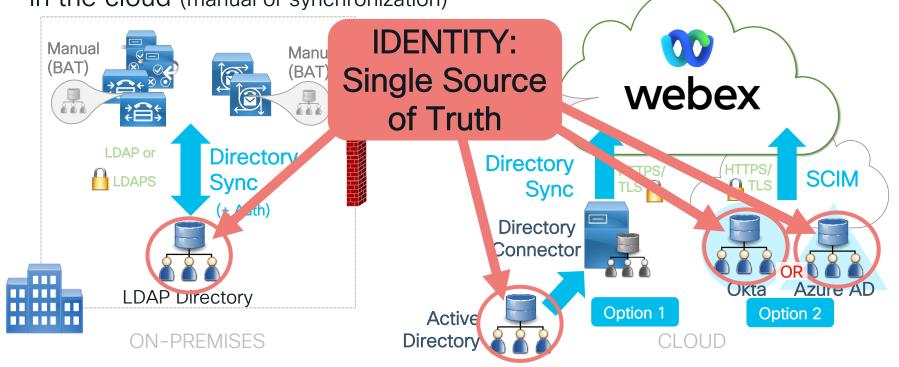




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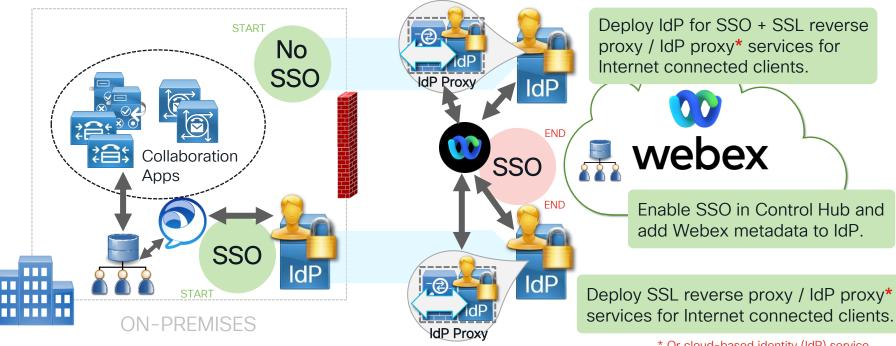


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Identity & Auth: Single Sign-On (SSO)



Enable SAML SSO and enroll your Webex org with IdP during migration to ensure seamless operation for users.



IdP = Identity Provider

* Or cloud-based identity (IdP) service.



Encryption and Network Considerations



Encryption and Network Considerations



Encryption is a method of <u>securing digital data</u> with a <u>mathematical encoding algorithm</u> to <u>prevent alteration</u>, <u>tampering</u>, and <u>unauthorized access</u>.

- Is data encrypted in transit and at rest?
- Are <u>advanced encryption ciphers</u> available & negotiated?

Network security refers to <u>securing data transport</u> and <u>protecting</u> the transport infrastructure* as well as the <u>data</u> it carries from <u>misuse or unauthorized change</u>.



- How do devices and clients connect to services?
- What traffic must be allowed through the firewall/proxy?

^{*} From network edge to data center and extended to include remote users/devices and cloud service access.



Encryption & Network: On-Prem v. Cloud



On-Premises Collaboration





Media/signaling encryption: Optional, but recommended (SIP TLS / SRTP)



Media/signaling encryption: Mandatory and automatic (HTTPS / SIP TLS / SRTP)



Encryption ciphers (on-prem and cloud):

Signaling (TLS 1.2/1.3) → AES_256_GCM_SHA384 or AES_128_CBC_SHA

Media (SRTP) →
AEAD_AES_256_GCM or
AES_CM_128_HMAC_SHA1



Certificates:



- » Endpoints: MIC on devices, LSC optional.
- » Validation by servers/devices, not clients.



Certificates:

- » Cloud services: Public CA-signed.
- » Endpoints: MIC on devices
- » Validation everywhere.



Firewall/proxy: Optional, limited need (no FW traversal, or Expressway MRA)

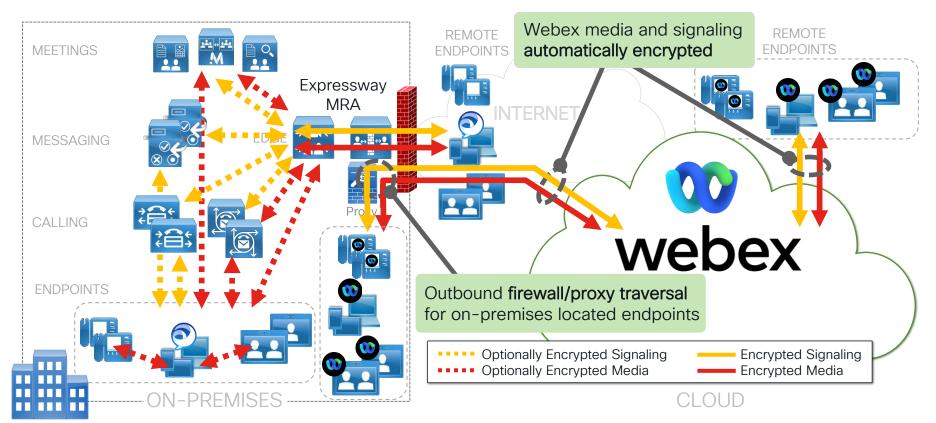


Firewall/proxy: <u>Required</u> and extensive – ports, protocols, URLs (signaling) / IP addresses (media)



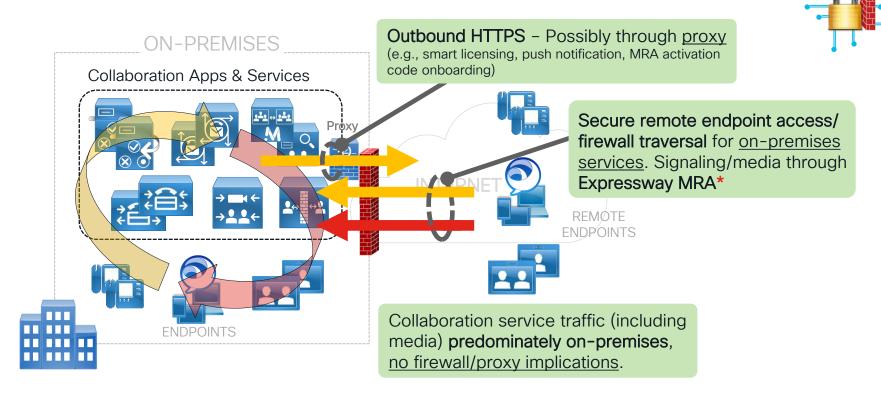
Encryption & Network: Secure Signaling & Media







Encryption & Network: On-Prem - Firewall/Proxy

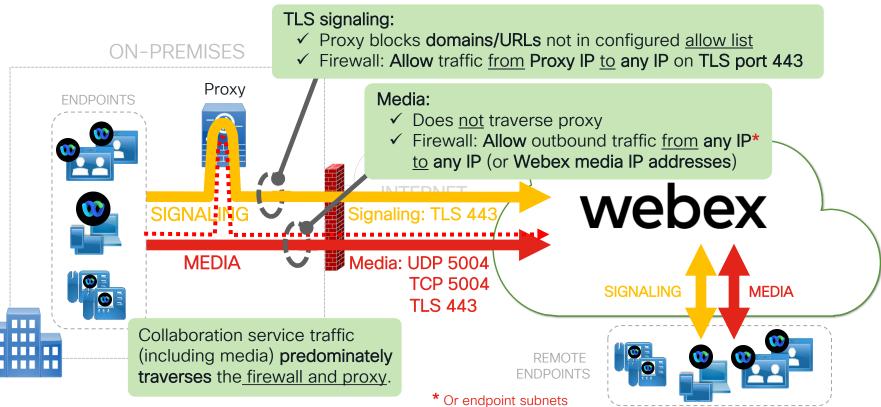






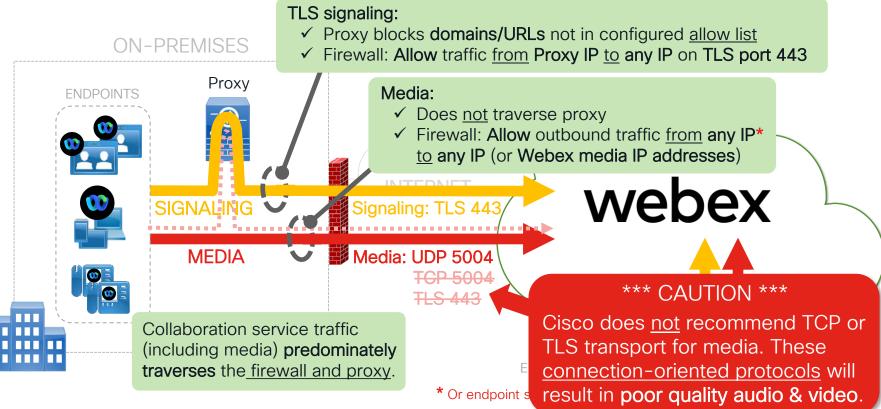
Encryption & Network: Cloud - Firewall/Proxy





Encryption & Network: Cloud - Firewall/Proxy





cisco life!

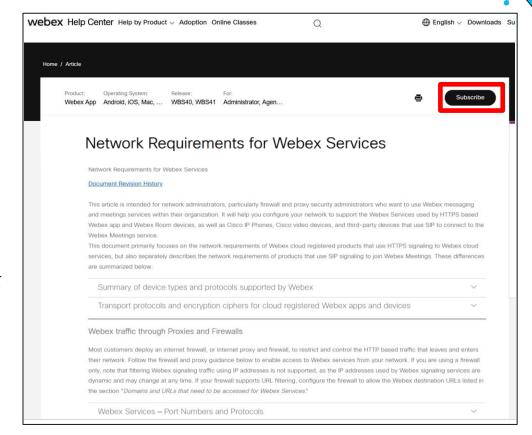
Encryption & Network: Network Requirements

What are the **Webex media IP** addresses that should be <u>allowed</u> through the firewall?

What **domain**s should be <u>allowed</u> through the proxy for proper Webex operations?

For answers to these questions and for more information about Webex services network requirements, refer to the *Network Requirements for Webex Services* article available at

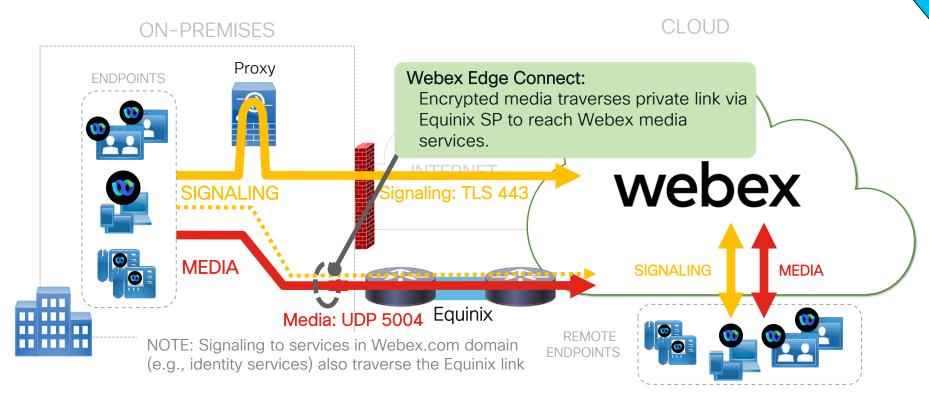
https://help.webex.com/enus/article/WBX000028782/Network-Requirements-for-Webex-Services





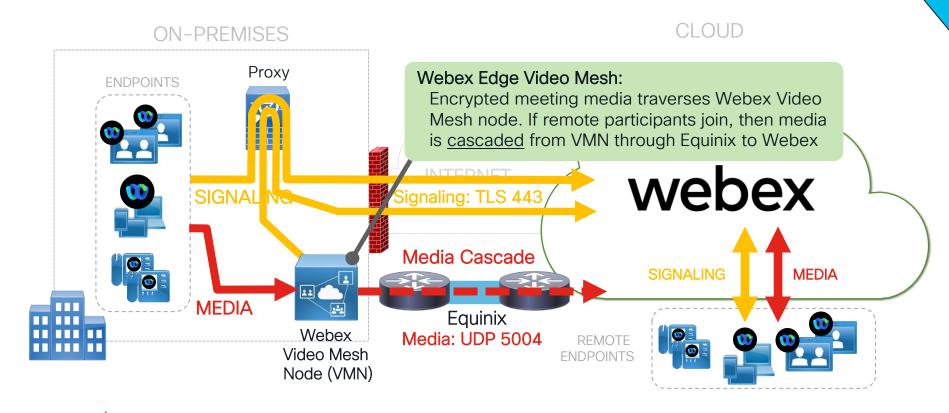
Encryption & Network: Webex Edge Connect







Encryption & Network: Webex Edge Video Mesh





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Compliance and Data Control



Compliance and Data Control

Compliance refers to:



- 1. Data control compliance
 - » Is your data protected from loss or unauthorized access?
- 2. Product or service compliance
 - » How can you trust the products/ services in use adhere to appropriate industry and security standards?

Independent 3rd party audits/ certification



Data control is the ability for an organization to protect its data from unauthorized access and loss. In some cases, data protection is **compulsory for organizations** due to <u>legal</u>, <u>financial</u>, and/or corporate policies and regulations.



Compliance & Data Control: On-Prem v. Cloud

On-Premises Collaboration



Data control generally <u>optional</u> – org data typically does <u>not</u> leave org premises. (Exception: federated messaging)





Data control mandatory – org data travels outside the premises and resides in the cloud. Messaging is federated by default.



Data logging/archiving of org and user generated content is optional.*



Data logging/archiving of org and usergenerated content is <u>automatic</u>.



Data archiving and loss prevention (DLP) integrations with databases and 3rd party products are <u>available</u>.



Data archiving and loss prevention (DLP) integrations with 3rd party products are highly recommended.



On-premises compliance certification /attestation (FIPS, CC, PCI)



Cloud compliance certification/attestation (ISO, SOC, CSTAR, C5, FedRAMP, pen tests, etc.)



* Unless required by regulation/policy

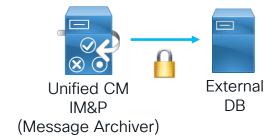
Data Control: On-Premises Messaging



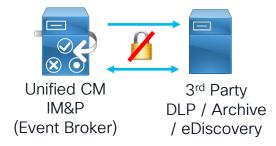
Data Loss Prevention (DLP) allows orgs to control & protect data

Optional on-premises DLP controls available with Jabber and Unified CM:

 Message Archiver – Non-blocking compliance logging (requires external DB – PostgreSQL, Microsoft SQL, or Oracle)



• 3rd party compliance - Blocking compliance and archiving/logging with compliance profiles and profile routing priority.





Data Control: Cloud Messaging

Replicate on-prem data controls in the cloud

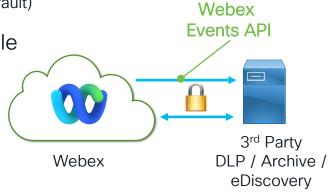
Webex supports DLP controls for Webex messaging:

 Automatic, federated persistent messaging with indefinite retention in the cloud. Even if no on-prem data control compliance is required, data control in the cloud is highly recommended-post migration.

 Granular configuration for controlling or blocking: file sharing, external communication, anti-malware (all allowed by default)

 Native eDiscovery Search and Extraction tool available for space activities, messages, and files.

 3rd party compliance: Integrations via the Webex Events API enabling integration with various DLP (blocking compliance), eDiscovery (search & extraction, legal hold), and Archival (logging) products.





Compliance & Data Control: Certifications



Work with organization's Infosec team or compliance office to review compliance certification for cloud service provider(s) prior to migration

- Because organization data will now traverse and reside off-premises in the cloud, ensuring a cloud service provider meets compliance standards and certifications required by the organization is a <u>critical pre-migration step</u>.
- Compliance certifications and standards audit reports/attestations contain detailed information and validation of a vendor's cloud service operations, information security procedures, and data protection methods.
- Compliance certification is based on independent 3rd party audits using industry standard information security frameworks and methodologies.
 Certification provides <u>assurances that an organization's data is secure</u>.

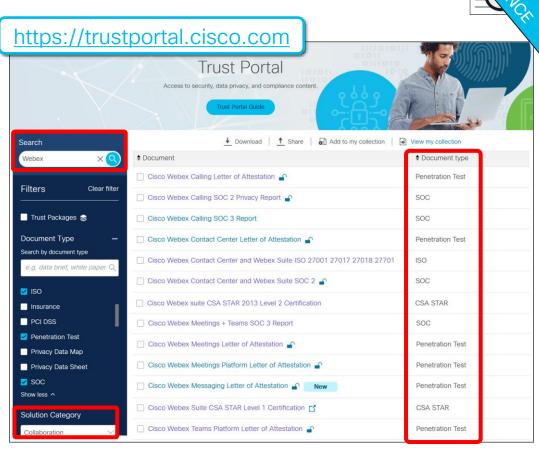


Compliance & Data Control: Certifications

Annual standards certifications/ attestations & penetration tests by 3rd party auditors/testers.

- ✓ ISO 27001 Information Security (International Organization for Standardization)
- ✓ SOC 2/3 (System and Organization Control)
- ✓ CSA STAR (Cloud Security Alliance Security, Trust, and Assurance Registry)
- ✓ C5 (Cloud Computing Compliance Criteria Catalogue)
- ✓ And more...

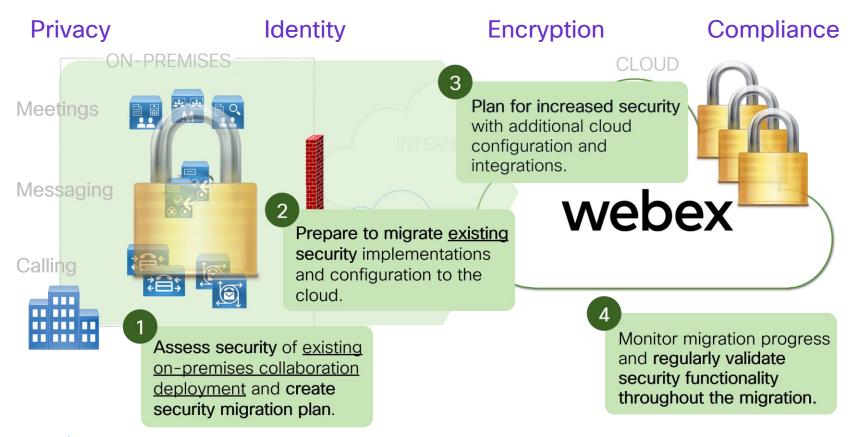




Conclusion



Collaboration Security





Key Takeaways

- Cloud deployments are <u>inherently less</u> <u>private and more open</u>; however, encryption and data protection capabilities are <u>generally more advanced</u>.
- Understand how Cisco secures personal and organizational data in the cloud and where your data resides.
- Determine the best option for <u>syncing</u> <u>user identity to Webex</u> and consider deploying <u>single sign-on</u> (SSO).
- Prepare to <u>update firewall and proxy</u> <u>configuration</u> to <u>accommodate Webex</u> <u>services</u> in your deployment.
- Replicate existing on-premises data control configuration and integrations to ensure organization data remains protected.

References

Collaboration Transitions

https://www.cisco.com/go/ct

Directory Connector Deployment Guide

https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cloudCollaboration/spark/hybridservices/directoryconnector/cmgt_b_directory-connector-guide-admins.html

 Synchronize Azure Active Directory / Okta users into Control Hub

> https://help.webex.com/enus/article/6ta3gz/Synchronize-Azure-Active-Directory-users-into-Control-Hub

https://help.webex.com/enus/article/nmm9pzdb/Synchronize-Okta-users-into-Control-Hub Network Requirement for Webex Services

https://help.webex.com/enus/article/WBX000028782/Network-Requirementsfor-Webex-Services

 Port Reference Information for Cisco Webex Calling

https://help.webex.com/en-us/article/b2exve/Port-Reference-Information-for-Cisco-Webex-Calling

• DLP / eDiscovery / Archive

https://help.webex.com/enus/article/nmbm0jk/Webex-App-integration-witharchiving-and-data-loss-prevention-solutions

Cisco Trust Portal

https://trustportal.cisco.com/



Technical Session Surveys

- Attendees who fill out a minimum of four session surveys and the overall event survey will get Cisco Live branded socks!
- Attendees will also earn 100 points in the Cisco Live Game for every survey completed.
- These points help you get on the leaderboard and increase your chances of winning daily and grand prizes.



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Award-winning certification program empowers students and IT Professionals to advance their technical careers

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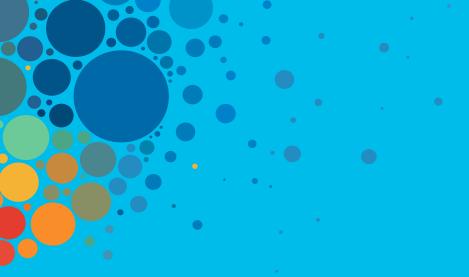
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- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at www.CiscoLive.com/on-demand

Related Sessions This Week (1 of 2).

Collaboration Security:

- BRKCOL-2007a Authentication, Authorization
 & Provision for Cisco Collaboration Part 1
- BRKCOL-2007b Authentication, Authorization
 & Provision for Cisco Collaboration Part 2
- BRKCOL-2057 Understanding Network Security Requirements for Webex Traffic*
- BRKCOL-2876 Securing Webex Meetings Privacy, Confidentiality & Security options for meetings in a virtual world





Related Sessions This Week (2 of 2)

Collaboration Migrations:

- BRKCOL-2245 Webex Migration Readiness
 Calling, Messaging & Meetings*
- BRKCOL-2029 Journey to Cloud Webex Edge for Devices
- BRKCOL-2481a Successful Migrations from Unified CM to Webex Calling - Part 1
- BRKCOL-2481b Successful Migrations from Unified CM to Webex Calling - Part 2







Thank you





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