

Study guide for Exam MS-721: Collaboration Communications Systems Engineer

Purpose of this document

This study guide should help you understand what to expect on the exam and includes a summary of the topics the exam might cover and links to additional resources. The information and materials in this document should help you focus your studies as you prepare for the exam.

Useful links	Description
How to earn the certification	Some certifications only require passing one exam, while others require passing multiple exams.
Certification renewal	Microsoft associate, expert, and specialty certifications expire annually. You can renew by passing a free online assessment on Microsoft Learn.
Your Microsoft Learn profile	Connecting your certification profile to Learn allows you to schedule and renew exams and share and print certificates.
Passing score	A score of 700 or greater is required to pass.
Exam sandbox	You can explore the exam environment by visiting our exam sandbox.
Request accommodations	If you use assistive devices, require extra time, or need modification to any part of the exam experience, you can request an accommodation.

Objective domain: skills the exam measures

Some exams are localized into other languages, and those are updated approximately eight weeks after the English version is updated. Other available languages are listed in the **Schedule Exam** section of the **Exam Details** webpage. If the exam isn't available in your preferred language, you can request an additional 30 minutes to complete the exam.

Note

The bullets that follow each of the skills measured are intended to illustrate how we are assessing that skill. Related topics may be covered in the exam.

Note

Most questions cover features that are general availability (GA). The exam may contain questions on Preview features if those features are commonly used.

Skills measured

Audience profile

Candidates for this exam are responsible for planning, deploying, configuring, maintaining, and troubleshooting Microsoft Teams Phone, meetings, and personal and shared space devices, including Teams Rooms and Microsoft Surface Hub.

Collaboration communications systems engineers have a fundamental understanding of networking, telecommunications, audio/visual and meeting room technologies, and identity and access management. They are proficient in managing and monitoring Teams Phone, meetings, and certified devices by using the Microsoft Teams admin center, PowerShell, the Microsoft Teams Rooms Pro Management portal, and the Microsoft Call Quality Dashboard. They deploy and configure Teams Phone with PSTN connectivity through Teams Calling Plans, Operator Connect, Teams Phone Mobile, and Direct Routing.

Collaboration communications systems engineers work with Teams administrators, Microsoft identity and access administrators, and Microsoft 365 administrators. In addition, they may work with owners of other workloads, including facilities managers, network engineers, security engineers, device manufacturers, telephony providers, and Microsoft Certified solution providers.

- Plan and design collaboration communications systems (30–35%)
- Configure and manage Teams meetings and events (10–15%)
- Configure and manage Teams Phone (35–40%)
- Configure and manage Teams Rooms and devices (15–20%)

Plan and design collaboration communications systems (30–35%)

Plan and design Teams meetings

- Plan and design Teams meeting policies and settings
- Plan for PSTN audio conferencing
- Plan for Teams live events
- Compare capabilities and features of Teams Core and Teams Premium
- Recommend meeting types based on business requirements (virtual appointments, webinars, live events, and Teams meetings)
- Design Teams policy packages (includes meeting policies, calling policies, and live events policies)

- Recommend methods for assigning policies

Plan and design Teams Phone and PSTN connectivity

- Identify licensing requirements to enable Teams Phone for users, shared devices, and Teams resource accounts
- Identify PSTN connectivity requirements
- Plan for Teams Phone Mobile
- Plan for Operator Connect
- Plan for Communication Credits
- Plan usage scenarios for service and user phone numbers
- Choose between porting and acquiring phone numbers
- Plan a solution to acquire or port phone numbers
- Recommend Teams Phone devices
- Plan for and recommend analog devices, SIP handsets, and SIP devices
- Recommend when to use Survivable Branch Appliances (SBAs)
- Plan and design Direct Routing call flows
- Recommend a Session Border Controller (SBC) solution based on PSTN connectivity
- Identify an appropriate compliance recording solution
- Identify an appropriate certified contact center solution
- Plan for SBC and SBA updates

Plan and design Teams-certified device solutions

- Recommend a room configuration based on the meeting space
- Recommend a room configuration based on customer and business requirements
- Compare capabilities and features of Teams Rooms Basic and Teams Rooms Pro
- Recommend a Teams Rooms device platform (Android vs. Windows vs. Surface Hub)
- Recommend Teams-certified devices
- Recommend Teams Rooms certified components
- Recommend when to use coordinated meetings
- Recommend when to use Cloud Video Interop (CVI) or Direct Guest Join
- Identify the requirements for a Microsoft Exchange Online resource account
- Identify the enrollment requirements for Microsoft Intune
- Plan for advanced features on shared devices

Prepare the network for the deployment of Teams

- Perform a network analysis by using the Microsoft Teams Network Assessment Tool
- Determine network readiness for Teams
- Determine eCDN requirements for Teams live events
- Specify the network configuration for certified devices
- Determine network requirements by using the Network planner for Teams

- Specify the optimal network architecture for Teams
- Specify Teams Quality of Service (QoS) requirements and policies
- Validate local internet breakout strategy for client media optimization
- Validate VPN split tunneling
- Validate DNS resolves to the nearest point of entry in Microsoft 365
- Configure Teams for QoS
- Configure Media Bit Rate (MBR)
- Create and assign a network roaming policy
- Configure the network topology
- Configure tenant data upload for the Microsoft Call Quality Dashboard
- Configure Microsoft Power BI reports for the Microsoft Call Quality Dashboard
- Configure reporting labels for Call Analytics

Troubleshoot call failures and session quality

- Troubleshoot a missing dial pad
- Troubleshoot calling issues by using self-help diagnostics in the Microsoft 365 admin center
- Troubleshoot Azure AD sign-in issues for Teams phones
- Interpret Teams media flows
- Troubleshoot tenant dial plans by using regular expressions and PowerShell
- Interpret E.164 normalization rules to resolve dialing issues
- Interpret reverse number lookup to resolve caller ID issues
- Diagnose call failures
- Troubleshoot dynamic emergency address by using client debug logs
- Troubleshoot Teams client media issues by using the Microsoft Remote Connectivity Analyzer for Teams
- Troubleshoot calls by using Advanced Call Analytics
- Troubleshoot calls by using the Microsoft Call Quality Dashboard
- Inspect PSTN usage reports for SIP call failures

Configure and manage Teams meetings and events (10–15%)

Configure and manage Teams meetings

- Create and manage meeting policies
- Configure meeting settings
- Configure and manage Teams webinars
- Configure and manage Teams Premium meeting features
- Create and manage Teams meeting templates

Configure and manage audio conferencing

- Configure audio conferencing for Teams

- Configure a default audio conferencing bridge
- Configure an audio conference bridge number
- Configure a toll-free conference bridge number
- Assign a specific audio conferencing number to a user
- Configure toll-free audio conferencing
- Configure the audio conferencing numbers included in meeting invitations

Configure and manage live events

- Configure the Live events settings
- Create and manage live events policies
- Configure meeting and event roles
- Configure live events with Teams, Yammer, and Microsoft Stream

Configure and manage Teams Phone (35–40%)

Configure Teams Phone policies

- Create a dial plan
- Configure calling policies
- Configure call park policies
- Configure caller ID policies
- Configure call hold policies for users
- Configure outbound call restrictions
- Configure inbound call blocking
- Configure routing of unassigned numbers
- Assign voice policies through policy packages
- Configure compliance recording policies

Configure auto attendants and call queues

- Design call flows for auto attendants and call queues
- Configure auto attendants and call queues
- Deploy channel-based call queues
- Configure resource accounts
- Assign licenses to resource accounts
- Assign phone number to resource accounts
- Assign a resource account to an auto attendant or call queue
- Configure Microsoft 365 groups for voicemail
- Interpret call queue conference mode
- Interpret call queue routing methods
- Configure holidays for auto attendants and call queues
- Configure custom Music on Hold (MoH)

- Assign a dynamic caller ID policy for call queues

Configure dynamic emergency calling

- Design dynamic emergency calling scenarios
- Configure emergency calling locations
- Configure emergency calling policies
- Configure networks and locations (Location Information Service (LIS))
- Validate emergency address and emergency calling from Teams clients
- Enable external location lookup mode

Configure and manage users for Teams Phone

- Assign a Teams Phone Standard license
- Assign a Teams Calling Plan
- Assign user dial plans
- Assign phone numbers to users by using the Microsoft Teams admin center
- Assign phone number to users by using PowerShell
- Assign a verified emergency address location
- Assign a calling policy to a user
- Assign a voice routing policy to a Direct Routing user

Configure and manage calling features for Teams Phone

- Configure voicemail for users
- Configure group call pickup for users
- Configure Call Forwarding
- Configure Simultaneous Ring
- Configure call delegation for users
- Enable and configure audio conferencing for a user
- Assign a Dial-out from meetings policy for a user
- Assign a call hold policy for a user

Configure and manage Direct Routing for Teams Phone

- Configure connectivity for Teams Phone to a SBC
- Create and configure an online PSTN gateway
- Create PSTN usage records
- Create and configure a voice route
- Create and configure voice routing policies
- Validate Direct Routing SBC connectivity
- Troubleshoot firewall issues for Direct Routing
- Troubleshoot certificate issues for Direct Routing
- Troubleshoot Direct Routing SBC connectivity

- Troubleshoot SIP option issues for Direct Routing
- Investigate and diagnose calling issues by using an SBC SIP trace
- Design and configure Location-Based Routing (LBR)
- Design and configure Local Media Optimization (LMO)
- Configure trunk translation rules
- Configure on-network conferencing for Direct Routing
- Configure an SBA

Configure and manage Teams Rooms and devices (15–20%)

Maintain Teams Rooms and devices

- Configure device settings
- Configure IP phone policies
- Configure local network settings
- Configure security and updates
- Configure meeting room settings by using the Microsoft Teams admin center or the local Teams application settings
- Create and configure device configuration profiles
- Manage Teams Rooms from the Microsoft Teams Rooms Pro Management portal
- Configure Intune policies for Teams devices
- Enable advanced voice capabilities for shared space devices
- Deploy common area phones
- Create and manage Teams device tags
- Deploy Android devices remotely
- Configure SIP Gateway
- Monitor Teams device health
- Troubleshoot authentication issues
- Troubleshoot update issues
- Troubleshoot remote provisioning issues
- Troubleshoot Bluetooth beaconing

Configure and manage Teams Rooms on a Surface Hub or Windows

- Configure the authentication type during a Surface Hub out-of-box -experience (OOBE) setup
- Configure meeting room settings on a Surface Hub device
- Create and validate a Surface Hub provisioning package
- Assign a provisioning package to a Surface Hub
- Specify domain group policy exclusions for Teams Rooms on Windows
- Configure custom displays for Teams Rooms on Windows
- Customize meeting room settings by using XML files on Windows
- Configure settings for peripherals for Teams Room on Windows

Configure optional features for Teams Rooms and devices

- Configure HDMI ingest and options
- Configure a content camera
- Configure Teams casting
- Auto accept a proximity join
- Allow room remote
- Configure an intelligent speaker
- Configure Direct Guest Join
- Configure hot desking on Teams shared devices

Study resources

We recommend that you train and get hands-on experience before you take the exam. We offer self-study options and classroom training as well as links to documentation, community sites, and videos.

Study resources	Links to learning and documentation
Get trained	Choose from self-paced learning paths and modules or take an instructor-led course
Find documentation	Microsoft Teams admin documentation Microsoft 365 documentation
Ask a question	Microsoft Q&A Microsoft Docs
Get community support	Microsoft Teams Microsoft 365 - Microsoft Tech Community
Follow Microsoft Learn	Microsoft Learn - Microsoft Tech Community
Find a video	Exam Readiness Zone