SmartTAP™ 360° Live Enterprise Recording Solution

Hardware and Software Requirements Version 5.3

1 Introduction

This document describes the hardware and software requirements for installing SmartTAP 360° Live Enterprise Recording Solution for the following integrations:

- Microsoft Teams
- Other Integrations including Skype for Business and Microsoft Lync

Note: Microsoft rebranded *Lync* as *Skype for Business*, therefore when the term *Skype for Business* appears in this document, it also applies to Microsoft Lync. References to Microsoft Teams are explicitly indicated.

2 SmartTAP 360° Live for Microsoft Teams Requirements

This section describes the recommended specifications for SmartTAP 360° Live Recording solution for Microsoft Teams through the Microsoft policy-based API. SmartTAP 360° Live for Microsoft Teams can record Voice, Video, Screen Sharing and Instant Messaging for internal, PSTN and Federated calls.

Certified for Microsoft Teams

https://docs.microsoft.com/en-us/microsoftteams/teams-recording-policy

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Note: SmartTAP SIPRec integration is supported when using the Teams SBC for recording PSTN calls. For details, see Section SmartTAP SIPRec Deployment in Azure Minimum Specifications.

2.1 SmartTAP Server

- Operating System: Microsoft Windows Server 2016 or Microsoft Windows Server 2019
- SmartTAP server with the specifications below can handle up to 3000 targeted users and 500 concurrent audio call recordings:
  - Virtual Machine: Tier=Standard, Instance=DS2 v2 (2 vCPUs, 7 GB RAM, 14 GB Temporary storage)
  - Virtual Machine: Tier=Standard, Instance=DS3 v2 (4 vCPUs, 14 GB RAM, 28 GB Temporary storage) - recommended
- SmartTAP server with the specifications below can handle up to 3000 targeted users and a combination of 500 concurrent audio, video and screen sharing call recordings.
  - Virtual Machine: Tier=Standard, Instance=F8s v2 (8 vCPUs, 16 GB RAM, 64 GB Temporary storage)
- SmartTAP server with the specifications below can handle up to 100 targeted users and 20 maximum concurrent audio call recordings. Post recording features for the below machine specifications are limited to basic playback and download. In case of a maximum recording levels of 20 concurrent audio calls, the playback and download of recordings may be delayed or take a longer time to complete. Use the machine for average loads that are not higher than 10 audio concurrent recordings and for Proof-of-Concepts (POCs).
  - Virtual Machine: B2MS 2 vCPUs, 8 GB RAM
- An additional managed disk is required for database storage. The estimated size of the required disk can be calculated using the SmartTAP storage calculator (see Server Requirements below). The additional managed disk is not required for POC if the SmartTAP Server's OS disk has sufficient space to hold the database. The disk should be a premium SSD managed disk.
- For SmartTAP Server specifications when deployed On-premises other than Azure cloud, please consult with the SmartTAP support team.

2.2 Microsoft Teams Bot Cluster

- **Azure Service Fabric Cluster:** Azure Service Fabric Cluster with Silver Durability with a minimum of 5 nodes and maximum of 10 nodes (for testing or POCs, Bronze Durability with 1 or 3 nodes can be used) is required:
  - Virtual Machine: Tier=Standard, Instance=DS2 V2 or D2 V2 (2 vCPUs, 7 GB RAM)
  - Windows Server 2019 Data center - with Containers

  For more information, refer to Microsoft Service Fabric Cluster.

Service Fabric Cluster Concurrent Calls Recordings Table

Media in a Call	Maximum total Calls per vCPU
Voice	25
Voice and video (p2p or group calls up to 4 streams)	4
Voice and screen sharing	15

- **Azure Standalone Cluster:** Standalone cluster including one of the VM specifications below:
  - Virtual Machine: Tier=Standard, Instance=DS2 V2 (2 vCPUs, 7 GB RAM)
  - Virtual Machine: Tier=Standard, Instance=DS3 v2 (4 vCPUs, 14 GB RAM)
  - Virtual Machine: Tier=Standard, Instance=DS4 v2 (8 vCPUs, 28 GB RAM)

Standalone Cluster Concurrent Calls Recordings Table

Media in a Call	Maximum total Calls per vCPU
Voice	40
Voice and video (p2p or group calls up to 4 streams)	8
Voice and screen sharing	25

- **Additional mandatory Azure resources:**
  - Deployed in Service Fabric Cluster:
    - Load Balancer for Bot Service Fabric Cluster
    - Virtual Machine ScaleSet – VMs for Bot Service Fabric Cluster
  - Public IP address for the Load Balancer (for Load Balancer in case of SFC)
  - Key Vault to store Bot Service Fabric Cluster certificates
  - Microsoft Azure Blob Storage
- **Optional Azure resources:**
  - Application Insights to store Bot logs
  - App Configuration to store Bot configuration

2.3 Microsoft Teams Instant Message Service/CD-Live component (Beta version for POC)

- Installed as a component of the SmartTAP server on Azure (Ds2 V2 2 vCPUs, 7 GB RAM or higher)
- Installed as a Standalone VM on Azure (B2MS 2 vCPUs, 8 GB RAM)

  Note: CD-Live cannot be installed On-premises

2.4 SmartTAP for Microsoft Teams Availability

SmartTAP for Microsoft Teams availability is based on Azure Virtual Machines (VM) Service Level Agreement (SLA):

- SmartTAP Server on Azure VM - SLA is 99.9% for one instance and 99.99% can be achieved by deploying the two servers in different Availability Zones (optionally available at extra cost). Refer to Azure VM SLA.
- SmartTAP 360° Teams BOT on Azure VM - SLA 99.9% (99.95% Service Fabric Cluster). Refer to Azure VM SLA.
- SmartTAP 360° Media on Azure BLOB – SLA is 99.9% for Hot tier, and 99% for Cool Tier. Refer to Azure Blob Storage SLA
- The durability of Azure BLOB using Locally Redundant Storage (LRS) is 11 nines. Refer to Azure Blob Storage Durability

2.5 SmartTAP 360° for Microsoft Teams Backup/Restore

Azure Virtual Machines (VM) backup/restore procedures are highly recommended.

Note:

- For integrations with third-party applications, a custom specification is required.
- Video and Screen Sharing call recordings are limited to up to two concurrent Video and Screen Sharing recording playbacks or downloads.

3 SmartTAP SIPRec Deployment in Azure - Minimum Specifications

SmartTAP SIPRec recording deployment can be used to record Teams PSTN calls that the SBC or gateway handles. For deployments other than Azure, see Section “Requirements for other Integrations” below.

SmartTAP SIPRec Server:

- B2MS: 2 vCPUs, 8 GB RAM: Low-profile for up to 100 users and 20 concurrent audio calls
- DS2_v2, 2 vCPUs, 7-GB RAM: Low-profile SmartTAP 360° for up to 50 concurrent recordings
- F4s_v2, 4 vCPUs, 8-GB RAM: Middle-profile SmartTAP 360° for up to 150 concurrent audio recordings
- F8s_v2, 8 vCPUs, 16 GB RAM: High-profile SmartTAP 360° for up to 250 concurrent audio recordings.
- An additional managed disk is required for database storage. The estimated size of the required disk can be calculated using the SmartTAP storage calculator (see Server Requirements below). The additional managed disk is not required for POC if the SmartTAP Server’s OS disk has sufficient space to hold the database. The disk should be a premium SSD managed disk.

- **SmartTAP SIPRec availability:** SmartTAP SIPRec availability is based on Azure Virtual Machines (VM) Service Level Agreement (SLA):
  - SmartTAP Server on Azure VM - SLA is 99.9% for one instance and 99.99% can be achieved by deploying the two servers in different Availability Zones (optionally available at extra cost). Refer to Azure VM SLA.
- **SmartTAP SIPRec Backup/Restore:** Azure Virtual Machines (VM) backup/restore procedures are highly recommended.

4 Requirements for other Integrations

This section describes requirements for other integrations including Skype for Business and Microsoft Lync.

4.1 Server Requirements

The following table lists the maximum available resources for three different SmartTAP server profiles and for the Media Proxy and Announcement servers.

Table 2-1: SmartTAP Server

Server	Specification	Available Resources
SmartTAP server (Low Profile)	▪ 2 Core 2.5 GHz ▪ 6 GB Memory ▪ 2 SATA 7200 RPM HDD* ▪ PCIe slots FL / FH2**	50 resources (audio only) 25 resources when Media Proxy Service is installed on the same server (audio only)
SmartTAP server (Medium Profile)	▪ 6 Cores 2 GHz**** ▪ 8 GB Memory ▪ 2 SATA 7200 RPM HDD* ▪ PCIe slots FL / FH2**	150 resources 50 resources when Media Proxy Service is installed on the same server (audio only)
SmartTAP server*** (High Profile)	▪ 12 Core 2 GHz**** ▪ 14 GB Memory ▪ 2 SATA 7200 RPM HDD* ▪ PCIe slots FL / FH2**	▪ 300 resources ▪ 500 audio resources

Server	Specification	Available Resources
Media Proxy server***	▪ Processor: ✓ Quad Core 2 GHz (300 resources) ✓ 8 Core 2 GHz (500 audio resources) ▪ 8 GB Memory ▪ SATA 7200 RPM HDD	▪ 300 resources ▪ 500 audio resources
Announcement server***	▪ Quad Core 2 GHz ▪ 8 GB Memory ▪ SATA 7200 RPM HDD	300 resources (assuming the announcement length does not exceed 20% of an average call length)

* SmartTAP server requires two dedicated HDDs - one for the Windows OS, SmartTAP software and DB and another for the recorded media. The media HDD is required for both local or remote media storage (in the case of remote storage it is used for intermediate storage of the media). When running the SmartTAP Server in a virtual environment, the HDDs has to be dedicated and mapped to SmartTAP server VM.
** PCIe Full Length / Full Height slots. The number of slots required is determined by the number of Analog Stations required to record. Each card can record 24 channels (i.e., 56 Phones will require three PCIe card slots).
*** A group of these servers can be deployed when more than the supported recording capacity in one server is required. An additional high-end server is required to be deployed for the Application Server and Database.

**** Higher CPU speed (higher than 2.0 GHz) is recommended to accelerate download and playback for Video and DAS recorded calls.

Note:

- When running in a virtual environment, all specification resources listed in Table 2-1 must be reserved for all SmartTAP servers.
- Dual GB NIC interfaces are required for VoIP Port Mirroring Integration Configuration (this is not relevant for Skype for Business and SIP Recording).

To determine the server specification, calculate the required available resources. The calculation of the required resources is based on the number of licenses multiplied by one of the factors specified in the table below.

Table 2-2: License Factors

License Type	Factor
Audio Recorder License	1
Video Recorder License	10
Announcement License	1
Video and Screen Sharing	5

- Calculate the required number of resources on the SmartTAP server and the Media Proxy server according to the following formula:

  Required Number of Resources = (Number of Audio Recorder Licenses)*(Audio Recorder License Factor) + (Number of Video Recorder Licenses)*(Video Recorder License Factor) + (Number of Video and Screen Sharing Recorder Licenses)*(Video and Screen Sharing Factor)

  Choose the SmartTAP server and Media Proxy server with the number of available resources equal or higher than the required recording resources.
- Calculate the required number of resources on the Announcement server according to the following formula:

  Required Number of Resources = (Number of Announcement Licenses)*(Announcement License Factor)
- **Example 1:** 100 Audio Recorder Licenses:
  - Required Number of Resources = (100 Audio Recorder Licenses)*(1 Audio Recorder License Factor) = 100
  - Choose Medium Profile SmartTAP server and one Media Proxy server
- **Example 2:** 30 Video Recorder Licenses:
  - Required Number of Resources = (30 Video Recorder Licenses)*(10 Video Recorder License Factor) = 300
  - Choose High Profile SmartTAP server and one Media Proxy server
- **Example 3:** 50 Audio Recorder Licenses and 20 Video Recorder Licenses:
  - Required Number of Resources = (50 Audio Recorder Licenses)*(1 Audio Recorder License Factor) + (20 Video Recorder Licenses)*(10 Video Recorder License Factor)= 50 + 200 = 250
  - Choose High Profile SmartTAP server and one Media Proxy server

- **Example 4:** 40 Audio Recorder Licenses:
  - Required Number of Resources = (40 Audio Recorder Licenses)*(1 Audio Recorder License Factor) = 40
  - Choose either of the following:
    - Medium Profile SmartTAP server with Media Proxy service installed on the SmartTAP server
    - Low Profile SmartTAP server and separate Media Proxy server
- **Example 5:** 200 Audio Recorder Licenses with Announcement:
  - For SmartTAP server and Media Proxy servers:
    - Required Number of Resources = (200 Audio Recorder Licenses)*(1 Audio Recorder License Factor) =200
    - Choose High Profile SmartTAP server and one Media Proxy server
  - For Announcement server:
    - Required Number of Resources = (200 Announcement Licenses)*(1 Announcement License Factor) =200
    - Choose one Announcement server
- **Example 6:** 50 Audio Recorder Licenses and 50 Video and Screen Sharing Recorder Licenses:
  - For SmartTAP server and Media Proxy servers:
    - Required Number of Resources = (50 Audio Recorder Licenses)*(1 Audio Recorder License Factor) + (50 Video and Screen Sharing Licenses)*(5 Video and Screen Sharing License Factor) =300
    - Choose High Profile SmartTAP server and one Media Proxy server

4.2 Supported Microsoft Integrations

- Microsoft Lync Server 2013
- Skype for Business 2015
- Skype for Business 2019
- Microsoft Teams

4.3 Supported Microsoft Windows OSS

- Microsoft Windows Server 2019
- Microsoft Windows Server 2016
- Microsoft Windows Server 2012 R2

4.4 Supported VM Environments

4.4.1 VMware ESXi

- Version 4.1 and later (IP-based integrations only)
- See the *SmartTAP Installation Guide* for instructions on how to enable promiscuous mode required for a SmartTAP system that performs monitoring (tapping) of the network.

4.4.2 Microsoft Hyper-V

- Microsoft Windows Server 2019
- Microsoft Windows Server 2016
- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012 64-bit

Note: Hyper-V does not support promiscuous mode. Do not use in Passive integration environments.

4.5 Active / Standby Resiliency Configuration (Optional)

AudioCodes supports Microsoft™ Windows Clustering in the failover configuration, which provides high available service to the SmartTAP application. To support this type of install, the following is required:

- Two identical Windows servers, which meet the minimum specifications mentioned above
- A SAN (Storage Area Network) with iSCSI support. The SmartTAP cluster requires at least two Internet Small Computer System Interface (iSCSI) targets - one for the disk witness/quorum, and another for the database and shared application data. A 3rd iSCSI target "Optional" is required for the media storage. SmartTAP should not be configured to write the media directly to the 3rd media target; instead, it should be set as Media Transfer Service destination.

5 Windows Updates

- Recommended to disable Automatic Windows updates to prevent unknown side effects.
- Recommended to perform system backup before applying updates.
- AudioCodes only certifies major Service Pack updates.

5.1 Installing Windows Updates

- Schedule a maintenance window. SmartTAP will not be recording during this timeframe.
- Download and install Windows updates.
- Reboot the server even if Windows does not ask you to reboot to finish installing updates.
- Windows may continue installing updates after the system restarts, which may cause instability within SmartTAP.
- Once Windows updates are complete, reboot the server again.