

AudioCodes Direct Routing Survivable Branch Appliances (DR-SBA) for Microsoft Teams



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Notice

Information contained in this document is believed to be accurate and reliable at the time of printing. However, due to ongoing product improvements and revisions, AudioCodes cannot guarantee accuracy of printed material after the Date Published nor can it accept responsibility for errors or omissions. Updates to this document can be downloaded from <https://www.audiocodes.com/library/technical-documents>.

This document is subject to change without notice.

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Security Vulnerabilities

All security vulnerabilities should be reported to vulnerability@audiocodes.com.

WEEE EU Directive

Pursuant to the WEEE EU Directive, electronic and electrical waste must not be disposed of with unsorted waste. Please contact your local recycling authority for disposal of this product.

Customer Support

Customer technical support and services are provided by AudioCodes or by an authorized AudioCodes Service Partner. For more information on how to buy technical support for AudioCodes products and for contact information, please visit our website at <https://www.audiocodes.com/services-support/maintenance-and-support>.

Abbreviations and Terminology

Each abbreviation, unless widely used, is spelled out in full when first used.

Throughout this manual and unless otherwise specified, the term *device* refers to the Microsoft Teams Direct Routing (Direct Routing SBA).

Related Documentation

Document Name
Mediant 800B SBA for Skype for Business Installation and Maintenance Manual
Mediant 1000B SBA for Skype for Business Installation and Maintenance Manual
Microsoft Teams Direct Routing SBA Installation and Maintenance Manual

Document Revision Record

LTRT	Description
33460	Initial document release
33461	Version 1.0.112
33462	Update to Teams Direct Routing SBA update procedure
33463	Version 1.0.131
33464	Version 1.0.135
33465	Updated Known and Resolved constraints.
33466	Version 1.0.140
33467	Version 1.1.001
33468	Version 1.1.002
33469	Version 1.1.003 and 1.1.005
33470	Version 1.1.007
33471	Version 1.1.008 and Version 1.1.009
33472	Version 1.1.018
33473	Version 1.1.020

Documentation Feedback

AudioCodes continually strives to produce high quality documentation. If you have any comments (suggestions or errors) regarding this document, please fill out the Documentation Feedback form on our website at <https://online.audiocodes.com/documentation-feedback>.

1 Introduction

This document describes the new features, known constraints, and resolved constraints of AudioCodes Direct Routing Survivable Branch Appliance (Direct Routing SBA) for Microsoft Teams.

1.1 Software Revision Record

The following table lists the Direct Routing SBA versions.



- You can download the software versions from AudioCodes' [Services Portal](#) (registered Customers only).
- You can download the latest software update version of the web-based management interface from https://downloads-audiocodes.s3.amazonaws.com/Download/AC_Teams_SBA_upgrade.html.
- You can download the Virtual SBA from https://downloads-audiocodes.s3.eu-central-1.amazonaws.com/Download/Virtual_Teams_DR_SBA.html

Table 1: Software Revision Record

Software Version	Released Date
1.1.020	April 2025
1.1.018	January 2025
1.1.009	September 2024
1.1.008	August 2024
1.1.007	July 2024
1.1.005	November 2023
1.1.003	November 2023
1.1.002	October 2023
1.1.001	July 2023
1.0.140	April 2023
1.0.135	June 2022
1.0.131	May 2022
1.0.126	February 2022
1.0.125	January 2022
1.0.112	May 2021
1.0.023	January 2021

2 New Features

This section describes the new features introduced in this version.

2.1 Software Update 1.1.020

- New Microsoft service version 2025.2.5.1.

2.2 Software Update 1.1.018

- New PHP version 8.1.31.
- New Microsoft service version 2024.12.18.1.
- Security bug fixes.
- Supporting voice application through GUI.
- SBA now supports token expiry up to 7 days (detailed explanation in Administrators Manual).

2.3 Software Update 1.1.009

- New Microsoft service version 4.8.15.1.

2.4 Software Update 1.1.008

- New Microsoft service version 2024.7.26.2:

Blind Transfer in Survivability State

1. User A calls User B either via PSTN or VoIP (from outside or within the SBA site).
2. User B picks up the call and establishes a connection.
3. User B needs to redirect the call to User C and uses the Teams client to transfer the call.
4. PSTN calls are transferred as PSTN calls, and VoIP calls are transferred as VoIP calls.
5. The call is immediately transferred to User C, ending the call session for User B.
6. User C receives an incoming call prompt and can choose to answer or ignore the call.

- **Dead air:**

With current architecture during transfer there is no ring back tone or music on hold from the SBA side during the transfer. If SBC does not play tones for PSTN calls, transferees will experience "dead air." For VoIP calls, only the Teams client can provide audio; otherwise, it is "dead air."

- **Not Supported:**

Forward on Transfer.

Call Forwarding in Survivability State

1. User A calls User B either via PSTN or VoIP (from outside or within the SBA site).
2. User B has a call forwarding configuration that redirects all incoming calls to another phone number or Teams user.
3. Incoming calls are immediately redirected to the specified target.

- **Supported:**

- ◆ forwarding to a single target (Teams user or PSTN number).
- ◆ Unanswered call forwarding is supported for a single target.
- ◆ Unanswered calls include calls not picked up during the timeout or if the target is busy. No other options are supported.

- **Not Supported:**
 - ◆ Voicemail, call delegation, and call groups are not supported. Call forwarding does not work during blind transfer or CQ/AA.
- **CQ/AA (Voice App)**
 1. Tenant Admin can configure on-premises agents (Teams user in username@company.domain format or user's number, or external PSTN number) per CQ or AA number.
 2. Configuration is done in the SBA configuration file, not via the SBA Web interface.
 3. User A calls a CQ/AA number via PSTN or VoIP (from outside or within the SBA site). The call is redirected to a specific phone number or Teams user attached to User B within the site based on predefined configuration.
 4. User B receives an incoming call prompt and can choose to answer or ignore the call.
 5. For each CQ/AA number, a fallback number/user can be defined in case the agent does not answer.
 - Supported:
 - ◆ One agent per CQ/AA number (this SBA version supports only a 1:1 mapping).
 - Not Supported:
 - ◆ Simultaneous ringing.
- **No ICMP to microsoft.com**
 - The new Microsoft DR SBA version does not use ping to microsoft.com. Instead, it checks TCP connectivity (Port 5061) to sip.pstnhub.microsoft.com, sip2.pstnhub.microsoft.com, and sip3.pstnhub.microsoft.com. Connectivity to at least one of these endpoints is sufficient.
- Bug fixes

2.5 Software Update 1.1.007

- New PHP version 8.1.29

2.6 Software Update 1.1.005

- Support for single-sign on (SSO) to DR-SBA from OVOC Web interface.
- Bug fixes (GUI issues).

2.7 Software Update 1.1.003

- Bug fixes.

2.8 Software Update 1.1.002

- New PHP version 8.1.23.

2.9 Software Update 1.1.001

- New Microsoft service version 2023.5.9.2:
 - Point-to-point VoIP calling during outage if both call participants have assigned PSTN numbers and connected to the same SBA instance. (Otherwise, it's a regular Teams-to-PSTN call).

- Critical security update.
- Bug fixes.
- New PowerShell for Microsoft Teams version 5.3.0.
- PowerShell AD removed.
- Bug fixes.

2.10 Software Update 1.0.140

- New PHP version 8.1.13.
- GUI improvements for the certificate screen (**SETUP > Direct Routing SBA Certificate**).

2.11 Software Update 1.0.135

- New MSI file for Microsoft service version 2.6.3.1:
 - Issue resolved regarding incoming PSTN call disconnection when more than one client is connected for same user.
 - Issue resolved regarding certificate validation between SBA and Teams cloud.
- OVOC support (OVOC cloud over WebSocket).

2.12 Software Update 1.0.131

New MSI file for Microsoft service version 2.5.3.1 - this new version from Microsoft fixes the PSTN calls that got 480 from SBA when internet was down.

2.13 Software Update 1.0.130

- New MSI file for Microsoft service Microsoft.Teams.SBA.Setup - 2022.2.10.10

2.14 Software Update 1.0.127

- Bug Fixes

2.15 Software Update 1.0.125

- Setup script - stop Microsoft service will delete the data and cache files

2.16 Software Update 1.0.123

- New MSI file for Microsoft service Microsoft.Teams.SBA.Setup - 1.11.10.1 (certificate fix)
- New version for service TeamsSbaConfigSetup – version 1.0.124.51570
- New PHP version 7.4.27

2.17 Software Update 1.0.121

- New PHP version 7.4.21
- New version for service MainAgent 3.0.2.49551
- New version for service AlarmsAgent 3.0.4.50193
- New version for service TeamsSbaConfigSetup - 1.0.121.50447

- WebAdmin - fixed bar alarm when Logged in as local user and the SBA in the domain
- Microsoft service version number added to version tooltip

2.18 Software Update 1.0.120

- New MSI file for Microsoft service Microsoft.Teams.SBA.Setup - 2021091902
- New version for service MainAgent 3.0.1.49457

2.19 Software Update 1.0.116

- New MSI file for Microsoft service Microsoft.Teams.SBA.Setup - 2021-02-01
- New version for service AlarmsAgent 3.0.0.49281
- New version for service TeamsSbaConfigSetup - 1.0.109.49443

2.20 Software Update 1.0.112

2.20.1 Direct Routing Survivable Branch Virtual Appliance

This release includes the offering of the Teams – Direct Routing Survivable Branch Virtual Appliance (Direct Routing SBA) for deployment on VMware and HyperV platforms.

2.20.2 PHP version 7.4.16

This release includes PHP version 7.4.16.

2.20.3 Teams PowerShell 2.0.0

The SBA now runs on Teams PowerShell (2.0.0) instead of Skype for Business Online PowerShell.

2.20.4 Improved Wizard Start Time

The time taken by the SBA wizard to start the collection of information including SBC information has been reduced.

2.20.5 Add to Web GUI Microsoft SBA Service Logs

A new Tools menu option has been added has to display/download Microsoft SBA service logs.

The screenshot shows the Audiocodes Web GUI interface. The top navigation bar includes 'SETUP', 'MONITOR', and 'TOOLS' (highlighted). The left sidebar shows 'DIRECT ROUTING SBA TOOLS' with a 'TOOLS' sub-menu. The main content area is titled 'Direct Routing SBA Logs' and includes a 'Display last 10 rows' dropdown. Below this, there is a 'Last Log' section showing 'SBA.log' with 'Show' and 'Download' buttons. An 'Archive' table lists logs with columns 'Date', 'Name', and buttons for 'Show' and 'Download'.

Date	Name	Show	Download
2021/05/21 15:59:14	SBA_2021_05_21_15_59_14.log	Show	Download
2021/05/21 14:59:14	SBA_2021_05_21_14_59_14.log	Show	Download
2021/05/21 13:59:13	SBA_2021_05_21_13_59_13.log	Show	Download

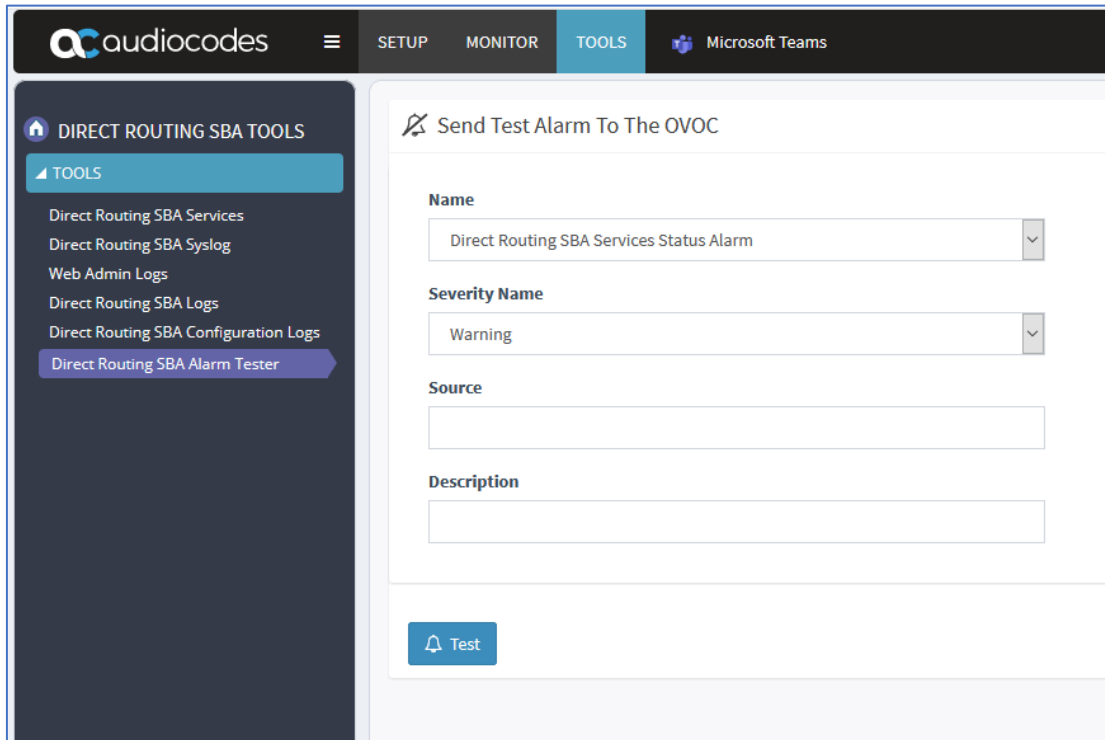
2.20.6 Display the Microsoft SBA Engine Version

The Microsoft SBA engine version is now displayed on the dashboard.

The screenshot shows the Audiocodes Web GUI interface. The top navigation bar includes 'SETUP', 'MONITOR' (highlighted), and 'TOOLS'. The left sidebar shows 'DIRECT ROUTING SBA MONITOR' with a 'DASHBOARD' sub-menu. The main content area is titled 'Direct Routing Survivability Branch Appliance (SBA) for Microsoft Teams' and includes a 'Status' section with a warning icon, 'Server Name' (WIN-SKNJS11AG10), 'Domain' (No Domain), 'Last Boot UpTime' (05/06/2021 16:31:50), and 'Direct Routing SBA Version' (1.0.112). A 'PERFORMANCE' section shows 'ACTIVE REGISTERED' (0) and a 'More info' link. A 'Details' section shows 'S/N: 6ac69741e90e43f27186b5bf0773f82edb40f1', 'OS Version: 10.0.17763', 'Config Version: 1.0.109.49443', and 'Ms SBA Version: 2021.1.26.4'.

2.20.7 Alarms Tester

A new Tools menu option has been added to generate test alarms and send them to OVOC.



The screenshot shows the AudioCodes web interface. The top navigation bar includes the AudioCodes logo, a menu icon, and tabs for SETUP, MONITOR, TOOLS, and Microsoft Teams. The left sidebar is titled 'DIRECT ROUTING SBA TOOLS' and contains a 'TOOLS' section with several options: Direct Routing SBA Services, Direct Routing SBA Syslog, Web Admin Logs, Direct Routing SBA Logs, Direct Routing SBA Configuration Logs, and Direct Routing SBA Alarm Tester (which is highlighted). The main content area is titled 'Send Test Alarm To The OVOC' and contains a form with the following fields: Name (a dropdown menu with 'Direct Routing SBA Services Status Alarm' selected), Severity Name (a dropdown menu with 'Warning' selected), Source (a text input field), and Description (a text input field). At the bottom of the form is a blue button with a bell icon and the text 'Test'.

2.20.8 Keep the Username Used to Login to Office 365

When re-logging into tenant – it's now possible to use the username that was used for the last login (only the username and not the password).

2.20.9 Mediant 2600 Teams SBA Support

Support for Direct Routing SBA on Mediant 2600 hardware.

2.21 Software Update 1.0.23

This software update includes the following new features.

2.21.1 New Microsoft Teams SBA Service

This version includes Microsoft SBA service Version 1.1.18.7. This new service version includes fixed bugs. The version is installed on a different directory.

When upgrading AudioCodes Direct Routing SBA, you need to perform the setup again from the Teams online setup menu and assign a certificate again.

- You must select the SBA FQDN again (same FQDN as selected before).
- You must set the App Registration ID/secret again (even though in the GUI it looks as though it was already set).
- You must assign the certificate again (same certificate as before).

2.22 Teams Direct Routing SBA Update Procedure

To upgrade AudioCodes Teams Direct Routing SBA:

1. Download the new GUI version from https://downloads-audiocodes.s3.amazonaws.com/Download/AC_Teams_SBA_upgrade.html
2. Stop the Microsoft Teams SBA service.
3. Backup the SBA settings by copy the sbasettings.json under C:\Program Files\Microsoft\Microsoft SBA.
4. Open the **Add Or Remove Programs** menu, and uninstall service **Microsoft Survivable Branch Appliance**.
5. Validate if Microsoft Skype for Business Online PowerShell exists in the **Add Or Remove Programs** menu. If it exists, uninstall Microsoft Skype for Business Online.
6. Upgrade Microsoft Teams PowerShell:
 - a. Start PowerShell.
 - b. At the prompt, type the following:

```
Install-Module -Name MicrosoftTeams -force
```
 - c. At the prompt, to check if an earlier version is installed, type the following:

```
Get-InstalledModule -Name MicrosoftTeams -AllVersions
```

If an earlier version exists, uninstall it:

```
Uninstall-Module -name MicrosoftTeams -RequiredVersion  
<earlier PowerShell version>
```
7. Run the upgrade files that you downloaded.
8. Copy sbasettings.json back to C:\Program Files\Microsoft\Microsoft SBA.
9. Restart the server.

2.23 Recovery USB Update (for OSN-based devices)

The recovery USB can be upgraded as follows:

1. Download the new WIM file from https://downloads-audiocodes.s3.amazonaws.com/Download/AC_Teams_SBA_Wim.html
2. Copy the downloaded file to the root of the USB. (If there is no free memory, delete the old WIM file.)
3. In the USB recoveryUtil.ini file, change the WIM file name to the same name as the downloaded file.

3 Known and Resolved Constraints

The table below lists the known and resolved constraints.

Table 2: Known and Resolved Constraints

Incident	Discover Version	Resolved Version	Description
APPSBA-898	1.1.009	1.1.018	Add SBA FQDN get OK on the Web although it failed on the API.
APPSBA-879	1.1.009	1.1.015	Need to change NIC's name to OVOC WEB SOCKET on all hardware types.
APPSBA-877	1.1.009	1.1.012	Updated TeamsSbaServiceLogger on JSON.
APPSBA_869	1.1.009	1.1.018	New Microsoft Voice Feature API
APPSBA-859	1.1.007	1.1.008	SBC-SBA communication – when the SBC Web is opened from the SBA Web, you need to get a token from 169.254.100.1 only.
APPSBA-854	1.1.007	1.1.008	license error when a license is entered to virtual SBA.
APPSBA-835	1.1.003	1.1.007	error message IP and FQDN for SBC and not only IP
APPSBA-700	1.0.140	1.1.003	Spelling mistake
APPSBA-605	1.0.140	1.1.003	Public OVOC Settings - Add Driver Install notice
APPSBA-572	1.0.140	1.1.003	Spelling mistake in password error message
APPSBA-743	1.0.140	1.1.001	Changed Recovery settings for MSFT service
APPSBA-738	1.0.140	1.1.001	Added a script that sets Administrator's PW to never expires
APPSBA-729	1.0.140	1.1.001	MSFT SBA service version: 2023.5.9.2
APPSBA-724	1.0.140	1.1.001	Set SBC management IP on SBA's monitor screen
APPSBA-694	1.0.140	1.1.001	Removed PowerShell module AzureAD
APPSBA-671	1.0.140	1.1.001	Updated PowerShell module Microsoft Teams to 5.3.0
APPSBA-672	1.0.135	1.0.140	Support new PHP version 8.1.13 (versions 7.4.X are vulnerable)
APPSBA-658	1.0.135	1.0.140	Certificate CSR supports dropdown for hash algorithm
APPSBA-630	1.0.135	1.0.140	Registered clients time presented incorrectly (UTC)
APPSBA-624	1.0.135	1.0.140	Support SBA cert with FQDN in SAN
APPSBA-464	1.0.135	1.0.140	Missing recognition of M4K as SBC
APPSBA-528	1.0.16	1.0.121	Microsoft API returns a '503' error whenever the certificate is missing from the SBA FQDN. To work around this, open sbasettings.json under C:\Program Files\Microsoft\Microsoft SBA and change the "ServerCertificateCommonName" parameter to: "ServerCertificateCommonName": "localhost" Save the file and reset the Microsoft SBA service.
	1.0.131	1.0.135	Search for certificate in SBA certificate store was case sensitive. In case SBA FQDN and certificate subject used different case letters, the SBA GUI didn't display the certificate.
APPSBA-555	1.0.116	1.0.127	SNMP fields are not limited

Incident	Discover Version	Resolved Version	Description
APPSBA-574	1.0.116	1.0.127	Unnecessary required fields in Request certificate page
APPSBA-571	1.0.116	1.0.127	Wrong and empty Last Log in Direct Routing SBA Configuration Logs page
APPSBA-568	1.0.116	1.0.127	Change settings of SNMP V3 required restart of the OVOC Main Agent service
APPSBA-552	1.0.116	1.0.127	SBC part flash in virtual edition
APPSBA-504	1.0.116	1.0.123	CSR Generation Not Saving Organization Name
APPSBA-522	1.0.116	1.0.123	Error message when no license includes the license's path
APPSBA-532	1.0.116	1.0.123	After MS service upgrade, secure methods with MS service fails - Enable use of TLS chipper 1.1 and 1.2
APPSBA-455	1.0.116	1.0.121	BackEnd collect data to new Dashboard changes (MicrosoftTeamsVersion)
APPSBA-463	1.0.116	1.0.121	Config service - add a method to get/set Microsoft log level
APPSBA-495	1.0.116	1.0.121	Machine ID (Serial Number) depends on Logon User
APPSBA-493	1.0.116	1.0.121	License enforce can be bypass by change in the html/php file
APPSBA-389	1.0.16	1.0.106	Internal IP for VLAN 4021 is not stable and as a result sometimes after resetting it clears or receives configuration.
APPSBA-425	1.0.109	1.0.112	The Teams SBA Restore page does not open
APPSBA-298	1.0.11	1.0.112	The Access list menu is not working
APPSBA-302	1.0.11	1.0.112	USB Recovery/Deploy dongle does not support all USB types
APPSBA-305	1.0.12	1.0.109	OVOC (SNMP) service is missing from the Web admin
APPSBA-315	1.0.14	1.0.100	Can't change to work with Tenant Login from setup menu
APPSBA-316	1.0.21	1.0.100	Teams SBA: During wizard run in the alarms there, there is "400" text
APPSBA-341	1.0.19	1.0.100	Teams SBA: the TeamsSBAConfig fails to generate a serial number
APPSBA-423	1.0.24	1.0.113	Sometimes the SBA failed to re-image via USB
APPSBA-291	1.0.10	1.0.100	For Certificate page no need to login to M365 When opening the Certificate Setup page you had to enter the M365 credentials, now this is not required.
APPSBA-325	1.0.10	1.0.101	When an incorrect tenant ID was entered, the appropriate error message was not displayed.
APPSBA-329	1.0.10	1.0.101	It's possible to disable all network adapters.
APPSBA-332	1.0.10	1.0.109	On the Teams Online page when selecting the SBA Teams FQDN tab, the following error message appear: Code: 503. No response from Teams SBA service See attached screenshot and log
APPSBA-378	1.0.23	1.0.103	The FQDN list is not updated immediately when a new FQDN is added or an existing FQDN is deleted.
APPSBA-330	1.0.14	1.0.19	When requesting to obtain a CSR for a second time, an error occurs (the request was only successful for the first request).

Incident	Discover Version	Resolved Version	Description
APPSBA-341	1.0.19	1.021	The TeamsSBAConfig fails to generate a serial number.
APPSBA-346	1.0.21	1.0.23	PowerShell Cmdlet for Get policy can be deleted.
APPSBA-349	1.0.21	1.0.22	Web admin uses an incorrect URL to access the OVOC main agent.
APPSBA-365 APPSBA-348	1.0.22	1.0.23	Failure to update certificate for Microsoft SBA service.

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