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# About this Document

This document provides installation instructions for Cisco Virtualized Voice Browser ES07. It also contains a list of issues resolved by this ES. Please review all sections in this document pertaining to installation before installing the product. Failure to install this ES as described may result in inconsistent behavior.

# Supported VVB Version

This ES (ciscovb.1262.ES07.cop.sgn) is to be installed on VVB Version 12.6.2 **using CLI** only. Installing the ES on previous ES’s will not create any repercussions.

# Resolved Caveats

The details of the defects fixed in this ES are mentioned below.

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| **Cisco VVB 12.6(2) ES07** | |
| **Bug ID** | **Description** |
| CSCwj33374 | VVB traceback and reload caused vmcore seen due to IPVMS |
| CSCwo55923 | IPVMS crash on VVB |
| CSCwp12513 | VVB traceback and reload caused vmcore seen due to IPVMS |
| CSCwo67375 | OUT\_OF\_RANGE error when the caller hangs up the call |
| CSCwo54339 | VVB Unexpected Barge In |
| CSCwp05870 | VVB Cookie needs to be corrected to not use port number for a given domain |

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| **Cisco VVB 12.6(2) ES06** | |
| **Bug ID** | **Description** |
| CSCwm96709 | ENH: Support for pre-recording audio for VAV element |
| CSCwn75413 | VVB sends only one out of 10 DTMF digit numbers to VXML server after bridge transfer element |
| CSCwk13753 | Fetchaudio not working after VAV element |
| CSCwk56759 | Speechserver does not fetch the access-token if it is not available in cache during error condition |
| CSCwk73201 | Speech server logs shows config error when service restart is needed |
| CSCwk83135 | Speech server threads increasing upon no response from google. |
| CSCwm57630 | Cannot add/delete a subset of a previous host-to-ip entry |
| CSCwm53837 | VVB NO\_RESOURCE error seen in MIVR logs |
| CSCwm53832 | VVB DEADLINE\_EXCEEDED seen in speechserver logs |
| CSCwb27688 | VXML server should have special call treatment, when NULL response comes from Google CCAI |
| CSCwn12501 | SSL Source index 32 out of Bounds for byte [31] |

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| **Cisco VVB 12.6(2) ES05** | |
| **Bug ID** | **Description** |
| CSCwj06971 | VVB sends SRTP reply for ringback request on port 5060 |
| CSCwf55306 | Cisco VVB 12.6.1, call disconnect after 5 seconds |
| CSCwi69639 | VVB 12.6.1-VVB unable to cache wav file during the transfer |
| CSCwi87134 | SIP Headers not passed to DF-CX |
| CSCwj33374 | VVB traceback and reload caused vmcore seen due to IPVMS |
| CSCwj36712 | VVB Engine sends \"VBEventHandler::handleEvent  event: error: UNKNOWN\" error to VXML application |
| CSCwj43058 | VAV calls fail with Internal Error |
| CSCwj87296 | Duplicate RTP Entries in 200 OK causing calls to fail |
| CSCwj72886 | VVB Engine logs need to explicitly state if the 'No Resource' error is returned for MRCP or CCAI |

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| **Cisco VVB 12.6(2) ES04** | |
| **Bug ID** | **Description** |
| CSCwi31734 | HTTP request doesn’t go out of VVB for 10s of seconds |
| CSCwi29713 | VVB initialization got stuck post fresh install |
| CSCwi58513 | VVB Speechserver heap goes OOM after continues hitting "OUT\_OF\_RANGE" error |
| CSCwh68998 | VVB Stream not closing at set timeout value |
| CSCwe66429 | VVB plays a silence stream after sending CUCM a REFER for the blind transfer |
| CSCwh63595 | VVB Appadmin page became inaccessible due to  Tomcat OOM |
| CSCwi61346 | VVB 12.6.1 UNKNOWN\_ALARM:Connection::close - Closing connection |

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| **Cisco VVB 12.6(2) ES03** | |
| **Bug ID** | **Description** |
| CSCwh43295 | VVB API Prompt Management is not working as expected |
| CSCwh62435 | Transcribe/Dialogflow Intent element is unable to recognize all caller utterances. |
| CSCwh23974 | Incorrect speechserver trace when DTMF is used |
| CSCwh21371 | VVB Administrator and Serviceability are not up after upgrade to 12.6.2 |
| CSCwh11185 | Neural2/Studio voices don't work if only TTS functionality is used |
| CSCwh55406 | Switches to Speech Server Mode instead MRCP |
| CSCwd52362 | VVB Cookie handling needs to be enhanced to map domain to the request URL |

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| **Cisco VVB 12.6(2) ES02** | |
| **Bug ID** | **Description** |
| CSCwf35130 | [CLI "show speechserver audioPacketSizeInBytes" not working](https://github5.cisco.com/ccbu-vb/vb/pull/6124/files) |
| CSCwf83214 | VVB 12.6 | Remove Weak Cipher TLS\_RSA\_WITH\_AES\_128\_CBC\_SHA |
| CSCwf84081 | VVB Not Responding to MRCP events properly received from Nuance ASR |
| CSCwf83531 | VVB wrongly interprets fmt header from WAV file |
| CSCwf36954 | VVB browser goes for fetch loop when caller presses digit during queuing |
| CSCwf92952 | VVB Defaults to male voice when regardless of voice profile |
| CSCwf87601 | VVB: HTTP Status 404 Not found message is displayed with the Tomcat version for port 9080. |
| CSCwh18670 | The last prompt from DF CX does not play after installing 12.6(2) ES 01 |

# New Features

The following features have been included in ES06:

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| **Feature** | **Description** |
| Custom blind transfer | The VVB has been enhanced to provide specific call error status information to the VXML Server during a Blind Transfer,  enabling the VXML application to dynamically adjust the call flow based on the error status.  By default, this feature is disabled  To use this feature, execute the below CLI commands.  To view, use command,  “show vvb call blindTransferContinueOnerror”  Sample:  Admin: show vvb call blindTransferContinueOnerror  false  Command successful.  To enable, use command,  “set vvb call blindTransferContinueOnerror enable”  Sample:  Admin: set vvb call blindTransferContinueOnerror enable  Command successful. |
| Call completion for DF-CX | VVB is enhanced to automatically clean up Google sessions in Dialogflow CX call flow. |
| Alaw support for Google DF CX | For DFCX application, A-law encoding is supported. |
| Alaw support for Google TTS | For Google TTS, A-Law encoding is supported. |
| VAV Error Handling | For seamless integration of VirtualAgentVoice with the Google DFCX Agent, every dialogue response must include at least one of the following:  1. Output audio text (with or without SSML)  2. Pre-recorded audio playback  Agent responses can contain multiple instances of Output audio text and Pre-recorded audio, in any order. However, Output audio text cannot be empty or consist solely of spaces.  If a DFCX Agent lacks any dialogue without agent response defined, the VirtualAgentVoice call flow will terminate with an error.badfetch. This prevents undesirable "dead air" with indication to ensures agent responses are properly defined in Google DFCX. Thus, it is recommended to provide agent responses for every dialogue to avoid VirtualAgentVoice call flow termination with an error.badfetch.  If handling error.badfetch gracefully is preferred instead of defining responses for every dialogue, Call Studio application developers using the VirtualAgentVoice element can manage this error similarly to error.noresource.  To define an exit state in the VirtualAgentVoice element:  Add an event with Event Type set to "VXML Event"  Select "error.badfetch" from the event list  This exit state in VirtualAgentVoice element ensures a controlled call flow, even in cases where agent responses are missing. |

The following features have been included in ES04:

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| **Feature** | **Description** |
| AppD Upgrade | AppD version has been upgraded to 23.11.0.3839 |
| VAV via Cloud-Based Connector | VVB will use RTMS data centre. WXCC data centre will not be used.  Please refer solution feature guide of 12.6.2 for URLs and port details.  Note: There is no impact on feature and its functionalities |

The following features have been included in ES03:

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| **Feature** | **VXML Properties** |
| Recognize all caller utterances for Transcribe/DialogflowIntent element when spoken with pauses. | Dialogflow.isFinalWaitTimeout(value in seconds)- This property considers caller utterances when spoken with pauses in specified duration. This is used as a wait timeout in a dialogue to allow processing if anything spoken and considered as an utterance by Google.  “Final Silence” attribute for Transcribe or DFIntent Element value should be greater than or equal to the Dialogflow.isFinalWaitTimeout. If “final silence” triggers before isFinalWaitTimeout, then responses until then will be considered and isFinalWaitTimeout will not be honoured.  Please refer to cdet, CSCwh62435, for more details. |

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| **Feature** | **Description** |
| “DialogflowCX” Via VVB​ is enhanced for gracefully call handling during gRPC Error Scenarios | The impact of this feature is:  Any existing applications using DialogflowCX Via VVB need to be redeployed for Error Handling by Partner/Customer.​ Existing applications for redeploying need to use Call Studio provided, as part of ES. ​Mandatory Error exit state need to have graceful handle defined using the Call Studio.​  UCCE/PCCE existing upgrade process should be followed during the maintenance window i.e., VVB should NOT be upgraded prior to CVP. ​ VVB – CVP need to be on the same version to support DialogflowCX Via VVB, newly introduced gRPC Error Handling Exit State for graceful call handling.    Note: There is no impact for VAV Element Via Harness or any other applications.  Sample application for “DialogflowCX” Via VVB link: <https://github.com/CiscoDevNet/cvp-sample-code/pull/16> |

The following features have been included in ES02:

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| **Feature** | **Description** |
| Cookie Handling | Cookies handling in VVB is enhanced to map the domain to the request URL. This feature is disabled by default. To use this feature, execute the below CLI commands.  To view, use command, “show vvb domain\_cookie\_support”  Sample   admin: show vvb domain\_cookie\_support false Command successful.  To enable, use command, “set vvb domain\_cookie\_support enable”.  Sample admin: set vvb domain\_cookie\_support enable Command successful.  To disable, use command, “set vvb domain\_cookie\_support disable”.  Sample admin: set vvb domain\_cookie\_support disable Command successful.  Please refer to cdet, CSCwd52362, for more details. |
| Custom SIP Headers | This feature allows end customers to process custom or all SIP headers in their VXML application. SIP headers can be retrieved using the session variable, “[session.com](http://session.com/).cisco.proto\_headers” in the VXML application invoked via subdialog element from Call Studio.  Syntax: session.com.cisco.proto\_headers[keyname]  The SIP headers which needs to be restricted from being passed to VXML server can be added as comma separated list at application root level using the variable name "com.cisco.protoHeadersRestricted".  Note: This was a IOS VXML and VVB parity gap. |
| Inclusive Language Support | In the VVB AppAdmin and VVB Serviceability pages, the exclusionary terms like master/slave and blacklist/whitelist are replaced wherever possible with primary/secondary and blocklist/permitlist.  Logs for VVB Service's i.e., Engine, Web Services and others, all the occurrences of "master “, have been replaced, irrespective of its case to "Primary". |
| Speech Recognition Model Variant Support for Google Dialogflow ES | In DF ES, we can set the model variant in Call Studio using the custom VXML property, Recognize.modelVariant.  It supports 3 values- USE\_STANDARD, USE\_ENHANCED and USE\_BEST\_AVAILABLE (default).  Note: Set value as recommended by Google |
| AppD Upgrade | AppD version has been upgraded to 23.6.0.34839. |

The following changes have been included in ES01:

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| **Feature** | **Description** |
| Partial Response for CX via VVB | **Partial Response Feature** has been added for CX via VVB. Please refer the [link](https://help.webex.com/en-us/article/nzlot2u/Configure-Partial-Response-in-Dialogflow-CX) for more details on the feature. |
| Partial Response for CX via VAV | **Partial Response Feature** has been added for CX via VAV. Please refer the [link](https://help.webex.com/en-us/article/nzlot2u/Configure-Partial-Response-in-Dialogflow-CX) for more details on the feature.  Please refer [link](https://github.com/CiscoDevNet/cvp-sample-code/tree/master/CustomerVirtualAssistant/VAV_Hybrid) for Sample application and details on VAV element |

Note- The behavior is the partial prompt will be stopped playing once the final response is

received from Google.

# 

# Usage Guidelines

# **Pre-Requisite -:**

# **For CSCwm96709 :**

# 

# WAV files referenced in Google Dialogflow CX (DFCX) applications for pre-recorded audio must be hosted on the local Media Server.

# These WAV files should be accessible through static URLs using HTTP or HTTPS.

# Use the Media Server's FQDN or Hostname in the URL to access the WAV files.

# For HTTPS URLs, certificate exchange must be performed between the Media Server and VVB.

# The WAV file codec must match the codec configuration of the VVB in use.

# Header-less WAV files are not supported.

# These WAV files will be cached locally on the VVB. The cache entries can be viewed using existing VVB commands, such as:

# **show vvb cache cache\_entries**

# **show vvb cache cache\_entry**

# Cached WAV files can be marked as stale using the following commands:

# **set vvb cache stale\_cache\_entries**

# **set vvb cache stale\_cache\_entry**

# **Note :** Customer should not use Wav URL in Output audio text. Wav URLs are not supported with partial response.

# 

# **CSCwj87296**

VVB will not support change of DTMF payload in mid call reinvite.

**CSCwf55306**

As part of this fix, the silence sensitivity of Record element has been increased, due to which it may capture noise as valid audio. This may also impact no input and final silence detection in a noisy environment. If you wish to fine tune the silence sensitivity value, please contact the engineering team.

**CSCwh55406**

We have introduced a VXML property com.cisco.localTranscribe (value in Boolean) to give preference to MRCP Server, If the property is set to true, then MRPC server is used. By default, Google Transcribe is used.

**CSCwp05870**

Cookies handling is enhanced to support processing and sending of cookie based on path and FQDN.

These changes are behind domain\_cookie\_support flag, use following CLI commands to enable/disable domain\_cookie\_support.

**set vvb domain\_cookie\_support enable**

**set vvb domain\_cookie\_support disable**

# Conditions for Installing ES

## Pre-Conditions

Make sure there is no previous ES in progress; else, cancel it by running:

**utils system upgrade cancel**

## Post-Conditions

Once the ES is applied, reboot the Cisco VVB. After reboot, verify from the Cisco VVB App Admin that all services come to In-Service.

# Dependencies for this ES

NA

# Installing ES

This ES must be installed using CLI only, by running:

### utils system upgrade initiate

Follow the instructions and provide the path of the ES. Do not close the terminal until the installation of ES is successful. Restart the machine after installing the ES.

# Uninstalling ES

Follow similar process for installing the ES but install the specific rollback ES for the version.

**Note:** An ES rollback uninstalls all the previously installed ESs and brings VVB to the base release.