



# **Avaya Interactive Response 3.0**

## **Release Notes**

**June, 2007**

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# 1: Release notes overview

This document provides important information about the Avaya Interactive Response (IR) system, including known issues and suggested solutions for Release 3.0.

## **Required patches**

All the patches certified by Avaya for IR must be installed.

## **Installing IR**

Information on how to install IR 3.0 is available in the print guide titled Implementing Interactive Response.





## 2: New for Avaya IR

This section lists what is new in the Avaya IR 3.0 release.

### Operating system

IR 3.0 supports only Solaris 10 Update 3. Solaris 8 is not supported.

### Hardware

IR 3.0 supports SunFire V245 Server dual processor, and SunFire V245 Server single processor.

### Installation

IR 3.0 has the following installation options:

- Custom mode  
The software is installed in a custom folder. You can perform this installation by running the **avinstall -singledir** command.
- Classical mode  
The software installation is similar to the installation for earlier IR versions. If you want to install in classical mode run the **avinstall** command.

### Speech

IR 3.0 has the following speech changes:

- Support for Nuance Quantum software
- The ability to configure backup servers with MRCP speech proxies
- The ability to load balance between two or more speech servers with MRCP speech proxies
- TTS Dictionary support with MRCP proxies for Scansoft, Quantum, and IBM Speech Server
- The ability to configure ASR and TTS resource allocation per channel for VXML application using MRCP proxies
- The ability to generate speech resource usage summaries with MRCP proxies
- Speechify is not supported
- WholeWord is not supported

### Telephony

IR 3.0 has the following telephony changes:

- Support for CG6565 NMS cards, and CG6060 NMS cards
- Support for C-LAN failover
- QoS support for RTP and H.323 packets
- Support for DPR Barge-In
- Enhanced call progress support for outbound calling. This support includes answering machine detection in addition to all other events provided by NMS.
- Support for Tone Masking
- Support for the Explicit Call Transfer feature for the ISDN-PRI ETSI digital signaling protocol for E1 telephony cards

## **VoiceXML browser**

IR 3.0 has the following VoiceXML browser changes:

- The ability for TAS applications to invoke VXML applications
- The ability to run VXML interpreter in logical channel mode
- Compliance with VoiceXML 2.1
- The availability of VXML debug logs in IR Trace

## **Operation, administration and maintenance**

IR 3.0 has the following operation, administration and maintenance changes:

- Support for e-mail notification on backup, and restore operations
- Support for ROI and TCO reporting
- A web service interface for IR system status
- Symantec NetBackup certification for use with IR 3.0

## **Security**

IR 3.0 can be administered by a non-root user.

## **IVR-D 6.0**

IR 3.0 has the following IVR-D changes:

- VXML generation is not supported
- WholeWord is not supported
- The addition of a new node to help TAS applications call VXML applications
- The addition of a new tone masking property in the Prompt and Collect node
- The addition of a new DPR Barge-In property in the Prompt and Collect, Menu, and Automenu nodes

# 3: Known issues

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## Avaya IR installation, upgrade, migration, and security issues

- If the CD has been mounted manually by using the **mount -F hsfs** command, then IR installation will not continue. To continue, you must unmount the CD drive, and start vold by using the **svcadm enable volfs** command. This will automatically mount the CD on **/cdrom/cdrom0**. This scenario can occur when IR installation has been aborted. To unmount, determine the mount point on which the CD drive has been mounted by using the **mount** command. Then, run the **umount <mountpoint>** command.
- After uninstalling IR you must restart the system to avoid respawning of certain commands.
- For upgrade or migration to IR 3.0 from IR 2.0, the JDBC password field is left blank. You must configure JDBC dip for the password field.
- For upgrade or migration to IR 3.0, the migrated speech servers cannot be changed. You must reassign the speech servers to change any speech server parameter.
- For the software-only solution, the scripts **enableWrappers** and **disableServices** are not run during installation. To enhance the security of the system these scripts must be run. For more information about these scripts, see Avaya Interactive Response Security Whitepaper.



### Note

**disableServices** disables the telnet service. This script must not be run from a telnet session. Run this script when connected through a serial console or through ssh. For turnkey systems, the telnet service is disabled because this script has already been run. To enable the telnet service, use the **svcadm enable telnet** command. This command can be run with root privileges only.

- All files installed on IR are not world writable by default. However, some files are generated dynamically and they get created with world write permissions. Following is the list of these dynamically generated files:
  - **\$IR\_HOME/speech/talk/\*.pl**
  - **\$IR\_HOME/vs/data/ad\_channel\_table**
  - **\$IR\_HOME/vs/data/ad\_dnsani\_table**
  - **\$IR\_HOME/vs/data/xfer\_allow\_table**
  - **\$IR\_HOME/vs/data/xfer\_deny\_table**
  - **\$IR\_HOME/vs/examples/IRAPI/\***
  - **\$IR\_HOME/vs/spool/log/head/logAPPL.h**
  - **\$IR\_HOME/vs/dpr/logDPR.txt**

The file **/etc/passwd.em** gets created with bin as owner.

- Data files can be edited by root only. Non-root users including those with IR Admin or IR Operator privileges will not be able to edit any IR related data files such as configuration files.

- The kermi utility has been replaced by zmodem. This utility is not installed by default. It is an optional package and it is available in the `$IR_HOME/export/optional_features/sfw` directory. The SMCirzsz package contains this utility.
- For creating a new Solaris user by using the smc utility, the default shell must be set to `/bin/pfksh`. This is required if the new user has to be assigned IR Admin or IR Operator privileges by using the `assign_permissions` command.
- Before deleting a Solaris user, the `unassign_permissions` command must be used to remove any privileges. If this is not done and the user is deleted, then after creating the user again, the user would not have the IR Admin or IR Operator privileges it was earlier assigned. At this stage, if `assign_permissions` is used to assign the privileges to the user, then the command will fail. To avoid these issues, please adhere to the following order:
  1. Create a Solaris user by using the `useradd` command.
  2. Assign the Operator or Admin privileges by using the `assign_permissions` command.
  3. Remove privileges from the user by using the `unassign_permissions` command.
  4. Delete the user by using the `userdel` command.
- For disk mirroring enhancements the following two flags must be edited in the `/etc/system` configuration file. This file can be edited with root privileges only:
  - If the parameter `md:mirrored_root_flag=1` exists, it should be commented out or deleted. To comment a parameter in the `/etc/system` file, its first column must contain an asterisk (\*).
  - Add a parameter by adding the following line to the `/etc/system` file: `set md_mirror:md_resync_bufsz=1024`
- The following commands have not been tested with custom installation in IR 3.0:
  - `msgadm`
  - `sched_croncdh`
  - `trarpt`
  - `fixLogFile`
- SunFire V245 does not come with a 9-pin or a 25-pin serial interface. An RJ45 port is provided instead. To connect a modem to this system, the modem should be connected to this RJ45 port with the help of an RJ45-to-serial-interface converter (This converter is shipped with the system). However, a NULL Modem cable/converter must be used to connect the modem. A typical connection to a modem would be as follows: V245's RJ45 port <==> RJ45 to Serial interface converter <==> NULL Modem cable/converter <==> Modem.
- After upgrade the card status may not be in the *inserve* state. To bring the card in the *inserve* state, run the `restore card <card#>` command.

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## Avaya IR application development issues

### General application development

- Do not use the obsoleted `libirAPI.so` to link `irAPI` with the custom applications. Use `libirAPIIt.so` instead, which is multi-threaded and thread-safe.

- If you plan to use IVR Designer 5.3 or earlier with IR 3.0, make sure that IR is installed in the classical mode.

### VoiceXML

- Please ignore the following VoiceXML error message which gets generated in `logCat` or `trace`: Failed closing cache validator for URL =.
- If the external grammar cannot be accessed by the Speech server then VXi will not throw *error.badfetch*. Instead, it will throw *connection.disconnect.hangup*. This occurs only if the hostname/IP address specified as part of the URL cannot be accessed.
- DTMF barge-in will work only when DTMF grammar is active. Speech barge-in will work only when speech grammar is active.
- Certain malformed URLs for transfers throw *error.transfer* instead of *error.connection.bad-destination*. For example a URL such as `tel:x1234` results in *error.transfer* instead of *error.connection.baddestination*.
- If the country code in the ***xml:lang*** attribute is set to an invalid value, the *error.noresource.tts* event is thrown.
- VXi throws *error.noresource.asr* when duplicate inline grammars are defined.
- With proprietary Nuance ASR 8.5, multiple interpretations are not returned.
- If the TTS resource allocation mode is ***atCallAnswer*** and if the number of TTS resources are less than currently required, then VXi does not throw *error.noresource.tts* and the call is not dropped.

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## Telephony issues

- The SunFire V245 box installed with a CG6565 card shows spurious interrupt messages in `logCat`. Please ignore these messages.
- With Avaya Communication Manager, if an attempt is made to perform consultation transfer from one loop channel to the other channel in the same trunk, which is busy, then the transfer may return the status as *noanswer*.
- When a new NMS card is configured, the card state may be broken for the first time after voice system restart. Please use the ***remove*** and ***restore*** commands to bring the card in proper state.
- Please do not use blind transfer with ISDN QSIG and ETSI.
- When using the tone masking feature with barge-in enabled, please do not set the Discard Previous Touchtones property to True in the Prompt and Collect node of IVR Designer.
- If the Fax feature is enabled from the web administration, its status remains Yes even if Change Card is used to turn off the Fax feature. Unassign and assign the card again to disable the Fax feature.

---

## Speech issues

- You need to explicitly use the Text-to-Speech type (e.g. **TTS0**) when specifying resources while collecting speech reports with the **-t** option of **sproxyadm**. For example, **sproxyadm -t chan=all:level=summary -r TTS0**.
- If you are planning to use Quantum, you must use OSDM 2.0.6.
- When one or more TTS dictionaries are loaded and enabled through the use of vendor-specific parameters, they are automatically disabled and unloaded when the session ends. There is no need to disable or unload them explicitly.
- Summary report for recognition incorrectly displays the number of recognition no-matches as zero.
- The number of recognition services on a given server is incorrectly calculated under load conditions. This could affect load balancing if the selected method is nServices.
- While creating a TAS application which performs speech recognition by using the MRCP speech proxies, you need to specify URI of the grammar file. Built-in grammar is not supported in case of TAS applications.
- If you plan to use Nuance Proprietary proxies, any other unsupported proprietary proxies or WholeWord, IR 3.0 must be installed in the classical mode.

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## VoiceXML documentation issues

This section lists the title of the IR help topics followed by the corrections for the issues found in the respective topics.

**VoiceXML capabilities for the AVvoicxml2-0 package:** The following sentence of item 10 is no longer valid: The AVvoicxml2-0 package supports two-level objects.

**VoiceXML changes for the AVvoicxml2-0 package that may affect customer applications:**

- Item 4 is no longer valid.
- Item 8 should read as follows: It's advisable to set the attribute **connecttimeout** to at least 5 seconds, because that is the approximate time to complete one ringback cycle. A value less than 5 seconds is rounded off to zero in which case a default value of 25 seconds is assumed. Consequently, a *noanswer* event will be thrown after 25 seconds.
- Item 9.c should read as follows: In all other cases, if the destination is not a legal phone number, *error.transfer* will be thrown.
- Item 16 is no longer valid.
- Item 22 should read as follows: If the **src** attribute of the <grammar> tag in the root document holds a relative URL, the complete path is constructed by prepending the base URL as configured through the **xml:base** attribute of the <vxml> tag. In earlier releases, the **xml:base** attribute was ignored and the location of the root document itself was considered as the base URL.
- Item 25 is no longer valid.

**Using the <log> tag:** The last sentence should read as follows: Messages generated by using the <log> tag are not stored in **log.txt**, but they can be viewed by using **logCat**.

**Determining when the VoiceXML log file is saved:** The contents of this topic are no longer valid.

**Controlling NLSR resources with a voice application:** The last sentence of the final paragraph should read as follows: The audio files need to be copied to the `$IR_HOME/voice1/vxml/apps` directory.

**Controlling NLSR resources with a voice application:** The contents of the section titled Releasing NLSR resources for a TAS application are no longer valid.

**DTMF grammar support for VoiceXML:** The given example is incorrect. The correct example is as follows:

```
<xml version="1.0"?> <grammar mode="dtmf" root="DIGIT" version="1.0" xml:lang="en-US">
<rule id="DIGIT" scope="public">
<one-of>
<item>1<tag>name='one';digit='1'</tag></item>
<item>2<tag>name='two';digit='2'</tag></item>
<item>3<tag>name='three';digit='3'</tag></item>
</one-of>
</rule>
</grammar>
```

**DTMF grammar support for VoiceXML:** The following two statements are no longer valid:

- With the example code of `<item>1<tag>?name='one'</tag></item>`, a DTMF entry of **1** sets **name** to value **one**.
- If the following tag element syntax is used: `<item>1<tag>name='one'</tag></item>`, a DTMF entry of **1** sets **name** to value **name='one'**.

**VoiceXML logging:** The contents of this topic are no longer valid.

**VoiceXML Web server must handle non-persistent connections:** The second sentence should read as follows: Avaya VoiceXML Interpreter (VXI) requires non-persistent connections because it sends the *Connection: TE, close* directive to the web server as part of the HTTP header in the request.

**Considerations for developing VoiceXML applications:** Bullet 1 is no longer valid.

**Configuring for transfers:** The second paragraph should read as follows: On T1, E1, or VoIP for bridge transfers, the **client.tel.outdialgroup** parameter needs to be configured in the appropriate `defaultX.cfg` file. This parameter is not used for consultation and blind transfers.

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## Installation documentation issues

This section contains information that is either missing or not up-to-date in the product documentation.

**Installing an external tape drive on the Sun Fire platforms:** The command for checking the status of the tape drive is stated incorrectly. The correct command is `mt -f /dev/rmt/0n status`.

## Overview of upgrading IR on the same hardware platform

Following is an overview of the procedure for upgrading from IR 1.x or 2.0 to IR 3.0. The upgrade is performed in three phases.

1. The first phase is kicked off by inserting IR 3.0 CD1 in the drive and running the command `/cdrom/cdrom0/upgrade`. At the end of this phase, the `/upgr_data.tar` and `/upgrade` files get created. You must preserve these files because third phase will not begin in absence of these files. It is advisable to move these two files to a remote system temporarily.
2. In the second phase, the OS is upgraded (or fresh installed) to Solaris 10 Update 3. If the OS is Solaris 10, but not Update 3, then the OS can be upgraded. If the OS is Solaris 8, then fresh installation of Solaris 10 Update 3 is required. Please note that you will lose existing data on the system if you install the OS from scratch. Also note that for a fresh install of the OS, the two files which were created during the first phase must be copied to a different system, and copied back after the OS is installed.
3. In the third phase, the two files (`/upgr_data.tar` and `/upgrade`, which were created in the first phase) must be present on the system. Running `/upgrade install` will start the third phase. Make sure that the file permission of `/upgrade` is `-rwxr-xr-x` before executing it in the third phase. Because, when this file is transferred to a remote system, its permission gets changed to `-rw-r--r--`. Refer to the help manuals for more details about this phase.

## IR commands subset for operator privileges

The following table lists a subset of all the commands available under IR. A user with IR Operator privileges can run only these commands. A user with IR Admin privileges can run these and all the remaining IR commands. A user with root privileges can run all IR related commands.

<code>ass</code>	<code>assign</code>	<code>backuph</code>	<code>browseSortLogCat</code>
<code>callCost</code>	<code>capturePerfRec</code>	<code>ccarpt</code>	<code>cddrpt</code>
<code>cdsrpt</code>	<code>dalarm</code>	<code>del</code>	<code>delete</code>
<code>disp</code>	<code>display</code>	<code>display_permissions</code>	<code>docexplain</code>
<code>dspActAlarms</code>	<code>dspRetAlarms</code>	<code>exp</code>	<code>explain</code>
<code>fax</code>	<code>faxq</code>	<code>faxrpt</code>	<code>licenseConfig</code>
<code>licenseQuery</code>	<code>listroitcoevents</code>	<code>listroitcoservices</code>	<code>logMsg</code>
<code>mode</code>	<code>msgadm</code>	<code>notifyMrpcClient</code>	<code>remove</code>
<code>renumber</code>	<code>res</code>	<code>restore</code>	<code>retireAlarms</code>
<code>roitco</code>	<code>roitcorpt</code>	<code>shmview</code>	<code>snmpConfig</code>
<code>speech</code>	<code>sproxyadm</code>	<code>startNmsCards</code>	<code>start_vs</code>
<code>tts</code>	<code>vs_status</code>	<code>vxmlConfig</code>	<code>vxmlSetLogs</code>

The following commands cannot be run by users with IR Admin or IR Operator privileges. These commands can be run by root only:



- `avinstall`
- `avuninstall`
- `upgrade`
- `assign_permissions`
- `unassign_permissions`
- `mirror_admin`

---

## PCI slotting rules

### PCI slotting rules for SunFire V245

The following rules govern the number and placement of option cards in a V245 chassis for Avaya IR.

- Each new system can have a maximum of one E1/T1 AG or E1/T1 CG card.
- Avaya IR R1.X systems migrating to R3.0 can have a maximum of one Quad AG4000 T1 or E1 card or one Quad AG4040 E1/T1 card or one CG6060 E1/T1 cards or one CG6565 E1/T1 card.
- There are no IRQ, DMA, or I/O address assignments to make with hardware settings – these are all handled in software. No Hardware Resource Allocator is provided with this platform.
- There are no switch or jumper settings on any of the cards that need to be changed for E1/T1 connectivity. The E1 and T1 cards in the NMS AG4000 series are separate cards in the Avaya IR system, but the NMS AG4040 and CG series produce single card that can be configured by software to be a T1 or E1 card.
- Each CG6060 dual card can be configured to provide 2 T1 or 2 E1 digital trunks. Each quad CG 6060 card can be configured to provide 4 T1 or 4 E1 digital trunks. Each oct CG6565 card can be configured to provide 8 T1 or 8 E1 digital trunks.
- The NMS card can only be inserted into PCI slot named PCI-X 3 in the V245 chassis.

### PCI slotting rules for SunFire V240

The SunFire V240 system has three PCI slots (PCI-0, PCI-1, and PCI-2). The following rules govern the number and placement of the telephony cards for systems using this platform.

- The system can have a minimum of zero and a maximum of two NMS telephony cards (T1 or E1).
- Install either the NMS AG 4000 or the NMS AG 4040 quad telephony cards with four digital interfaces. If two cards are used, you can install one NMS AG 4000 and one NMS AG 4040 quad telephony card.
- If one telephony card is used, install it in the PCI-1 slot. If two cards are used, install them in the PCI-1 and PCI-2 slots. (PCI-1 is the middle slot, and PCI-2 is the top slot.)
- Do not use the bottom PCI slot (PCI-0).

## PCI slotting rules for SunFire 280R

The SunFire 280R system has four PCI slots (PCI-1, PCI-2, PCI-3, and PCI-4). The following rules govern the number and placement of the telephony cards for systems using this platform.

- The system can have a minimum of zero and a maximum of two NMS telephony cards (T1 or E1).
- Every system has an additional Ethernet card in PCI-1 slot (default configuration from Sun).
- Install either the NMS AG 4000 or the NMS AG 4040 quad telephony cards with four digital interfaces. If two cards are used, you can install one NMS AG 4000 and one NMS AG 4040 quad telephony card.
- If one telephony card is used, install it in the PCI-2 slot. If two cards are used, install them in the PCI-2 and PCI-3 slots.
- Do not use the fourth PCI slot (PCI-4).

## PCI slotting rules for SunBlade 150

The SunBlade 150 system has three PCI slots (PCI-1, PCI-2, and PCI-3). The following rules govern the number and placement of the telephony cards for systems using this platform.

- The system can have a minimum of zero and a maximum of two NMS telephony cards (T1 or E1).
- Install either the NMS AG 4000 or the NMS AG 4040 quad telephony cards with four digital interfaces. If two cards are used, you can install one NMS AG 4000 and one NMS AG 4040 quad telephony card.
- If one telephony card is used, install it in the PCI-1 slot. If two cards are used, install them in the PCI-1 and PCI-2 slots. (PCI-1 is the middle slot, and PCI-2 is the top slot.)
- Do not use the third PCI slot (PCI-3).

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