



**Dialog Designer
(DD)
Release 5.1.0.14.01
Release Letter
(Supersedes All Previous Releases)**

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1 Release Information

This is the release note for the first Service Pack for Dialog Designer 5.1. This build contains MR fixes.

The primary features of the 5.1 release are:

- Usability
 - New Search feature
 - Graphical Debugging support from the Call Flow Editor
 - Numerous Customer requested Enhancements (see MR list for descriptions)
 - Localization bundle support for TTY/TDD
- Currency with 3rd party products
 - Support for IBM AIX 6 OS
 - Support for Axis 2.0 (new connector)
 - Eclipse 3.5
 - Windows 7
 - Voice Portal 5.1

2 Features

This section describes the status of the features that were developed for this release.

2.1 *New Features included in this delivery*

N/A

2.2 *Requirements not included in this delivery*

N/A

2.3 *Features/Requirements with Limitations/Restrictions in this delivery*

2.3.1 *Dialog Designer 5.1 Debugger support (Properties Editor style –PDC only)*

By default, breakpoints are enabled for all Data Node call flow items. If you do not want Dialog Designer developers to be able to place breakpoints on your contributed items, you must implement `supportsBreakPoints()` and return **false**. The default implementation of `supportsBreakpoints()` returns **true**.

Pluggable connectors that wish allow breakpoints on their contributed items need to change their code generation. The change is to set the debug ID on the action. The debug ID is the call flow object ID. It is a simple change to the code generation when you generate the closing parentheses.

Change this:

```
sb.append(")");
```

to this:

```
sb.append(".").setDebugId(""+item.getFlowObjectId()+"");
```

This results in the code generation, for example, changing from this:

```
//{{START:CODEGEN:EXTENSIONPOINT:com.avaya.sce.pdc.pe.advancedmath.pi  
actions.add(new com.avaya.sce.pdc.pe.advancedmath.Pi("session", "exitInfo"));
```

```
//}}END:CODEGEN:EXTENSIONPOINT:com.avaya.sce.pdc.pe.advancedmath.pi
```

to this new code generation:

```
//({START:CODEGEN:EXTENSIONPOINT:com.avaya.sce.pdc.pe.advancedmath.pi  
actions.add(new com.avaya.sce.pdc.pe.advancedmath.Pi("session", "exitInfo1").setDebugId(9));  
//}}END:CODEGEN:EXTENSIONPOINT:com.avaya.sce.pdc.pe.advancedmath.pi
```

In addition, the runtime implementation of your pluggable connector must implement `Idebugging`. The simplest way to add this is to extend the `Debugging` class. For example,

Prior to adding debugger support:

```
public class Pi implements IpluggableExecutable {
```

After adding debugger support:

```
public class Pi extends Debugging implements IpluggableExecutable {
```

The base class `Debugging` implements the `Idebugging` interface.

2.3.2 New Web Service Connector

Axis 2 jar files

The new web service connector is based on Axis 2 version 1.5. To limit the number of jar files in `runtime-support.zip` we have chosen not to include the full set of jar files from the Axis 2 distribution in DD. Instead we have included a set of jar files which cover “normal usage” of the web service connector. Should it happen that you get Class Not Found exception while executing a web service operation you can download the full set of Axis 2 jar files from <http://ws.apache.org/axis2/download/1.5/download.cgi> and put them in your tomcat lib folder.

SOAP message signing

The new web service connection has an option for signing the soap message. Generation of this signature is based on a key stored in a certificate store. It is currently not supported reading that key out of a keystore generated by the DDAdmin keystore management. Instead it is recommended using the `keytool` from your java distribution like this:

```
keytool -genkey -alias privkey -keystore c:\privkeystore -dname "cn=privkey" -keypass password1 -  
storepass password1
```

2.4 Features with Limitations/Restrictions Removed for This Release

N/A

2.5 Features with Changes in This Release

- **VPMS Configuration for Application Logging:**

Tomcat on VPMS

If you are running a Dialog Designer application that does application logging, and your Voice Portal system is configured to handle more than 75 simultaneous calls, you must make the following configuration changes on your VPMS:

1. In a text editor, open the `$CATALINA_HOME/conf/server.xml` file.
2. Find the entry `maxThreads="500"` under `<Connector port="8009"`.
3. Change the value from **500** to **1000**.
4. Save and close the file.

Tomcat on Linux application server

If you are running a Dialog Designer application that does application logging, and your VPMS goes out of service, Dialog Designer temporarily stores the application log data on your application server while waiting for the VPMS to come back in service. If your application server is Tomcat running on Linux and the VPMS stays out of service for a long time, Tomcat might crash because the system runs out of file handles.

If you encounter this problem, do one or both of the following on your application server.

Increase the Linux file handle limit on your application server:

1. In a text editor, open the `/etc/init.d/tomcat` file.
2. Find the **start()** procedure.
3. Add the following line to the start procedure before Tomcat is started:

```
ulimit -n 8192
```

4. Save and close the file.

Change Tomcat startup options to improve garbage collection on your application server:

1. In a text editor, open the `/etc/init.d/tomcat` file.
2. Find the line that begins with **export JAVA_OPTS=**.
3. Change this line to read as follows.

Note: All of the text below must be entered on a single line.

```
export JAVA_OPTS="-server -Xmx1024m -XX:MaxNewSize=30m -X:+UseParNewGC -
XX:+UseConcMarkSweepGC -XX:CMSInitiatingOccupancyFraction=60 -
XX:ThreadStackSize=512"
```

4. Save and close the file.

2.6 Features with Dependencies on other Products

N/A

2.7 MRs included in this Release

id	type	severity	component	summary
wi00400339	Enhanc	Med	CTI Connector	CTIC should be able to recover individual observers
wi00388869	Enhanc	Med	CTI Connector	Support AES 5.2.2/JTAPI
wi00400514	Enhanc	Med	General	Should warn before upgrading projects.

wi00288788	Enhanc	Med	Grammar Editor	Allow option to disable query string encoding on external grammars.
wi00384304	Enhanc	Med	Runtime Framework	prompts played in an event do not allow bargain attribute to be set
wi00380898	Enhanc	Med	Runtime Framework	Combine cache-control headers to one.
wi00073728	Enhanc	Med	Simulation	AVB, bargain, does not send dtmf wait message
wi00369523	Enhanc	Low	CCXML UI	Add support for new web service connector to CCXML
wi00382750	Enhanc	Low	Custom Navigator	Check if Tomcat is running before deleting a DD project in Custom Navigator
wi00287046	Enhanc	Low	Custom Navigator	Restrict users from renaming and moving project folders
wi00382770	Enhanc	Low	JDBC Connector	Copy jdbc drivers to Tomcat lib directory automatically using source path from Preferences setting
wi00338676	Enhanc	Low	JDBC Connector	Add Support for PostgreSQL bytea Data Type
wi00329037	Enhanc	Low	JDBC Connector	Support database column Array data type
wi00244807	Enhanc	Low	JDBC Connector	DBOP editor needs to be more user friendly
wi00382552	Enhanc	Low	Web Services Connector	WSOP Axis 2.0 does not set ddLastException:message with expected information
wi00381752	Enhanc	Low	Web Services Connector	ddrt.properties localsoaptrace=enabled only writes to Console View.
wi00286803	Enhanc	Low	Web Services Connector	WSOP Wizard: Skip parameters pages if there are no parameters
wi00385644	Defect	Med	AVB	For DTMF bargain to work in simulator, we need to check enable speech bargain detection checkbox
wi00384636	Defect	Med	AVB	NBest Slots not getting filled on nbest.
wi00382768	Defect	Med	AVB	PAVB adds spaces to input when using external grammar
wi00599818	Defect	Med	CCXML UI	wi00369523 breaks the WSOP snippet in CCXML UI
wi00411333	Defect	Med	CTI Connector	multiple calls in queue don't always select most recent
wi00386959	Defect	Med	CTI Connector	CTI Operations pull variable values in constructor
wi00409406	Defect	Med	CTI Connector	cticonnector stops working & does not create the path for altTraceFile as mentioned in tsapi.pro
wi00386419	Defect	Med	Deployment	Axis 1.4 and 2.0 validation doesn't work on WAS 7.0 app server
wi00384619	Defect	Med	General	When Platform set to IR the VP libraries should never be activated.

wi00410601	Defect	Med	General	Can't add VP root certificates into DD 5.1 keystore from DD runtimeconfig
wi00463120	Defect	Med	General	After fresh install, none of the DD apps with WSOPs work in the simulator
wi00462899	Defect	Med	Installation	Eclipse reports archive install of DD as uncategorized instead of DD
wi00385657	Defect	Med	IVVR	Add validation(filename cannot be empty) to media video editor
wi00385655	Defect	Med	IVVR	The create video media resource wizard appends .3gp at the end of the filename
wi00385654	Defect	Med	IVVR	If you set a video file (not sure if other media files have same behavior) to be external it seems when you close/reopen it reverts back to local
wi00383492	Defect	Med	IVVR	Empty Text Block Text Item causes NullPointerException
wi00498339	Defect	Med	IVVR	Clearing text boxes in media wizard causes NPE
wi00379421	Defect	Med	IVVR	AvayaIVVR sample app fails to play video intermittently
wi00380670	Defect	Med	IVVR	Pasting media from one project to the other fails to set destination project to VXML 3.0 for you
wi00361519	Defect	Med	Phrase Editor	No visual indication/warning of missing audio files
wi00400512	Defect	Med	Prompt Editor	When importing prompts the check for & < > and etc is skipped.
wi00387701	Defect	Med	VP Config Variables	When using HTML mode and exception is thrown.
wi00410791	Defect	Med	Web Services Connector	NPE when invoking web service
wi00295336	Defect	Low	AVB	# not handled when max digits entered.
wi00555402	Defect	Low	Call Flow Editor	Copy/paste External property item w/variable does not copy variable
wi00381753	Defect	Low	Deployment	DD export wizard changes Target platform->Servlet container when Back button is pressed
wi00381435	Defect	Low	Deployment	tomcat sysedo plugin allows unachievable options
wi00380023	Defect	Low	General	Debugger: DD app stays in Debug Perspective even after pressing Run Application button in simulator
wi00555431	Defect	Low	General	The Show Doc VXML and Show Root VXML HTML mode buttons don't work when running in HTML mode
wi00692115	Defect	Low	Installation	DialogDesigner 5.X disappears in the Application List of eclipse 3.5.
wi00400136	Defect	Low	IVVR	External media should check for a / on url

				base
wi00382547	Defect	Low	Web Services Connector	No error message in WSOP Axis 1.4 Wizard if name conflicts with another WSOP

3 Installation and Upgrades

3.1 New Installations

With the first time (new user) installation of Dialog Designer 5.1, the pre-requisite components such as Eclipse, Tomcat and Java will be included on the media with their own installers for convenience, but the user must install them separately before installing Dialog Designer.

For instructions to install Dialog Designer 5.1, please refer to the documentation by Information Solutions included in the on-line documentation. A stand alone pre-requisites document is available for download prior to installing DD.

3.2 Upgrades – General

There are framework updates in this build that may result in Java compilation errors after upgrading. To correct this, regenerate projects reporting errors.

Upgrades assume the user is starting from Dialog Designer 5.0, 4.0 or 4.1.

3.2.1 CTI Applications with the Dial Operation

Upgraded applications that contain a CTI Dial operation will need a manual modification in the data node to add a value to the property: Caller Call Info Variable. Typically, this value is set to cticallinfo which is the default call info variable DD uses for caller CTI information.

3.2.2 Remove Older Jar files after upgrade

After upgrading to DD 5.1 please make sure you do not have old versions of the following jar files on the application server:

```
commons-httpclient-3.1.jar
commons-logging-1.1.1.jar
log4j-1.2.15.jar
wss4j-1.5.8.jar
```

3.3 Upgrades with CTI

If you are upgrading a 4.x application that uses CTI conferencing (add/remove conference party), you must manually edit the callflow file and explicitly select the active call ID attribute.

3.4 Upgrades from Dialog Designer 4.1 – CCXML

If you are using web services or database access with CCXML 5.0, you need to change the constructor:

```
public getSayings( com.avaya.sce.runtimecommon.SCESession mySession ) {
```

To

```
public getSayings( com.avaya.sce.runtimecommon.IRuntimeSession mySession ) {
```

3.5 *Dialog Designer 4.0/4.1/5.0 Runtime*

A new wizard (Avaya Speech Development -> Export Runtime Support Files) has been added and will produce the runtimeconfig web application and the runtime support ZIP files for the selected application server. The options to create these files no longer exist on the project export wizard pages.

3.6 *Co-residency*

Co-residency of differing versions of Dialog Designer applications is not supported with 5.0. A new application server must be setup for Dialog Designer 5.0 applications. Earlier versions or applications must be upgraded by running them through the DD 5.0 development environment and redeploying them on a DD 5.0 application server.

Dialog Designer 5.0 applications can run co-resident with the Dialog Designer 5.1 runtime.

3.7 *Additional Application Installation Instructions for Websphere*

- Extract the runtimeconfigWebsphere.zip files to your classpath. We recommend copying them to your lib\ext directory.
Example:
`WS_HOME\AppServer\lib\ext`
- Once the app is running, to navigate to your index page for your speech application via a browser, you should include index.html within the URL as Websphere does not automatically default to this path.
Example:
<http://myserver:port/mySpeechApp/index.html>
- When deploying DDADMIN (a new component with 4.0) on WebSphere 6.1, you need to manually set jsp compilation to version 1.5 to get it to compile. At WebSphere Integrated Solution Console, do the following to install the DDADMIN ear file – runtimeconfig.ear
 1. Application > Install Application. At “Specify the EAR, WAR, JAR, or SAR module to upload and install,” window, Select “Local file System.” Browse to runtimeconfig.ear. Select “Show me all installation options and parameters.” Click Next.
 2. At “Choose to generate default bindings and mappings” window, click Next.
 3. At “Specifies the resulting security warnings from an analysis of this application” window, click “Continue.”
 4. At “Select installation options” window, select “Precompile JavaServer Pages files” and keep the other default values. Click Next.
 5. At “Map modules to servers”, select the runtimeconfig.ear. Click Next.
 6. At “Provide options to compile JSPs” window, select “runtimeconfig.ear, WEB-INF/web.xml”, write “15” under “JDK Source Level.”
 7. At “Provide JSP reloading options for Web modules” window, click Next.
 8. At “Map shared libraries” window, click Next.
 9. At “Map virtual hosts for Web modules” window, select “runtimeconfig.ear”, click Next.
 10. At “Map context roots for Web modules” window, click Next
 11. At “Summary” window, click Finish.
 12. Make sure to click Save after installation. You can access DDADMIN at
<http://myserver:port/runtimeconfig>

3.8 *Additional Application Installation Instructions for WebLogic*

- Extract the runtimeconfigWebLogic.zip files to your classpath. We recommend copying them to your domain server lib directory.
Example:
`WL_HOME\samples\domains\wl_server\lib`
- Using DD export to obtain a war file of your application, such as mySpeechApp.war, explode mySpeechApp.war to a folder which ends with ".war". For example, you can name this folder mySpeechApp.war also. Upload mySpeechApp.war folder to WebLogic, and choose "I will make the

deployment accessible from the following location", where the location references the path to the mySpeechApp.war folder.

- Once the application is running, you can navigate to your index page for your speech application via a browser.

Example:

http://myserver:port/mySpeechApp

- To deploy your application war file non-exploded (not recommended) see Known Issues item #20.

3.9 Additional Application Installation Instructions for Tomcat

Tomcat 5.x:

- Extract the runtimesupportTomcat.zip files to your classpath. We recommend copying them to the Tomcat common directory.

Example:

TOMCAT_HOME\common

- Once the application is running, to navigate to your index page for your speech application via a browser, you can click on your application in the Tomcat manager site.
- A default "log4j.properties" file is placed in the TOMCAT_HOME/common/classes directory. You should examine this file to determine if it meets your logging needs. By default, the logging is set to "INFO" which will generate a lot of log data in the TOMCAT_HOME/logs/Catalina.out file, which may grow quite large. You may consider changing the log level to WARN to reduce the amount of log output.

Example:

log4j.rootCategory=WARN, CONSOLE

Tomcat 6:

- Extract the runtimesupportTomcat6.zip files to your classpath. We recommend copying them to the Tomcat root directory.

Example:

TOMCAT_HOME

- Once the application is running, to navigate to your index page for your speech application via a browser, you can click on your application in the Tomcat manager site.
- A default "log4j.properties" file is placed in the TOMCAT_HOME/lib directory. You should examine this file to determine if it meets your logging needs. By default, the logging is set to "INFO" which will generate a lot of log data in the TOMCAT_HOME/logs/Catalina.out file, which may grow quite large. You may consider changing the log level to WARN to reduce the amount of log output.

Example:

log4j.rootCategory=WARN, CONSOLE

4 Known Issues

The following section describes any known issues, workarounds, words of caution, etc, and a table of outstanding bug MRs for DD.

4.1 Limitations, Work Arounds, Notes:

CCXML:

1. In simulation, since there is only one input (microphone) and one output (speakers) for multiple call appearances, dialogs must be "serialized" to use the resources. Once a dialog starts a form, it must

complete before the next form with a call appearance may use the resources. This generally provides a reasonable simulation of an application, however, in a CCXML application you have multiple call appearances and if one has input, a subsequent call appearance playing an informational message will be blocked until the input is completed and exists. This can occur in the ConferencePredefined application when a conference attendee hangs up. Since the incoming call has a dialog running, listening for an add or drop command, the message “XXX left the conference” will not be heard until the input on the incoming call completes. This does not happen on the platform.

2. When running certain applications (E.g. ConferencePredefined sample application), if the Dialog Designer->Avaya Application Simulator->Enable display of the Avaya Voice Browser output in a console window is enabled, the application can behave irregularly. Please disable this if you encounter this behavior.
3. Applications that use the launchCCXML VP web service with DD/VP 4.0 will not work on VP 4.1 without modification. You now must include a send tag. For placement, one possibility is in the ccxml.loaded transition. The syntax for the addition is:

```
<var name="status"expr="event$.reason"/>
    <send name=""avaya.launchresponse""
targettype=""avaya_platform""target=""session.id"namelist="status"/>
```

4. If the incoming call classification is “LIVE VOICE” then you need to go to the params tab in the simulation profile and select a new call classification then select “live voice”.
5. When working with the Sample Applications, InvokeDatabase and FindMe, there is a limitation when using a MSAccess database and multi-byte data. Multi-byte data will not be stored/retrieved properly. See <http://forum.java.sun.com/thread.jspa?threadID=231861&messageID=3968823> for more details, but essentially, the default ODBC-JDBC driver does not handle UTF-8/16 correctly.
6. If there are any leading \r\n in a document before the ?,xml... the parse will fail. The work around in the JSP page is to have:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE ccxml PUBLIC "http://www.w3.org/TR/ccxml" "ccxml.dtd">
<ccxml xmlns="http://www.w3.org/2002/09/ccxml" version="1.0">
```

for the first 3 lines before <%import...

CTI:

7. The CTI Connector has a setting in the web.xml called providerstartupdelay (defaults to 4000 ms) that allows you to adjust a maximum delay value (in ms) to allow the provider to come in service. If the provider does not come into service before the timer expires, the connection is lost and will be retried.
8. For CTIC deployment, tsapi.pro needs to be in common/lib on WebLogic.
9. For CTIC deployment, tsapi.pro needs 2 additional properties for talking to AES 4.2 through secure connection. The avayaprca.jks comes with cticonnector.war. You just need to change the path to match your deployment. For example:

```
trustStoreLocation=/opt/apps/cticonnector/WEB-INF/lib/avayaprca.jks
trustStorePassword=password
```

10. You can now disable the application from gathering call information automatically by changing the flag sage.cti.autoinvoke.callinfo to false in your web descriptor. If you make this change, then you must use a CallInfo item in your data node and set the property: Initial Call to true before doing any CTI Call operations.
11. Starting with the JTAPI 3.1 driver, the DD CTI connector, can use the UCID (Universal Call ID) to keep track of call ID's. To use this feature, you should enable it on your switch (consult your switch documentation). It is not mandatory to enable it, but it will guarantee no call ID's are recycled which have been problematic in the past with high call volumes.

12. When passing data using the UUI, the maximum number of bytes you can use to write is 96. You can use a complex variable as the data for UUI. The properties allow entry of a variable/field in the dial operation.
13. When placing a call to a line on the same switch and it is in the busy state, you may get back a “failed” instead of a “busy” state indication. You should not check specifically for the “busy” state.
14. CTI does not support the “Numbered Services” configuration on the IR platform.
15. You can hear the status of the call if you are doing a blind call or a consult call with transfer on ring set. Note that you cannot hear busy or invalid line (fast busy) because the switch disallows a transfer to a busy line.
16. If you have CTI nodes in your application, you can’t run the application in HTML mode. The application will stop when it hits the CTI nodes.
17. The CTI Connector is configured to startup when the application server is started. You can disable this functionality if you do not have the CTI Connector configured yet or if you do not want it to run by editing the web.xml file found in your CTIConnector/WEB-INF directory on your appserver. Look for the value: `<load-on-startup>1</load-on-startup>` and remove or comment out this tag.

NOTE: Setting it to 0 does not turn it off. You will need to manually start the CTIConnector if this flag has been removed or commented out.

Connectors:

18. It is not recommended to use the "Refresh" button on your HTML browser when an application relies on a connector (CTI, IC, etc.). Due to the behavior of some HTML browsers, the refresh action causes the connectors to initialize a second time for the session which is not allowed. The recommended action is to close the HTML browser and then start up a new session.

Design Constraints:

19. The Dialog Designer framework has constraints on the number iterations through call flow nodes that do not generate VXML. Those nodes are: Data, Servlet and Tracking. DD uses a servlet request forward to move between consecutive data nodes that do not generate VXML. This is faster and more efficient than redirecting the HTTP request. However, if you need to iterate more than 100 times on consecutive data nodes, you may run out of stack space. The recommendation if you need to iterate more than 100 times, is to move your iteration into Java code.

Deployment:

20. To use packed war files you must set the system property `avaya.dd.temp.dir`:
`-Davaya.dd.tempdir=c:\temp` or some other value.

DD assumes that it can create directories and files in that location. If directory create is disabled, then you must create a subdirectory for each DD web application deployed with sub directories `temp` and `data/log`. When recording, `temp` recording files will be placed in `temp` and if tracing is enabled the `trace.log` and `report.log` will be in `data/log`. If you have a deployed application named `Simple`, under `c:\temp` you would see: `c:\temp\Simple\temp` and `\data\log`.

If the `avaya.dd.tempdir` is not writable then recording will not work, nor will tracing and local reporting. The `avaya.dd.tempdir` can also be used with non-packed war files as well, thus providing a mechanism to move the `temp` and `log` files out of the web application to a separate area.

Lastly when using the `avaya.dd.tempdir` option, the URL returned for the recorded file will be in the `file://` protocol format and is NOT directly usable in a prompt to replay the recording since the file URL is not accessible on the platform where the voice browser is executing. To replay the message you will need to write java code to move the file from the `temp` location to a web context and reference the file there using the `http` protocol.

21. A DD 5.0 application will fail to run if it is compiled with a Java version that is newer than the one on the Application Server. To fix this, select the Java Compiler compliance level that matches what is installed on the Application Server located at Window->Preferences->Java->Compiler in eclipse. For maximum compatibility, select 1.5/5.0 as the compiler compliance level.

-
22. To optimize performance on the Application Server, we recommend adding the following:

For Windows: Create a system level environment variable:

```
JAVA_OPTS = "-server -Xmx1024M -XX:+UseConcMarkSweepGC -XX:+UseParNewGC -XX:ThreadStackSize=512"
```

ulimit -n 8192

For Linux: when Tomcat is started as a service, add the following to the beginning of your /etc/init.d/tomcat file:

```
JAVA_OPTS="-server -Xmx1024M -XX:+UseConcMarkSweepGC -XX:+UseParNewGC -XX:ThreadStackSize=512"
```

ulimit -n 8192

```
export JAVA_OPTS
```

NOTE: The Xmx1024M parameter we try to set to somewhere around half the size of the RAM configured on the box.

Restart the machine after setting the JAVA_OPTS, and verify that the new setting are in effect by doing an: `ps -ef | grep java`

ECMA Script Expressions:

23. Single quotes that are part of the value of an ECMAScript expression will generate a semantic error in the Voice Browser if not properly formatted with an escape character (\). For instance:

```
<var name="Output" expr="John's return value"/> incorrect expression
```

```
<var name="Output" expr="John\'s return value"/> correct expression
```

For Dialog Designer to correctly generate the VXML output you need to add another escape character when building the expression in your callflow, otherwise Java will interpret it as an escape character itself.

Within your call flow you would create the expression as follows:

```
John\\'s return value
```

This will insure the escape character is properly generated in the VXML output. Other characters to watch out for include ('gt;' for '>', '<' for '<', and '&' for '&').

Grammars:

24. Renaming a grammar column is now in the properties view. When the column is selected, the properties view will display the column name and column repeat. This was done to facilitate column repeats, and to better follow the Eclipse paradigm.
25. If you want to use SRGS/SISR with Nuance 9 and DD/VP 5.0, select SRGS-SISR as the grammar format.
26. For external grammar deployment, the application web.xml must be edited to change localhost to the actual ip address of the application server. This can be done before or after deployment. As an alternative, you can use relative urls for external grammars MR 5381, or store the host and port in a DD variable and reference the DD variable in the url
`%DDVAR_myextgrammarsloc%/Myapp/somedir/agrammar.grxml MR 5312`

27. Built in speech grammars are provided by the ASR vendor. While most of them say they are supported, the specific grammars that are supported in any given language and the quality of the results when using them can vary. You should consult the speech vendor for specifics on the support for the languages you would like to use.
28. The quality of the Japanese and Chinese ASR provided by Microsoft (used in DD simulation) for built in grammars is not very high. When testing built-in grammars using Japanese or Chinese, it is recommended to use the “Send ASR” feature.
29. The following illustrates how the runtime can be used to generate large external grammars. The example is simple, but can be extended to build the grammar from an external data source. The reason to do this is for performance at runtime.

```

-----

import com.avaya.sce.runtime.DynamicGrammar;
import com.avaya.sce.runtime.GrammarItem;
import com.avaya.sce.runtime.GrammarRule;
import com.avaya.sce.runtimecommon.SCESession;

public class MyGrammar extends DynamicGrammar {

    public MyGrammar() {
    }

    public void buildGrammar(SCESession mySession) {
        GrammarRule rule;

        rule = new GrammarRule();
        rule.add(new GrammarItem("dog", "DOGTAG"));
        rule.add(new GrammarItem("cat", "CATTAG"));
        add(rule);
        rule = new GrammarRule();
        rule.add(new GrammarItem("blue", "BLUETAG"));
        rule.add(new GrammarItem("red", "REDTAG"));
        add(rule);
    }

    public static void main(String[] args) {
try {
    MyGrammarg = new MyGrammar();
    g.buildGrammar(null);
    String result = g.toString("en-us", SCERT.ASR_TYPES_MAP.get(SCERT.ASR_DISPLAY_LOGUENDO),
SCERT.VOICE_MODE);
        XmlWriter writer = new XmlWriter();
        Document doc = XML.getDocumentFromXMLString(result);
        writer.write(doc, System.out);
    } catch (Exception e) {
        e.printStackTrace();
    }
}
}

```

Help:

30. If you encounter the error “Runtime error” when using the on-line help, you may need to change you Internet Explorer settings to work properly with Sun’s JavaDoc utility. While in your IE browser, go to Preferences, Tools, Internet Options. Select the Advanced tab. Make sure that “Disable Script

Debugging (Internet Explorer)” and “Disable Script Debugging (other)” are checked. Click Ok. Close all IE windows and Eclipse. Then restart Eclipse.

IBM Grammars:

31. On the IR platform only, dynamic grammars with IBM ASR do not work properly. This is IR platform bug which requires a patch to the IR platform.
32. External Grammars get cached for 24 hours on the WVS. If you make a change to an external grammar, it will not take effect until the next day. This default can be modified as follows:
 - Browse to /opt/WebSphere/AppServer/bin
 - Run wsadmin.sh
 - After that run the following set of commands that display and set com.ibm.voice.server.rr.fetchexpires (which determines the cache expiration time in milsec) to desired value:

```
set tmpCfg [$AdminControl queryNames *:* ,type=WVSAdminConfig] (will retrieve system name and information)
set cachetime [$AdminControl invoke $tmpCfg get com.ibm.voice.server.rr.fetchexpires] (will retrieve the current setting for cache expiration period)
$AdminControl invoke $tmpCfg put {com.ibm.voice.server.rr.fetchexpires <cache expiration in msec }
```

IC:

33. To use SSL, you must provide your own certificate and either deploy to the Dialog Designer Trust Store: trusted_weblm_certs.jks or your own external trust store which can be configured from the Dialog Designer configuration servlet on the Certificates link. Similar configuration is necessary on the IC side. Please consult IC documentation for those details.
34. You cannot run an ICC enabled module in the simulator standalone as it will not invoke the ICC newcall operation. You must invoke it using a parent application that is also IC enabled.
35. If you implement a prompt to play while transferring a call to IC, the transfer can sometimes occur faster than the prompt is played. The flush prompt feature should be used for this scenario.
36. Some variables require a type. Specifically, variables used in a web operation might have to be converted to a specific type (int, long, etc). Fields on the VDU variable and VDU cache variable do not perform this conversion as they deal strictly with Strings. If you need to use a VDU field within your web operation that requires a type to be set, you should copy the VDU (or VDU cache) field into another local variable that does perform the conversion.
37. If you are running an IC-enabled application in the simulator, you must check to make sure there is a VOX or VRUSM/HTTPVox simulator configured in Window.....IC Simulator.

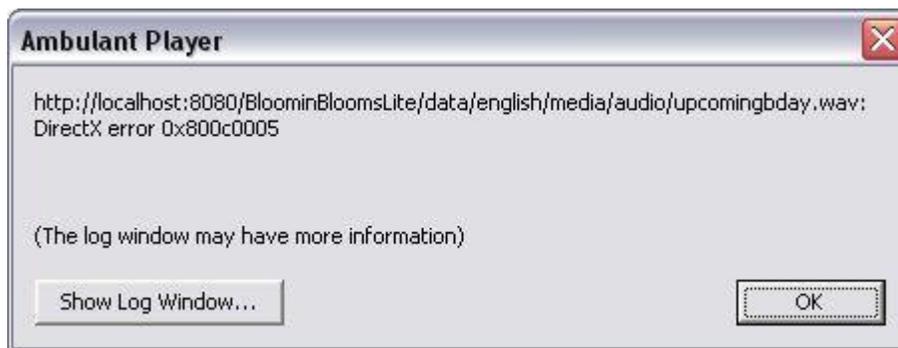
INSTALLATION:

38. If you are installing a fresh instance of eclipse 3.5 and are installing Dialog Designer via the archive file without a name to the archive site location, after selecting the archive file, you might see Dialog Designer disappear after a few seconds from the list of available software to install. This is a well known issue in eclipse 3.5.
The workaround is to select the Dialog Designer jar file from the "Work with:" dropdown and continue with the installation.

IVVR:

39. If the text mode is set to “crawl” and the text writing mode is set to “rl” for a SMIL Text Block, the text is displayed in the Ambulant Player only if it doesn’t contain any spaces. This is a bug found in the Ambulant Player.
40. Although Voice Portal will play back 4 channel png files from your media page, the Ambulant player does not support them and will give you an error if you attempt to play them. You must use 3 channel png files in simulation.
41. Specify duration for the text, if the textmode is set to "crawl", else Ambulant player can hang.

42. If you upgrade to DD 5.1, the media preview view can be hidden and be next to the console view. Click on Window->Reset Perspective, so that the media preview view is placed next to the outline view.
43. When using DD via remote desktop, make sure the media preview view is big enough for the size of the video, otherwise the video is displayed outside the view.
44. If you see overlapping windows in the media preview view, make sure the view is closed on the perspectives other than the speech perspective.
45. If endsync is set to "media" in SMIL Par element, the DD app does not proceed to the next node in the simulator. This is a limitation of the Ambulant player.
46. If you have media items that have no intrinsic duration (text and images) you need to make sure they have an explicit duration set on their media properties. This is especially important during simulation which can cause unexpected results in the Ambulant Player and sometimes crashes.
47. If you are combining media items under a SMIL PAR element, pay attention to the end sync property and the durations (either implicit or explicit) of each media item to get your expected results. Likewise this applies to the VXML PAR when combining media pages with speech/phrases.
48. When using video images in parallel with other items, set endsync to "first" or specify a duration for the video image, otherwise the application may hang as it waits indefinitely for the image to stop playing.
49. If you see the following DirectX error from the Ambulant player when running IVVR apps, reset your proxy settings in Internet Explorer and add "localhost" to the ignore list.



Localization Packages/Certificate:

50. The certificates used to sign DD 5.0 were updated because they expired in August; consequently, localization packages that are installed with the previous certificate will produce warnings. New bundles with the current certificate will be made available with the GA of DD 5.0 and with subsequent service packs for 3.1, 4.0 and 4.1.

Memory Issues:

51. With the addition of the Eclipse WTP (Web Tool Project), memory issues have become more common. More information about the issues and workarounds can be found at the following links:

Links that describe the issue:

https://bugs.eclipse.org/bugs/show_bug.cgi?id=129490

https://bugs.eclipse.org/bugs/show_bug.cgi?id=92250

Similar threads on the Eclipse newsgroups:

<http://www.eclipse.org/search/search.cgi?cmd=Search!&form=extended&np=1&q=PermGen&tmptag=5&ul=/newlists/&wf=574a74>

Possible workaround:

<http://tassos.blogentis.net/2006/06/08/eclipse-and-permgen-space>

Eclipse 3.4 appears to be even more memory intensive. Setting the permgen space to be 1024M seems to be a more stable setting.

Multi-Lingual:

52. Node (templates), Audio file names, grammar names, project variables, folders and project names can not contain double byte or extended ascii characters (E.g. Mandarin/Korean). This is because DD uses these names in urls/uris which must be composed of a subset of US ASCII characters. DD prevents the entry of unsupported characters.

OSDMs:

53. Pre OSDM 2.0.6 versions will not work with the new Nuance 9.0 (Quantum release). The new OSDM versions have not as yet been validated with DD 4.0.
54. When using OSDMs with WebLogic 9.2, you will need to use the web.xml file to fix CT NSRD00019567 on OSDM-Core 2.0.4.2006062211. The patch should be obtained from the Nuance support site. To install the web.xml file on each WebLogic 9.2 platform:
 - a. Copy your original osdm2-core.war (version 2.0.4) to osdm2-core.zip (for instance, in a shell window, type the following command: "cp osdm2-core.war osdm2-core.zip")
 - b. Extract osdm2-core.zip into a folder named osdm2-core
 - c. Extract the OSDM_Core_2.0.4_TS39109_CT19567_Patch.zip file to the osdm2-core folder. The file WEB-INF/web.xml will be updated.
 - d. Log on to the WebLogic Server Administration console.
 - e. From the "Domain Structure", click on "Deployments"
 - f. Check that no osdm2-core application is already deployed, otherwise delete it.
 - g. From the "Change Center", click on "Lock & Edit"
 - h. The "Install" button from the "Deployments" tab should now be activated and selectable
 - i. Click on "Install" in order to start deploying osdm2-core webapp
 - j. Select the location of the osdm2-core folder just created in step 2 and click "Next"
 - k. Select option "Install this deployment as an application" and click "Next"
 - l. Click on "Finish" to finalize the deployment
 - m. From the "Change Center", click on "Activate Changes"
 - n. You should now see that the osdm2-core web application has been deployed and is in the "Prepared" state
 - o. Check the box to the left of the title osdm2-core, click "Start" and click "Yes" to confirm. The osdm2-core state should now show "Active".

If you want your OSDM to work with OSR 3.0, you need to edit the web.xml file to substitute osr 2.0 for osr 3.0 in the OSDM war (e.g. osdm2-core.war) to get the application to run successfully.

55. When using OSDMs with WebSphere 6.1, bad fetch errors occur with the core. There is a work around required. From Nuance:
 - 1) Log on to the WebSphere6 Administrative console
 - 2) Expand the applications option and click on "Enterprise Applications"
 - 3) You should be able to see the osdm2-core application already installed. Select the check box to the left of the title osdm2-core and then click "Stop" in the header menu. The screen should refresh and you should now see a red 'x' next to it.
 - 4) Log off from the WebSphere6 Administrative console
 - 5) Using a windows explorer, go to where the osdm2-core web application has been "installed" under the WebSphere6 application server folder such as the following path:

```
IBM\WebSphere\AppServer\profiles\<AppServerName>\installedApps\  
<MachineNodeCellName>\osdm2-core.ear\osdm2-core.war'
```
 - 6) Under this folder open/edit the following file: WEB-INF/web.xml
 - 7) In the web.xml file, search for the following parameter name:

« com.speechworks.osdm.cookieVersion » (with no guillemets)

8) Change the value of this parameter (see tag <param-value>) to the following value:

« netscape » (with no guillemets)

9) Save and close the file

10) Using a windows explorer, go to where the osdm2-core web application has been “deployed” under the WebSphere6 application server folder such as the following path:

```
IBM\WebSphere\AppServer\profiles\<<AppServerName>\config\cells\  
<MachineNodeCellName>\applications\osdm2-core.ear\deployments\osdm2-  
core\osdm2-core.war'
```

11) Under this folder open/edit the following file: WEB-INF/web.xml

12) In the web.xml file, search for the following parameter name:

« com.speechworks.osdm.cookieVersion » (with no guillemets)

13) Change the value of this parameter (see tag <param-value>) to the following value:

« netscape » (with no guillemets)

14) Save and close the file

15) Log on to the WebSphere6 Administrative console

16) Expand the applications option and click on "Enterprise Applications"

17) Check box to the left of the title osdm2-core and then click "Start" in the header menu.

The screen should refresh and you should now see a green 'x' next to it.

18) Try the OSDM example "osdm2-core/en.us/examples/menu.jsp" and check that no more bad-fetch errors are reported in the VXML browser when fetching a page from OSDM core 2.x.

Simulation:

56. There is no support for G729 encoding in the simulator.

57. When simulating using the VRUSM simulator, it is recommended that you use the DD Runtime configuration servlet and set the ping timeout = 0 secs. This will effectively disable pings which aren't necessary for simulation. A future release/service pack will allow you to do this automatically via the simulation page in DD.

58. If you are experiencing slowness in simulation or unexpected delays, modify the garbage collection settings by adding either:

-XX:+UseConcMarkSweepGC -XX:+UseParNewGC or -Xincgc to your eclipse startup.

Example: Create a shortcut to eclipse and in the properties target:

```
C:/SageRel-4.1\eclipse\eclipse.exe -vmargs -XX:+UseConcMarkSweepGC -XX:+UseParNewGC
```

Additionally, add 2 entries in the Dialog Designer->Speech->Simulators table, one for vox->ic and one for ic->vox.

SSL:

59. When using SSL and Scansoft/Nuance ASR, grammars should be built as dynamic, even if they don't need to be, so they will be processed, in-line. The ASR engine has a problem processing regular grammars if they exceed 4 elements.

Tomcat:

60. Tomcat 6.0.24 and newer added a new memory monitor, JreMemoryLeakPreventionListener, that may erroneously warn about memory leaks caused by threads started--but not stopped--by a web application. This is the expected behavior for Dialog Designer applications caused by threads that are started by shared runtime (scertcommon.jar). These threads are shared by all Dialog Designer applications and are not stopped intentionally.
61. Tomcat will reload the context of your speech application when it detects a change. This will occur pretty much anytime you change your project and save it while Tomcat creates a new current one for your servlet and reloads the dependencies. DD does not have a way to indicate to Tomcat that a submodule is a dependency of its parent application. Therefore, when the parent's context is loaded into the new class loader there is a conflict with the class loader that was used to load the submodule. The solution is two fold:
 - a. If your context file points to your speech application, you can simply reload the context of the submodule right in DD using the Tomcat context option "Reload this context."
 - b. If you have deployed your submodule into Tomcat and Tomcat is running it out of the webapps directory, the simplest solution is to restart Tomcat or you can use the Tomcat Manager application. Refer to the Tomcat documentation for more information on how to do this using the Tomcat manager.
62. The console window may display warning messages about invalid log4j configuration when starting Tomcat from Eclipse. To fix this add a log4j.properties file to the Tomcat classpath (i.e. to <tomcat home>/common/classes). The properties file should contain these lines:


```
log4j.rootLogger=info, stdout
log4j.appender.stdout=org.apache.log4j.ConsoleAppender
log4j.appender.stdout.layout=org.apache.log4j.PatternLayout
log4j.appender.stdout.layout.ConversionPattern=%d{dd/MM/yyyy HH:mm:ss} %5p - %m%n
```

Transfers:

63. Bridged transfers require CM version 3.0.1 or above, with an H323 configurations on IR due to a Configuration Manager defect in earlier releases.

TTS:

64. WVS 5.1.3 GA version of IBM TTS has a bug in it that impacts the sound quality of TTS prompts. A fix has been posted to the IBM support site: PMR# 05274,756,000.
65. Using symbols in TTS (i.e. &, <, >, etc.) in a prompt may result in runtime errors. These symbols generate invalid VXML code. **Workaround:**
 - a. Spell out the word. For example: '&' → "and", '<' → "less than", etc.

Validate Menu Option:

66. Running the validate menu option on any DD 5.0 project causes a Warning to show up in the Problems view. The Resource is web.xml and the Location is line 8 which is: -><!DOCTYPE web-app PUBLIC "-//Sun Microsystems, Inc//DTD Web Application 2.3//EN" http://java.sun.com/dtd/web-app_2_3.dtd> There is currently no work-around to get rid of this warning once it occurs.

Web Services:

67. The graphical Web Services tool is intended for use with simpler web services. I.e. Web services that return base java types (string, int). If your Web service returns an object that has nested objects, at a minimum, you will need to select "Use Java Obj" on the Web Service wizard. This will instruct the runtime code to take the returned value and place it into the Dialog Designer variable as an Object. You will need to write some Java code to examine your returned Object and store values into Dialog Designer variables. This is necessary as Dialog Designer only supports a simple variable system of either a variable or a grouping of variables.

WebSphere Application Server:

68. The Jtapi driver used in the CTI Connector has compatibility issues with the configuration of the trust store manager in Websphere 7.0. If you need to use the CTI Connector in Websphere 7.0, you must use a non secure connection to the AES or use a previous supported version of Websphere. This is a temporary issue and will be addressed in a future service pack.
69. If the application executes the number of database operations that exceeds the number of the connection pool specified for the data source, the trace log will say `javax.servlet.ServletException: Connection not available, Timed out waiting for 180001`. The database operation will hang for a while before the error is thrown. To fix this, the configuration should be changed as follows:
 - Add the following node to the `web.xml` of the application
 - `<resource-ref>`
 - `<!-- replace DS with the real data source name in DD -->`
 - `<res-ref-name>jdbc/DS</res-ref-name>`
 - `<res-type>javax.sql.DataSource</res-type>`
 - `<res-auth>Container</res-auth>`
 - `<res-sharing-scope>Unshareable</res-sharing-scope>`
 - `</resource-ref>`
 - Export the app for deployment; make sure this is done after the `web.xml` has been changed. Otherwise, you have to re-deploy the app.
 - In the Websphere admin console, when you install the application, there will be a new step call Map resource references to resources for mapping the data source name in `web.xml` to the data source you normally define in Websphere admin console.
 - On the screen for this step, all the way at the bottom, find the Browser button, click on it, and select the data source that you've defined for the intended database.
 - Finish the deployment.
70. See the Database section for more information on database configuration for WAS.
71. If you have trouble deploying the `Tsapi.pro` file or WAS install scripts on a Linux machine, try using the utility `dos2unix` on the files.
72. Some database drivers work fine in Dialog Designer when designing the speech application, but do not work in some versions of Websphere. In that case, replace the driver in Websphere with an updated or different version depending on your database type and configure the settings appropriately referring to the WebSphere documentation.
73. For the Help Topic: Installing project files on WebSphere servers, Item 4, should read:

Set this variable to point to your `...\Websphere\appserver\bin` directory.

WebLM:

74. If you are using a Solaris machine for your WebLM server, you must use WebLM version 4.1, or later or the host id provided in the RFA generated license will not work.

5 Version Information

To view the Dialog Designer version in the product, select Help, then About Eclipse, select Feature Details and select the Dialog Designer entry.

6 Hardware Prerequisites

- CPU speed 1GHz (min) 2GHz (recommended)
- RAM 512 MB (min) 1GB (recommended)
- Hard Disk drive 40 GB (min)

7 Software Prerequisites (Supported Versions)

7.1 Design Environment

- Windows XP
- Vista Ultimate
- Vista Business
- Windows 7
- Eclipse 3.4 or 3.5
- GEF 3.4 or 3.5
- Tomcat version 6.0 or 5.5, **Note: Design & Runtime must use the same version of Tomcat or there will be issues with database connections.**
- J2SE version 1.6.x or J2SE version 1.5.x
- Microsoft Speech SDK 5.1 or 6.0
- Apache Axis 1.4
- Apache Axis 2.0
- DTP 1.5 (with Eclipse 3.3) or DTP 1.6 (Eclipse 3.4)
- EMF-SDO-XSD 2.3 (with Eclipse 3.3) or EMF-SDO-XSD 2.4 (with Eclipse 3.4)
- WTP 2.0 (with Eclipse 3.3) or WTP 4.0 (with Eclipse 3.4).

7.2 *Runtime Environment*

Not all of the components are required for the runtime (E.g. the application server will be either Tomcat; WebSphere or Oracle WebLogic, the OS will be Windows, Solaris or Linux; the platform will be either IR or VP, etc.). Supported versions are listed, but the vendors supported list of dependencies and combinations should be consulted when setting up the environment). The tested configurations are as listed in the requirements document.

- Windows Server 2003 standard
- Linux ES 5.0
- IBM AIX 6.1
- Tomcat 6.0 or 5.5.x , **Note: The design and runtime version of Tomcat must match or there will be issues with database connections.**
- J2SE version 1.6.x or J2SE version 1.5.x
- Apache Axis 1.4
- Apache Axis 2.0
- Nuance OSR 3.0.10
- Nuance (aka Quantum) 9.0
- Loquendo 7.5.35
- IR 3.0 or 4.0
- Voice Portal 4.1, 5.0 or 5.1
- WebLM Version 4.5
- Websphere 6.1 application server
- Websphere 7.0 application server
- Websphere Voice Server version 5.1.3
- Oracle Weblogic 10 (preferred), 9.1, 9.2 is required if using OSDMs
- Sun Solaris 10 on SPARC
- CM version R013x01.2.639.0 or greater, and must have the green feature 7434ND enabled and licensed is required to use the Consultation transfer feature.