



Informatica® ActiveVOS

9.2.5

Release Notes

December 2023

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This document contains important information about upgrades, new features and enhancements, fixed limitations, and known limitations for Informatica ActiveVOS.

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925_Target Platform and JDK Updates

Read this section for the technical stack upgrades related to 9.2.5 release of ActiveVOS:

Target Platform Upgrade

The Target platform is upgraded to be compatible with Eclipse 06-2020.

In ActiveVOS Designer, User Reports template has been removed as the recent versions of eclipse do not support BIRT Report Preview and Designing.

You can use the BIRT 4.8.0 all-in-one designer distribution to preview and design reports.

Java Development Kit Upgrade

Java is upgraded to be compatible with Java Development Kit 8.

Security Vulnerabilities for ActiveVOS

The 9.2.5 release of ActiveVOS includes the following TPL fixes:

Table 1. ActiveVOS Server

TPL Name	Upgrade Version
Apache Ant	1.10.13
Apache Commons BeanUtils	1.9.4
Apache Commons FileUpload	1.5
Apache Derby	10.16.1.1
Apache Xalan (Java)	2.7.3
Apache Xerces2	J2.12.2
CodeMirror	3.15
Eclipse BIRT Project - Business Intelligence and Reporting Tools	4.8.0
ICU4J	72.1
Jena	3.16.0
json-smart	2.5.0
JGroups	3.6.20.Final
Mozilla Rhino	1.7.14
Woodstox	3.2.6-osgi

prototype	1.7.3
jQuery	3.7.0
jQuery UI	1.13.2
jQuery Validation	1.19.5

Table 2. ActiveVOS Designer

TPL Name	Upgrade Version
Apache Commons BeanUtils	1.9.4
Apache Commons Collections	3.2.2
Apache Commons FileUpload	1.5
Apache Derby	10.14.2.0
Apache FOP	2.9
Apache XML Graphics Commons	2.9
Apache Log4J, Log4J Compatibility API	2.17.2
Apache Struts	6.1.2.1
Apache Taglibs	1.2.5
Apache Tomcat, Apache Tomcat Native Library	9,0.80,1.1.38
Apache Xalan (Java)	2.7.1
Apache Xerces2	J2.11.0 (Designer Plugins),J2.9.0(Tomcat war)
Batik XML utility library	1.9.1(Designer Plugins) 1.7.0(Tomcat wars)
CodeMirror	3.15.0
Eclipse BIRT Project - Business Intelligence and Reporting Tools	4.9.0
ICU4J	64.2(Designer Plugins), 58.2(Tomcat wars)
iText, a JAVA-PDF library	2.1.17
Jena	3.16.0
JGroups	3.6.20.Final
Quartz Enterprise Job Scheduler	1.6.0
Mozilla Rhino	1.7.r4, 1.7r2(Embedded Tomcat)

TPL Name	Upgrade Version
Woodstox	3.2.9
XStream	1.3

PAM Upgrade

The 9.2.5 release of ActiveVOS includes the following PAM Upgrades:

Table 3. ActiveVOS Designer Configuration Support

ActiveVOS Designer Configuration Support											
Operating System	Version	Chip Set	Binary Type	Oracle Sun JDK	Browser	Eclipse	China SDK	Japan SDK	Korea SDK	Installer Distribution	Plug-In (zip) Distribution
Linux	Enterprise Linux 8.0 MINIMUM	x64	64-bit	8	Mozilla Firefox 10 and Later	Eclipse 2020-06 (4.16)	NS	NS	NS	SV	SV
Microsoft Windows	7, 8.1, 10	x64	64-bit	8	Microsoft Internet Explorer 10 and Later Mozilla Firefox 10 and Later Google Chrome 60 and Later	Eclipse 2020-06 (4.16)	NS	NS	NS	SV	SV

- S = Supported - physical only
- NS = Not Supported
- NA = Not Applicable
- SV = Supported, both virtual (ESXi 4) and physical

- SA = Supported on AMI (Amazon Machine Image) running in Amazon EC2

Table 4. ActiveVOS Server

Server Configuration Support				Database				App Server				JVM Support		
Operating System	Version	Chipset	Binary Type	Oracle	IBM DB2	MS SQL Server	MySQL	Oracle WebLogic	Apache Tomcat	IBM WebSphere	Red Hat JBoss	Oracle Sun JDK	IBM	Azul Zulu
				19c	11.1.4.7 11.5.8.0	2019 2022	8.0 GA	WebLogic 12.2.1.4	9.0.80	9.0.5.16	EAP 7.4.6	Oracle JDK 1.8.x	IBM JRE 1.8.x	Azul Zulu 1.8.x
Linux	Enterprise Linux 8.0 MINIMUM	x64	64-bit	SV	SV	SV	SV^1	SV	SV	SV	SV	SV	SV^2	
Windows Server	2019, 2022	x64	64-bit	SV	SV	SV	SV^1	SV	SV	SV	SV	SV	SV^2	

- S = Supported - physical only
- NS = Not Supported
- NA = Not Applicable
- SV = Supported, both virtual (ESXi 4) and physical
- SA = Supported on AMI (Amazon Machine Image) running in Amazon EC2
- 1 = InnoDB Storage Engine required configured with the UTF-8 character set
- 2 = Use of IBM J9 VM only supported with use of IBM WebSphere

Reported Issues Corrected

Multiple security fixes were made in ActiveVOS 9.2.5. In addition, the following issues were corrected:

Table 5. ActiveVOS Server

Defect	Description
AS-8230	When you try to send a test mail using SMTP in AVOS, the following error occurs: Email configuration test result: Test failed, please check the configuration and try again. (Can't send command to SMTP host)
AS-8212	BPM Scheduler initializes incorrect execution date when you schedule the workflow execution on certain days of the week. BPM Scheduler triggers the workflow at the scheduled time even though the BPM server timing is adapted as per the day light saving time.
AS-8316	Fix for the following vulnerability issues: prototype 1.4.0 jQuery 3.3.1 jQuery 2.0.1 jQuery UI 1.12.1 jQuery Validation 1.17.0

Table 6. ActiveVOS Designer

Defect	Description
AS-8229	When you import Custom Functions And Xquery template in AVOS designer and run xquery test, the following error occurs in the console: Error: Could not find or load main class.
AS-8227	In the automatically created embedded server, the HTTPS port is not configured.
AS-8226	When you start tomcat on embedded server, exceptions occur.
AS-8224	When you install Process Developer to the default location with admin access on Windows, errors appear on the UI.

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New Features and Enhancements

The 9.2.4.6 release of ActiveVOS includes the following new features and enhancements:

Security enhancements

The 9.2.4.6 release of ActiveVOS includes security enhancements to enforce tighter security for ActiveVOS. By default, all UI related HTTP requests will be automatically redirected to the equivalent HTTPS URLs. Redirection happens both on the server side and on the browser side (because ActiveVOS now uses the HTTP Strict Transport Security header).

Note: The server side HTTPS redirect is enabled for port 443 by default. If you use a custom HTTPS port, you must configure it by using the `ae.web.filter.https.port` JVM property. If the configured port is incorrect, you might encounter issues with the UI.

For Tomcat, JBoss, and WebLogic, by default, the application enables the HTTPOnly flag and Secure flag for the JSESSIONID cookie. This means that by default, the session cookies are set to HTTPOnly to prevent cross-site scripting attacks and the cookies are restricted to HTTPS sessions.

For WebSphere, the HTTPOnly flag and Secure flag are not enabled by default for the JSESSIONID cookie because by default WebSphere does not allow an application to change any attribute of the JSESSIONID cookie. You must manually configure the flags in the WebSphere Admin Console.

Perform the following steps to enable the HTTPOnly flag and Secure flag for WebSphere:

1. Open the WebSphere Admin Console.
2. Click **Application servers > servername > Session management > Cookies**.
3. Enter the cookie name as **JSESSIONID**.
4. To add the HTTPOnly flag to the JSESSIONID cookie, select the **Set session cookies to HTTPOnly to help prevent cross-site scripting attacks** option.
5. To add the Secure flag to the JSESSIONID cookie, select the **Restrict cookies to HTTPS sessions** option.

For more information about the flags, see the WebSphere documentation.

JMS Messaging Service enhancements

When you configure a JMS Messaging Service, you can define the following properties:

- **Maximum Reconnect Attempts.** Specifies the maximum number of reconnection attempts that the JMS Manager must make when it tries to connect to the JMS provider.
- **Reconnect Interval (ms).** Specifies the number of milliseconds to wait between each connection retry attempt.

When you configure a queue listener or a topic listener, you can define the following property:

- **Rollback On Error.** Select this option if you want to decline messages that encounter an exception, or failed messages, and move to the next message. If you select this option, you must configure how the message server must handle failed messages. For example, you can configure the message server to redeliver failed messages for a specified number of times or move failed messages to a dead letter queue.

Changed Behavior

The 9.2.4.6 release of ActiveVOS includes the following changed behavior:

Optional Installation of Process Console

Effective in the 9.2.4.6 release of ActiveVOS, Process Console is an optional component that you can choose to install on your application server. Previously, Process Console was installed by default.

Apache Log4j RCE Vulnerabilities for ActiveVOS

ActiveVOS 9.2.4.6 (patch 2 release) has adopted Log4j library version 2.17.2. The 9.2.4.6 (patch 2 release) release is available as of March 2022.

Reported Issues Corrected

Multiple security fixes were made in ActiveVOS 9.2.4.6. In addition, the following issue was corrected:

Defect	Description
AS-8178	When you send an email through an email service, the subject and body of the email are converted into random characters and there is no default charset encoding. (9.2.4.6 (patch 2 release))

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New Features and Enhancements

This section describes the enhancements made in ActiveVOS 9.2.4.5 and any action that you need to take.

Struts Version

ActiveVOS uses Struts version 2.5.17 for enhanced security.

Oracle Weblogic

Important: If you are an Oracle WebLogic 12.1.3 customer, set the following JVM startup property:

```
-Djavax.wsdl.factory.WSDLFactory=com.ibm.wsdl.factory.WSDLFactoryImpl
```

Installation

Before installing ActiveVOS, ensure that you have access to your ActiveVOS Designer or Process Server licenses. Evaluation customers only need a license for ActiveVOS Designer and can use the embedded runtime engine for deployments. A link to download licenses was emailed to you or your company shortly after your purchase or evaluation request.

Apache Tomcat

In Apache Tomcat version 8.0, the `maxActive` and `maxWait` database connection pool settings have been renamed to `maxTotal` and `maxWaitMillis`. This name change affects the `active-bpel.xml` and `activevos.xml` files located in the Tomcat 7 directory.

If you run Apache Tomcat version 7.0, you must perform the tasks described in one of the following options:

Option A

Perform the following task after installation, but before you run the configuration wizard:

Copy the `active-bpel.xml` and `activevos.xml` files from

`<install home>/server-enterprise/tomcat_config/conf/5.5.x/tomcat7`

to

`<install home>/server-enterprise/tomcat_config/conf/5.5.`

Option B

Perform the following task after installation and after you run the configuration wizard:

In `<install home>/<Tomcat7 folder>/conf/Catalina/localhost`, open the `active-bpel.xml` and `activevos.xml` files in a text editor and then manually make the following changes:

- Change `maxActive` to `maxTotal`
- Change `maxWait` to `maxWaitMillis`

Save and close the files.

Console-Mode Installation

You can run the installation from the command line in console mode by using the following commands:

- **On Windows**

`start/wait installer.exe -c`

- **On Linux**

`installer.sh -c`

Installing Designer on Windows 7

ActiveVOS Designer writes to a number of directories within its installation path; for example, the ActiveVOS embedded Server. Windows 7 implements security mechanisms that can prevent modifications to files located in Program Files and other folders that are managed by the operating system. If this is how your system is configured, installing ActiveVOS Designer under Program Files could result in errors when starting the embedded server and deploying processes to it.

Here are potential workarounds:

- Install ActiveVOS Designer in a directory to which you have full permissions such as `C:\ActiveVOS`.
- Run ActiveVOS Designer using the **Run as administrator** option.
- Turn off User Account Control (UAC) from Windows 7 by setting UAC to *Never Notify*.
- Modify the rights of the following folder to grant *modify* access to your account. Be sure that the new permission is copied down this entire directory structure:
`[ActiveVOS Installation Directory]\Designer\designer`
- Copy the Server folder under the following location to a location for which you have permission to write. When you create a new embedded engine in Designer, select the **Add** link next to *Server runtime environment* to point to this location:

`[ActiveVOS Installation Directory]\Designer\designer\plugins
\org.activebpel.enginep_9.2.4.5`

Installing Designer Plugins in an Existing Eclipse Framework

You can install ActiveVOS Designer plugins into an existing version of Eclipse 3.7.2 by following these steps:

1. You must be running **Eclipse for RCP and RAP Developers**. No other version is supported.
2. Download the plugins distribution. (`designer_update_site_[version nnn].zip`) from the ActiveVOS download page by logging in to <https://mysupport.informatica.com>.
3. In Eclipse, navigate to **Help > Install New Software**.
4. Select the **Add** button.
5. Enter the name that will appear in the available-software list.
6. Browse to the location of `designer_update_site_[version.nnn].zip` on your file system.
7. Select the new item in the list of available software, and click **Next**.
8. Follow prompts provided in the Eclipse dialogs to complete the installation.

Migrating to ActiveVOS 9.2.4.5

Upgrading an Existing ActiveVOS Server

Because of a database schema update, you must run a migration script if you upgrade from ActiveVOS 9.2.4. The migration script is available with the installer.

To upgrade from an earlier version of ActiveVOS Server, see *Migrating from a Previous Version* located in the *Configuration* topic.

Required Action: Upgrade Database Schemas

Current customers upgrading to 9.2.4.5 from a release prior to version 9.2.4 who are not using Screenflow but intend to purchase it in the future must execute the following DDL statement:

```
[installationDirectory]/server-enterprise/[appsvr]/ddls/create_repository_ [yourdb].ddl
```

Depending on your current patch level, portions of this patch may fail because indexes being created already exist. You can safely ignore these errors.

Migrating an Existing ActiveVOS Designer Workspace

A simple migration procedure is required in order to update the path and startup settings for the ActiveVOS embedded server:

1. In the Designer *Servers* view, right click on the *ActiveVOS Server at localhost* then click *Delete*Right click and select *New > Server*Click the *Configure runtime environments* link in the New Server dialog.
2. Remove the existing embedded server from the Preferences dialog.
3. Click *Add*Select *ActiveVOS_Embedded_Server*, then click **Finish** on the New Server dialog to add the new server.

Reported Issues Corrected

Multiple security fixes were made in ActiveVOS 9.2.4.5

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Updates

This section describes the enhancements and depreciations made in ActiveVOS 9.2.4.4, and any action that you need to take.

Struts Version

ActiveVOS uses Struts version 2.5.13 for enhanced security.

JQuery Version

ActiveVOS uses JQuery version 3.3.1 and JQuery UI version 1.12.1

If you have created custom forms, or, if you have manually modified forms, human task forms, or reports created by the Informatica Eclipse developer, you might face an issue because of the JQuery upgrade. If you use forms generated by Informatica Eclipse developer, without modification, you will not face any issue.

Important: If your organization uses either of the following artefacts you must take action:

- Custom forms, custom human task forms, or custom reports.
- Custom JQuery UI plugins or custom JavaScript libraries.

First upgrade to ActiveVOS version 9.2.4.4 on a test server and check that the forms work. If the forms work, perform the ActiveVOS upgrade on the production server. If you face issues, edit the forms using a JQuery update guide and then upgrade to ActiveVOS version 9.2.4.4 on the production server.

Use one of the following JQuery update guides:

- <https://jquery.com/upgrade-guide/1.9/>
- <https://jquery.com/upgrade-guide/3.0/>
- <https://jqueryui.com/upgrade-guide/1.9/>

Deprecated: Guide Editor in ActiveVOS Designer

The guide editor in ActiveVOS Designer is deprecated.

The guides you created using the guide editor still exist. You can edit them and create new guides on the ActiveVOS Central Screenflow tool.

Deprecated: Guide Mobile Theme

The guide mobile theme is deprecated.

Important: You might still see the mobile theme in ActiveVOS. Do not select it.

Apache Tomcat Server Version

Version 8.0 of Apache Tomcat is the default version if you install ActiveVOS on an Apache Tomcat server.

The `maxActive` and `maxWait` database connection pool settings have been renamed to `maxTotal` and `maxWaitMillis` in version 8.0.

Important: If you run ActiveVOS on Apache Tomcat version 7.0, you must perform some manual steps as a result of the attribute name changes. See the *Apache Tomcat* section of the *Installation* topic for details.

Oracle Weblogic

Important: If you are an Oracle WebLogic 12.1.3 customer, set the following JVM startup property:

```
-Djavax.wsdl.factory.WSDLFactory=com.ibm.wsdl.factory.WSDLFactoryImpl
```

Installation

Before installing ActiveVOS, ensure that you have access to your ActiveVOS Designer or Process Server licenses. Evaluation customers only need a license for ActiveVOS Designer and can use the embedded runtime engine for deployments. A link to download licenses was emailed to you or your company shortly after your purchase or evaluation request.

Apache Tomcat

In Apache Tomcat version 8.0, the `maxActive` and `maxWait` database connection pool settings have been renamed to `maxTotal` and `maxWaitMillis`. This name change affects the `active-bpel.xml` and `activevos.xml` files located in the Tomcat 7 directory.

If you run Apache Tomcat version 7.0, you must perform the tasks described in one of the following options:

Option A

Perform the following task after installation, but before you run the configuration wizard:

Copy the `active-bpel.xml` and `activevos.xml` files from

```
<install home>/server-enterprise/tomcat_config/conf/5.5.x/tomcat7
```

to

```
<install home>/server-enterprise/tomcat_config/conf/5.5.
```

Option B

Perform the following task after installation and after you run the configuration wizard:

In `<install home>/<Tomcat7 folder>/conf/Catalina/localhost`, open the `active-bpel.xml` and `activevos.xml` files in a text editor and then manually make the following changes:

- Change `maxActive` to `maxTotal`
- Change `maxWait` to `maxWaitMillis`

Save and close the files.

Console-Mode Installation

You can run the installation from the command line in console mode by using the following commands:

- **On Windows**

```
start/wait installer.exe -c
```

- **On Linux**

```
installer.sh -c
```

Installing Designer on Windows 7

ActiveVOS Designer writes to a number of directories within its installation path; for example, the ActiveVOS embedded Server. Windows 7 implements security mechanisms that can prevent modifications to files located in Program Files and other folders that are managed by the operating system. If this is how your system is configured, installing ActiveVOS Designer under Program Files could result in errors when starting the embedded server and deploying processes to it.

Here are potential workarounds:

- Install ActiveVOS Designer in a directory to which you have full permissions such as C:\ActiveVOS.
- Run ActiveVOS Designer using the **Run as administrator** option.
- Turn off User Account Control (UAC) from Windows 7 by setting UAC to *Never Notify*.
- Modify the rights of the following folder to grant *modify* access to your account. Be sure that the new permission is copied down this entire directory structure:

```
[ActiveVOS Installation Directory]\Designer\designer
```

- Copy the Server folder under the following location to a location for which you have permission to write. When you create a new embedded engine in Designer, select the **Add** link next to *Server runtime environment* to point to this location:

```
[ActiveVOS Installation Directory]\Designer\designer\plugins  
\org.activebpel.enginep_9.2.4.4
```

Installing Designer Plugins in an Existing Eclipse Framework

You can install ActiveVOS Designer plugins into an existing version of Eclipse 3.7.2 by following these steps:

1. You must be running **Eclipse for RCP and RAP Developers**. No other version is supported.
2. Download the plugins distribution. (`designer_update_site_[version nnn].zip`) from the ActiveVOS download page by logging in to <https://mysupport.informatica.com>.
3. In Eclipse, navigate to **Help > Install New Software**.
4. Select the **Add** button.
5. Enter the name that will appear in the available-software list.
6. Browse to the location of `designer_update_site_[version.nnn].zip` on your file system.
7. Select the new item in the list of available software, and click **Next**.
8. Follow prompts provided in the Eclipse dialogs to complete the installation.

Migrating to ActiveVOS 9.2.4.4

Upgrading an Existing ActiveVOS Server

Because of a database schema update, you must run a migration script if you upgrade from ActiveVOS 9.2.4. The migration script is available with the installer.

To upgrade from an earlier version of ActiveVOS Server, see *Migrating from a Previous Version* located in the *Configuration* topic.

Required Action: Upgrade Database Schemas

Current customers upgrading to 9.2.4.4 from a release prior to version 9.2.4 who are not using Screenflow but intend to purchase it in the future must execute the following DDL statement:

```
[installationDirectory]/server-enterprise/[appsvr]/ddls/create_repository_[yourdb].ddl
```

Depending on your current patch level, portions of this patch may fail because indexes being created already exist. You can safely ignore these errors.

Migrating an Existing ActiveVOS Designer Workspace

A simple migration procedure is required in order to update the path and startup settings for the ActiveVOS embedded server:

1. In the Designer *Servers* view, right click on the *ActiveVOS Server at localhost* then click *Delete*Right click and select *New > Server*Click the *Configure runtime environments* link in the New Server dialog.
2. Remove the existing embedded server from the Preferences dialog.
3. Click *Add*Select *ActiveVOS_Embedded_Server*, then click *Finish*Click *Finish* on the New Server dialog to add the new server.

Fixed Limitations

The following issues were corrected in ActiveVOS 9.2.4.4:

AS-5765	When you invoke a process that calls a subprocess, only the parent process appears on the ActiveVOS Console. Subprocess details do not appear when you click the Expand icon next to the parent process.
AS-5782	Because of a compatibility issue, you might not be able to use ActiveVOS Central if you have Apache Tomcat version 7.0 or later.
AS-5789	You see an <code>Exception occurred while validating InstallAppointment: XPathFactory#newInstance()</code> error if you deploy a sample BPR file that contains human tasks or screenflows. This happens when you use Apache Tomcat and Java version 1.8.

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New Features and Enhancements

Informatica ActiveVOS uses Struts version 2.5.10.1. This provides enhanced security.

Informatica ActiveVOS 9.2.4.3 provides support for JDK 1.8.

Important: If you are an Oracle WebLogic 12.1.3 customer, set the following JVM startup property:

```
-Djavax.wsdl.factory.WSDLFactory=com.ibm.wsdl.factory.WSDLFactoryImpl
```

Installation

Before installing ActiveVOS, ensure that you have access to your ActiveVOS Designer or Process Server licenses. Evaluation customers only need a license for ActiveVOS Designer and can use the embedded runtime engine for deployments. A link to download licenses was emailed to you or your company shortly after your purchase or evaluation request.

Console-Mode Installation

You can run the installation from the command line in console mode by using the following commands:

- **On Windows**

```
start/wait installer.exe -c
```

- **On Linux**

```
installer.sh -c
```

Installing Designer on Windows 7

ActiveVOS Designer writes to a number of directories within its installation path; for example, the ActiveVOS embedded Server. Windows 7 implements security mechanisms that can prevent modifications to files located in Program Files and other folders that are managed by the operating system. If this is how your system is configured, installing ActiveVOS Designer under Program Files could result in errors when starting the embedded server and deploying processes to it.

Here are potential workarounds:

- Install ActiveVOS Designer in a directory to which you have full permissions such as C:\ActiveVOS.
- Run ActiveVOS Designer using the **Run as administrator** option.
- Turn off User Account Control (UAC) from Windows 7 by setting UAC to *Never Notify*.
- Modify the rights of the following folder to grant *modify* access to your account. Be sure that the new permission is copied down this entire directory structure:

```
[ActiveVOS Installation Directory]\Designer\designer
```

- Copy the Server folder under the following location to a location for which you have permission to write. When you create a new embedded engine in Designer, select the **Add** link next to *Server runtime environment* to point to this location:

```
[ActiveVOS Installation Directory]\Designer\designer\plugins  
\org.activebpel.enginep_9.2.4.3
```

Installing Designer Plugins in an Existing Eclipse Framework

You can install ActiveVOS Designer plugins into an existing version of Eclipse 3.7.2 by following these steps:

1. You must be running **Eclipse for RCP and RAP Developers**. No other version is supported.
2. Download the plugins distribution. (`designer_update_site_[version nnn].zip`) from the ActiveVOS download page by logging in to <https://mysupport.informatica.com>.

3. In Eclipse, navigate to **Help > Install New Software**.
4. Select the **Add** button.
5. Enter the name that will appear in the available-software list.
6. Browse to the location of `designer_update_site_[version.nnn].zip` on your file system.
7. Select the new item in the list of available software, and click **Next**.
8. Follow prompts provided in the Eclipse dialogs to complete the installation.

Migrating to ActiveVOS 9.2.4.3

Upgrading an Existing ActiveVOS Server

You must run a migration script if upgrading from ActiveVOS 9.2.4 as there is a database schema update. The migration script is available with the installer.

To upgrade from an earlier version of ActiveVOS Server, review "Migrating from a Previous Version" located in the Configuration topic.

Required Action: Upgrade Database Schemas

Current customers upgrading to 9.2.4.3 from a release prior to version 9.2.4 who are not using Screenflow but intend to purchase it in the future must execute the following DDL statement:

```
[installationDirectory]/server-enterprise/[appsvr]/ddls/create_repository_[yourdb].ddl
```

Depending on your current patch level, portions of this patch may fail because indexes being created already exist. You can safely ignore these errors.

Migrating an Existing ActiveVOS Designer Workspace

A simple migration procedure is required in order to update the path and startup settings for the ActiveVOS embedded server:

1. In the Designer *Servers* view, right click on the *ActiveVOS Server at localhost* then click *Delete* Right click and select *New > Server* Click the *Configure runtime environments* link in the New Server dialog.
2. Remove the existing embedded server from the Preferences dialog.
3. Click *Add* Select *ActiveVOS_Embedded_Server*, then click *Finish* Click *Finish* on the New Server dialog to add the new server.

Reported Issues Corrected

ActiveVOS 9.2.4.3

The following issues were corrected in ActiveVOS 9.2.4.2.1:

AS-5720	You see an SQL error when you run a task created by a user whose user name contains a single quote. For example, you see an SQL error when you open a task created by a user whose name is O'Leary.
AS-5730	When you submit a form that contains an attachment, ActiveVOS does not decode the Unicode characters in the form correctly. For example, if you submit a form that contains Mandarin text and an attachment, ActiveVOS does not correctly decode the Mandarin text in the form. You see small boxes in the place of Mandarin characters.
AS-5733	A web service call that requires authentication does not generate a response. This is because of a configuration issue in the javax.xml.xpath.XPathFactory file that occurs when you use Tomcat with Java version 8.
AS-5734	When you deploy a contribution that contains WSDL files with complex XML schema definitions, you might see an Out of Memory error. You see errors if there are duplicate imports of complex WSDL schema definitions, which occupy a large chunk of Java heap memory.
AS-5739	ActiveVOS uses an outdated Struts version that potentially enables users to perform malicious code execution.

ActiveVOS 9.2.4.2

The following issues were corrected in ActiveVOS 9.2.4.2:

AS-5708	If recovery takes a long time, the ActiveVOS Alarm Manager sometimes sends duplicate alarms. When this happens, the ActiveVOS console indicates correlation violations.
AS-5702	If you use Microsoft SQL Server and perform process recovery, you see syntax errors. The errors you see are QueueStorage.GetQueuedMessageReceivers and QueueStorage.GetAlarmsJoinProcess.
AS-5698	Recovery time is slow because the ActiveVOS server is unable to get certain resources. This is because these resources are at maximum capacity as the number of processes that the server needs to recover is higher than the engine process count.
AS-5689	The getTask Human Task request fails with the error "ORA-01795: maximum number of expressions in a list is 1000". This happens if you use an Oracle database and the user for whom you are sending the request has more than 1000 roles.
AS-5685	There is a deadlock during subprocess coordination if more than two processes are involved.
AS-5683	ActiveVOS Process Migration converts the XML variable infaTask to a string.
AS-5672	Sometimes, ActiveVOS incorrectly auto-claims Human Tasks to a single user. This happens when the potential owner list of a human task contains both a single user and a user group.
AS-5667	When you restart the ActiveVOS server, sometimes, completed processes also undergo recovery.
AS-5671	You get a Null Pointer Exception when you deploy a Java Message Service (JMS). This happens because of a Fixed Listener name lookup issue.

AS-5592	When you claim a task that belongs to a multiple delegates, you see the XQuery error "Attempting to access a sequence as a singleton item" followed by a correlation violation.
ICRT-5103	If you use ActiveVOS on an Oracle WebLogic 12.1.3 server without a specific JVM startup parameter, you find that startup is slow. You may see messages like "Unable to locate catalog resource". This happens because of a change to the WSDLFactory preference in Oracle WebLogic 12.1.3. If you are an ActiveVOS 9.2.4.1 or 9.2.4.2 customer who uses Oracle WebLogic 12.1.3, set the following JVM startup property: <code>Djavax.wsdl.factory.WSDLFactory=com.ibm.wsdl.factory.WSDLFactoryImpl</code>
AS-5649	When the ActiveVOS server receives JMS message that results in a correlation exception, the process either hangs or times out. This is because the JMS client expects but does not get a response at the replyTo address as the ActiveVOS server does not send any system-generated response to it. The JMS client is expected to process the error condition and the following fault: <code><aex:Fault xmlns:aex="http://www.active-endpoints.com/2004/06/bpel/extensions/"> <faultcode xmlns:ns="http://docs.oasis-open.org/wsbpel/2.0/process/executable" name="correlationViolation" namespace="http://docs.oasis-open.org/wsbpel/2.0/process/executable"/></code>
AS-5670	When you use the Human Tasks query <code>getTasks</code> , the server is slow to respond when the data set is large.
AS-5704	If you use JMS queue to send a message to the ActiveVOS server, you see a correlation violation even though there is a process that is waiting for the message.

ActiveVOS 9.2.4.1

AS-4436	Enhanced human tasks such that you can now set the time in addition to the day when delegating a task from ActiveVOS Central. This allows for partial day delegation.
AS-5520	Updated ActiveVOS to address a defect that Oracle fixed in <code>jaxws-api 2.2.1, 2.1.8</code> and made backwards compatible with <code>2.1.3.x</code> jars. Previously, when a process was invoked from ESB, an Internal Server Error was thrown in ActiveVOS. This no longer occurs.
AS-5533	Fixed a defect with the JMS Transaction Manager. Previously, under heavy load, the ActiveVOS server could spawn thousands of threads that were only cleaned up with garbage collection.
AS-5547	Fixed a problem where XSI Type was not preserved when using <code>SetOutput</code> . The XSI Type is now preserved for client operations of <code>setOutput</code> , <code>setFault</code> and <code>complete</code> ; removed validation from the people activity when it consumes the message.
AS-5550	Added the ability to specify explicitly headers which should not be sent with the request to ActiveVOS Central. To enable this capability, you must modify the <code>web.xml</code> of the Central .war file. Add the following fragment after the context-param configuration of <code>ae.dont.proxy.headers</code> . The param-value is a comma-separated list of headers which should not be proxied during the request submission: <code><context-param></code> <code><param-name>ae.dont.proxy.request-headers</param-name></code> <code><param-value>\$WSRA,\$WSRH</param-value></code> <code></context-param></code> Background: Using IBM's IHS load balancer, reference to an IHS authentication event is done using HTTP Headers <code>\$WS*</code> (for example, <code>\$WSRA</code> and <code>\$WSRH</code>). This informs application servers where to look for the identity of the request. Because SSO is intended to authenticate beyond the IHS/WAS environment and a trusted connection in SSL/CLIENT-CERT should be used by proxy, these headers must be stripped from Central's proxy execution.
AS-5551	Fixed a defect where human tasks were faulted if all attachments were not added to a process request form.

AS-5555	Fixed a problem where two versions of a project could not be active at the same time in 9.2.2.
AS-5557	Fixed a defect where an AeCriticalStorageException was returned when performing a getTasks request.
AS-5571	Fixed a problem when using task operations defined in the WSHT API with Redhat JBoss EAP 6.x where the following error was reported: java.lang.IllegalStateException: The prefix identity is not bound. at org.apache.ws.commons.schema.SchemaBuilder.getRefQName(SchemaBuilder.java:823)
AS-5573	Fixed a problem when using ADMIN API (ae_metro_admin.jar) with Redhat JBoss EAP 6.x where the following error was reported: ClassNotFoundException: org.activebpel.rt.metro.jaxws.AeBaseJAXWSServiceImpl
AS-5574	Fixed a problem where an exception occurred during execution of installation db-script failures with MSSQL, due to case sensitivity errors in the source SQL statements.
AS-5576	Fixed a defect where getAllInvokeMetrics was not returning the correct average time. When trying to use built-in reports services, incorrect metrics on response time were returned when the same partnerlink and operation were used more than once. This issue also surfaced in server performance statistics.
AS-5579	Fixed a problem with a Null pointer exception in ActiveVOS 9.2.1 when deployed to Oracle WebLogic..
AS-5581	Fixed a defect where non-timeout JMS Connection Errors were masked by a connection timeout message. Now, if the AeJMSTransactionManager throws an error during a getConnection, it is always presented to the user as a connection timeout exception. Note: For HornetQ, which has fine-grained security, the initial connection succeeds but the underlying access to a specific queue might fail and the error will not be identified in the log.
AS-5585	Changed the WS-HT schema restriction to allow a priority field to be a negative number.
AS-5586	Enhanced human tasks to allow both users and groups to be potential owners of a task. Prior to this change users and groups were mutually exclusive. Customers making use of the ActiveVOS SDK should upgrade to the ActiveVOS 9.2.4.1 SDK to obtain the latest binary, XML schema and WSDL updates.
AS-5600	Fixed a defect to now check if the AeJMSTransactionManager is closing before calling close on the underlying connectionFactory to avoid deadlock.
AS-5601	Fixed a defect seen when the call failed if using multiple LIKE operands in a WS-Humantask API call. Multiple occurrences of the LIKE operand with the WSHT API are now supported.
AS-5604	Fixed defect where a task did not appear in ActiveVOS Central if the task had users and groups, or only groups set as the potential owner.
AS-5606	Updated to handle escape of '_' and '%' characters for task query when using a LIKE clause with the WSHT API.
AS-5608	Fixed a problem where the server assumed any failure to be a timeout failure when, during process recovery, executor service tasks are created to encapsulate work being performed. Error handling now catches and reports errors with more granularity.
AS-5625	Fixed a problem with an unbalanced releaseMutex() call during process recovery.
AS-5636	To improve process purge performance, foreign keys were added as indices to a number of tables.

AS-5641	Enhanced support for non-default schemas. Previously, dynamic SQL generated by AeSQLTaskFilter did not fully support non-default schemas. DML queries now include the %TABLE_PREFIX%.	
AS-5642	Added new MDM Identity Provider.	
AS-5645	Fixed a problem where addDelegate and removeDelegate operations were not working as expected within a JBoss environment.	
AS-5648	Improved performance de-serializing XML documents containing many namespaces.	
AS-5651	Fixed a defect where customer encountering SQL error during process migration when configured for an Oracle database under certain situations.	

ActiveVOS 9.2.4

15957	Fixed a defect calling the WS-HumanTask getAttachment operation which could result in a fault.
16123	Fixed a defect where the Additional query dialog of the ActiveVOS Console's process list page did not pop up when using Internet Explorer 7.
16023	Database queries were enhanced to eliminate contention when performing WS-HumanTask getTasks operation that resulted in poor response times. See also defect 16607.
16251	Fixed a defect installing ActiveVOS Server 9.2.2 on IBM WebSphere 7 on Solaris and RHEL.
16269	Fixed a deadlock in the ActiveVOS server's AeResource cache. Under specific circumstances, a few minutes after starting the server, several threads could get stuck resulting from a deadlock. This would stop further server processing. This deadlock condition was caused in the caching layer of the AeResource cache. Note: ActiveVOS 9.2.2 patch Server922-5.zip is also available. This patch resolves defects 16269, 17041, and 17115, which were fixed with ActiveVOS 9.2.4.
16326	Fixed a problem with reports that did not launch in the ActiveVOS Console when the console is launched using the Reverse Proxy URL. Note: ActiveVOS 9.2.2 patch Server922-2.zip is also available.
16372	Fixed a problem with BIRT reports saved with the ActiveVOS Designer 9.2.2 that would fail to open up in the ActiveVOS Console.
16412	Fixed a problem with the WebSphere servlet/filter that interfered with ActiveVOS reporting. Note: ActiveVOS 9.2.2 patch Server922-1.zip is also available.
16447	For database servers other than MySQL Process Recovery was slow due to incorrect/missing index. An additional index was added and included in the upgrade DDL
16607	Database queries were enhanced to eliminate contention when performing the WS-HumanTask getTasks. For database servers other than MySQL Process Recovery was slow due to incorrect/missing index. An additional index was added and included in the upgrade DDL operation that resulted in poor response times.
16726	Fixed a problem with queue receive IDs going over 2 billion. Customers running in an ActiveVOS MultiSite configuration are likely to encounter this issue. For details on MultiSite, see http://infocenter.activevos.com/infocenter/ActiveVOS/v92/topic/doc.server_console/html/SvrUG6-11.html .
16780	Fixed a problem with the WS-HumanTask getInput operation that could fail due to strict XML Schema validation when the schema used a substitution group or when the task input used xsi types. Note: ActiveVOS 9.2.2 patch Server922-4.zip is also available.

16858	Fixed a problem with the <abp:timeout> partner policy on an endpoint reference not being applied correctly for certain cases that allowed processes to remain in the running state. Note: ActiveVOS 9.2.2 patch Server922-3.zip is also available.
16945	Fixed a problem with the expiration of a human tasks if the date of expiration is greater than 12 days.
17041	Fixed a problem saving process state causing the server to stop processing. This issue would arise when variable state saves were attempted when multiple versions of a variable were being saved. This could sporadically occur and be reported with the following stack trace in the server log, or execution markers not showing in the process detail view. Apr 16, 2014 9:19:30 AM org.activebpel.rt.AeException logError SEVERE: Warning: probably need to use a type-specific null value for parameter 1! org.activebpel.rt.bpel.server.engine.storage.sql.AeQueryRunner \$AeWarning ... Note: ActiveVOS 9.2.2 patch Server922-5.zip is also available. This patch resolves defects 16269, 17041, and 17115 fixed with ActiveVOS 9.2.4.
17115	Fixed a problem that could cause threads to be blocked in a busy environment because the default counter block size for the JournalID journal counter was set too low. The problem materialized in the logs as follows: WorkManager.aeWorkMgr : 124" daemon prio=3 tid=0x064df000 nid=0x5d1b waiting for monitor entry [0x1a92e000] java.lang.Thread.State: BLOCKED (on object monitor) at org.activebpel.rt.bpel.server.engine.storage.AeCounter.getNextValue(AeCounter.java:160) - waiting to lock ... Note: ActiveVOS 9.2.2 patch Server922-5.zip is also available. This patch resolves defects 16269, 17041, and 17115 fixed with ActiveVOS 9.2.4.
17116	Fixed a contention problem in the WSDL Locator object. This materialized as thread dumps in a highly loaded environment; for example: "WorkManager.aeWorkMgr : 210" daemon prio=3 tid=0x04c40800 nid=0xae7 waiting for monitor entry [0x0f67e000] java.lang.Thread.State: BLOCKED (on object monitor) at org.activebpel.rt.wsdl.def.AeBPELExtendedWSDLDef. ... Note: ActiveVOS 9.2.2 patch Server922-6.zip is also available.
17130	Corrected a situation where a single process being recovered by the engine containing thousands of records returned from a service invoke would take an excessive amount of time, causing thread starvation as the process recovery thread would hold up a majority of threads in the system. Process recovery now uses a 30 second timeout. This limits the amount of time a single process may take for recovery. If recovery of a single process exceeds this limit, it will be faulted and information is displayed in the ActiveVOS Console. The server log will record the server trace of the recovery thread at the time it was interrupted.
17160	Fixed a problem with correlation not working when instantiating a process using a Pick activity when a process has correlation set to one message (but not all messages) and there is a subsequent intermediate Pick to be correlated in the same Pick branch that started the process Note: ActiveVOS 9.2.2 patch Server922-7.zip is also available.
17896	Fixed a problem reconnecting to a remote JMS broker that was failing over to the default initial context when a JMS Manager was configured to use a remote JNDI location. This occurred after the loss of connection to a remote JMS provider. The server incorrectly reverted to using the local JNDI context instead of the remote one, and never successfully reconnected to the remote queue. The only work around was to restart ActiveVOS after remote queues were back up and available. An ActiveVOS 9.2.2 patch is available upon request.
17919	Fixed a problem with the businessAdministrators and potentialOwners groups variables getting lost after changing the logging level of deployed process in ActiveVOS console.
17926	Fixed a problem where the search filter in "Deployment Log" does not work properly when errors are present in the deployment logs.

18018	Fixed SQL performance issues when taking contributions offline These issues occurred during recovery and taking contributions offline in large databases (millions of records in the AeProcess table) and resulted in long running SQL operations. The tables primarily affected are the AeProcess and AePlan tables. Changes to existing indexes were made. Customers should follow the instructions found in the "Upgrading Database Schemas" below.
18067	To improve process purge performance, foreign keys were added as indices to a number of tables.
18189	Corrected an issue with the Dispatch service not decrementing the executing request count.

ActiveVOS 9.2.2

12210	Fixed a problem where getProcessListIO did not execute without all of its arguments.
15103	Fixed a problem where the documentation did not indicate that when deploying ActiveVOS tomcat server, the activebpel-cert.war file is not automatically deployed.
15200	Fixed a problem where threads became stuck when a server was started and a node failure occurred.
15231	Fixed a getAttachment() error where the request failed because of a timeout.
15288	Fixed a problem in ActiveVOS Central where no Screenflow guide tabs were displayed.
15313	Fixed a problem with the timestamp policy for MyRole where the created timestamp would not accurately reflect the time for which a message would be valid.
15315	Fixed a problem where a queued receive process ID was not correct when process IDs were large.
15316	Fixed a problem where the outer variable (the counter) in a for loop was not properly restored from the state document. This most often occurred when the parallel flag was enabled in the outer for loop.
15335	Fixed a problem where changes made to an XQuery within the ActiveVOS console did not take effect until the application server is restarted.
15347	Fixed a problem where BPRD execution is always successful even if deployment failed.
15369	Fixed a problem where scheduled purges do not occur after a node was restarted.
15374	Fixed a problem with the ActiveVOS implementation of OAuth 2.20 where it did not recognize the correct payload.
15375	Fixed a problem with a tech note on configuring the ActiveVOS console with CAS was incorrect.
15382	Fixed a problem with a correlated subquery accessing the AEPROCESS table taking excessive time to execute. (This is related to the DisableExpiredPlans function.)
15454	Fixed a problem where an Ant script could not find an automatic step's WSDL file.
15518	Fixed a problem where the content type was changed in a REST invoke.
15528	Fixed a problem where the installer wouldn't execute for the JBoss server when the JDK is 1.7 on Linux.
15554	Fixed a problem where a meaningful error message did not display when there was a null pointer exception error during simulation.

15627	Fixed a problem with the timestamp policy for MyRole where the created timestamp would not accurately reflect the time for which a message would be valid.
15680	Fixed a problem with parameter ordering in the JSON binding when starting a task.
15745	Fixed a problem when a null pointer exception occurred when rendering a process within the ActiveVOS console.
15760	Fixed a problem where users where unable to login to ActiveVOS Central 9.2.1 running on JBoss 7.1.1 running on Linux.
15806	Fixed a problem where the Administration Console did not always display the correct links when running under JBoss 7.
15819	Fixed a problem where the additional information bar was not resizable.
15839	Fixed a problem where a link definition error occurred. This occurred when there are a number of scopes that are linked with conditional or unconditional links.
15851	Fixed a problem where the Designer generates an unsorted guide-catalog.xml file.
15896	Fixed a problem where the getAllHttpHeaders() function did not return a result message.
15910	Fixed a problem where process service times do not display a graphic image in Firefox.
15940	Fixed a problem where the server start-up aeEngineResource status is reported inconsistently.

Screenflow 3.2.1

15327	Fixed a problem where data validation did not occur when an attachment was not added during an Add Attachment Automated step in Internet Explorer.
15552	Fixed a problem where some themes did not work for Internet Explorer 7 and 8.
15723	Fixed a problem where guide action buttons are re-enabled before a long running automated step completes.
15725	Fixed a problem where Screenflow would hang after previously using either pressing the Go Back One Step button or an entry in the History list.
15757	Fixed a problem in the documentation where the WebLogic version numbers were incorrect.
15766	Fixed a problem where data validation did not occur after reentering invalid the first time.
15724	Fixed a problem where the Synchronize button was not enabled in the Cloud Extend Setup page in Internet Explorer and Firefox.

ActiveVOS 9.2.1

15379	Fault Data in the Retry Service Input Fixed: When triggering an alert service with a "suspend on uncaught fault" flag, you may have difficulties determining if the process actually completed This problem will not occur when using the Retry service.
15322	Signal Events are not shown in an existing workspace This problem can occur if you have a customized palette in your workspace. Copy the signal events entries over or removing the customized palette allows these events to be shown.
15177	Getting error transmitting multisite message after restarting one site server in a multisite You may see the following message: Error transmitting MultiSite message from Site streamsa to http://streams:8080/active-bpel/services/activevosSiteComm . This message appears periodically and disappears when a site is restarted. After the site is fully online, the message stops.

ActiveVOS Server 9.1.0.x

13760	Fixed a problem whereby an invalid WS-HumanTask setOutput API payload request would timeout. Reference: http://forums.activevos.com/showthread.php?t=5945
14453	Fixed a problem where by "Delegate" (assign) and "Release" task commands was not limited to business admins only, but incorrectly to all potential owners.
14856	Fixed an issue where server startup taking long time on a query to AeCatalog. This results in significant improvement in server startup time.
14917	Fixed a problem where reconnection of listeners to a remote Oracle WebLogic queue would sometimes fail due to recursive calls to the JMS exception listener Reference: http://forums.activeendpoints.com/showthread.php?t=6336
14920	Fixed a problem restoring counter variables in parallel forEach scopes after the process has been restored from the state document. Reference: http://forums.activeendpoints.com/showthread.php?t=6234
15034	Versions of WebLogic prior to 12.2 have file upload issues You may encounter issues that include not being able to deploy a BPR, import identity configuration settings, adding attachments, and the like. The workaround is update a later release of WebLogic or download and install patch 13657792. Enter this value in the patch number search field on the patches & updates tab of my oracle support.