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Installation & Upgrade Information

Release JIS 9.1.1 is a service pack for release JIS 9.1 focused on fixing warning messages displayed by the Java client and implementing various incremental improvements to the product.

Supported Platforms

Windows Server 2003 Standard and Enterprise Edition (32-bit)

Windows Server 2008 Standard and Enterprise (32-bit)

Windows Server 2008 Standard and Enterprise (64-bit)

Windows XP Professional (32-bit)

Windows Vista (32-bit)

Windows 7 Professional, Ultimate and Enterprise Edition (32-bit)

Windows 7 Professional, Ultimate and Enterprise Edition (64-bit)

Solaris SPARC 10 (64-bit)

AIX 6.1 Power (64-bit)

Red Hat Enterprise Linux 5 for x86 (32-bit)

OS/400 V6R1

OS/400 V7R1

Recommended Configurations

Software AG provides support for operating system versions, Java versions, browser versions and application server versions supported by their respective vendors. Generally, when a vendor stops supporting an OS version, Java version, browser version or application server version, Software AG will stop supporting that version as of the next JIS service pack level delivered by Software AG. Although it may be technically possible to run a new version of JIS using an unsupported version, Software AG cannot continue to support configurations that are no longer supported by their vendor.

ACE

The ACE interactive development kit has been tested on the following operating systems:

- Windows XP Professional SP3.
- Windows 7 with "User Account Control" disabled.

When developing on Windows 7, in order to install a JIS runtime installation on Unix/AS400, you need to add the %windir%\System32\ftp.exe application to the Windows firewall allowed application list.

Clients

The Java Client has been tested on the following operating systems, browser and Java versions:

- Windows XP Professional SP3.
- Windows 7.

Browser	JRE
IE 7	Sun JRE 1.6.0_22
IE 8	Sun JRE 1.6.0_22
Firefox 3.5	Sun JRE 1.6.0_22

When working with a native 64 bit Windows operating system version such as Windows 7, 64 bit, in order to run the JIS Java client, the Java runtime environment must be installed twice, Java 32 bit for Internet Explorer 32 bit and Java 64 bit for Internet Explorer 64 bit.

The XHTML client has been tested with the following operating system and browser versions:

Operating System	Browser
Windows 7/Windows XP	IE 7, IE 8
Windows 7/Windows XP	Firefox 3.5
Windows 7/Windows XP	Safari 5
Windows 7/Windows XP	Chrome 8
Linux x86	Firefox 3.5
Mac OS	Safari 4

JIS Standalone Server

The JIS standalone server has been tested in the following environments:

Operating System	Java version
Windows 2003	Sun 1.6.0_10
Windows 2008 64 bit with 32 bit JVM	Sun 1.6.0_10
Solaris 10	Sun 1.6.0 32 bit
AIX 6.1	IBM 1.6.0 32 bit
AS400 V6R1 and V7R1	IBM 1.6.0 32 bit
RedHat Linux AS5 32 bit	Sun 1.6.0 32 bit

J2EE Deployment

The runtime of the JIS XHTML client has been tested for deployment in the following environments:

Application Server or Web Container	Java Runtime Environment	Operating system
WebSphere 6.1.0.17	IBM JDK 1.5	Windows 2003 Enterprise Edition
WebSphere 6.1.0.17	IBM JDK 1.5	Solaris 10
WebSphere 6.1.0.27	IBM JDK 1.5	RedHat Linux AS5
WebSphere 7.0.0.11	IBM JDK 1.6	Windows 2003 Enterprise Edition

JIS Java proxy servlet

The runtime of the JIS Java proxy servlet has been tested for deployment in the following environments.

Application Server or Web Container	Java Runtime Environment	Operating system
JIS with embedded Jetty 6.1	Sun 1.6.0_10	Same as JIS standalone server

As of this release JIS no longer supports deploying the proxy servlet classes into a 3rd party application server.

AS400 components

The Innovator components and the DDS compiler have been tested on the following operating systems:

- OS400 V5R3
- OS400 V6R1

New Features in Version 9.1.1

XHTML

The XHTML client is now supported on Mac OS and Linux operating systems and Safari and Chrome browsers. See the "Recommended Configurations" section for specific details as to which configurations are recommended and see the "Limitations" section regarding limitations when using these configurations.

Note: In order to use the Mainframe function keys (F1-F24), when using the Safari browser on Mac OS, open the "System Preferences" dialog box, select "Keyboard" and verify that the "Use all F1,F2, etc..." checkbox is checked.

Server Changes

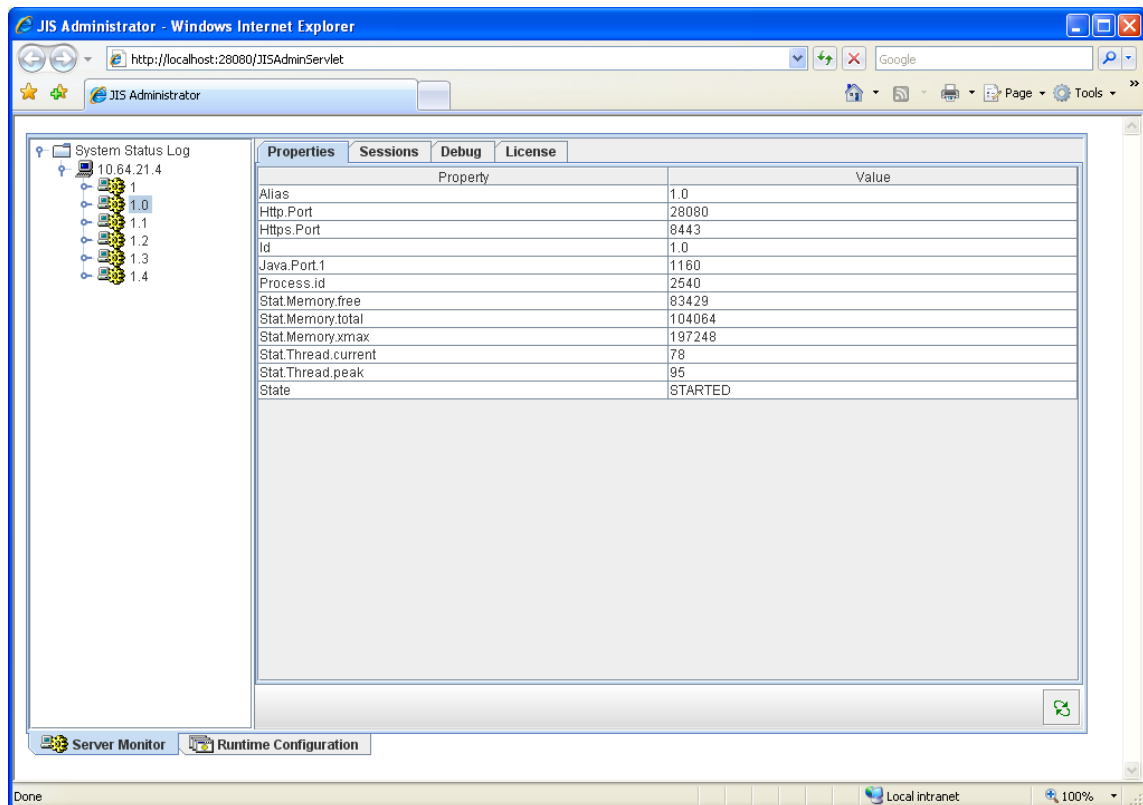
The Server start up, shutdown and restart times have been shortened. In order to achieve this, the following changes were made:

- The Node Registry component no longer runs as a separate Java process. Instead the Node Registry now runs within one of the other server processes. This change improves startup time and removes the need to specify the path to the jacadasv.policy file using the -Djava.security.policy flag.
- Server quit time was reduced by approximately three seconds.
- The Administrator tool now displays the Integrator (1.0) process immediately after it is fully started. Previously the Integrator process only showed up in the monitoring tool, 60 seconds after it was fully started.

Monitoring Improvements

A JIS server deployment is comprised of one or more JIS work processes. Each process represents a Java virtual machine operating system process. The JIS administrator utility is now able to provide environment and performance indicators related to the underlying Java virtual machine. Use these indicators to monitor the status of the underlying Java virtual machine.

New process attributes:



Process.id: Specifies the operating system process ID - useful for identifying the specific Java virtual machine process in the Windows task manager or using the Unix ps command.

Stat.Memory.free - the amount of free memory, out of the current heap memory size (specified in Kilobytes).

Stat.Memory.total - the current heap memory size (specified in Kilobytes).

Stat.Memory.xmax - the maximum allowed heap memory size, as defined by the Java -mx command line parameter (specified in Kilobytes).

Stat.Thread.current - the current number of operating system threads used by the Java virtual machine.

Stat.Thread.peak - the number of operating system threads used by the Java virtual machine at peak usage since the server started.

Best practices:

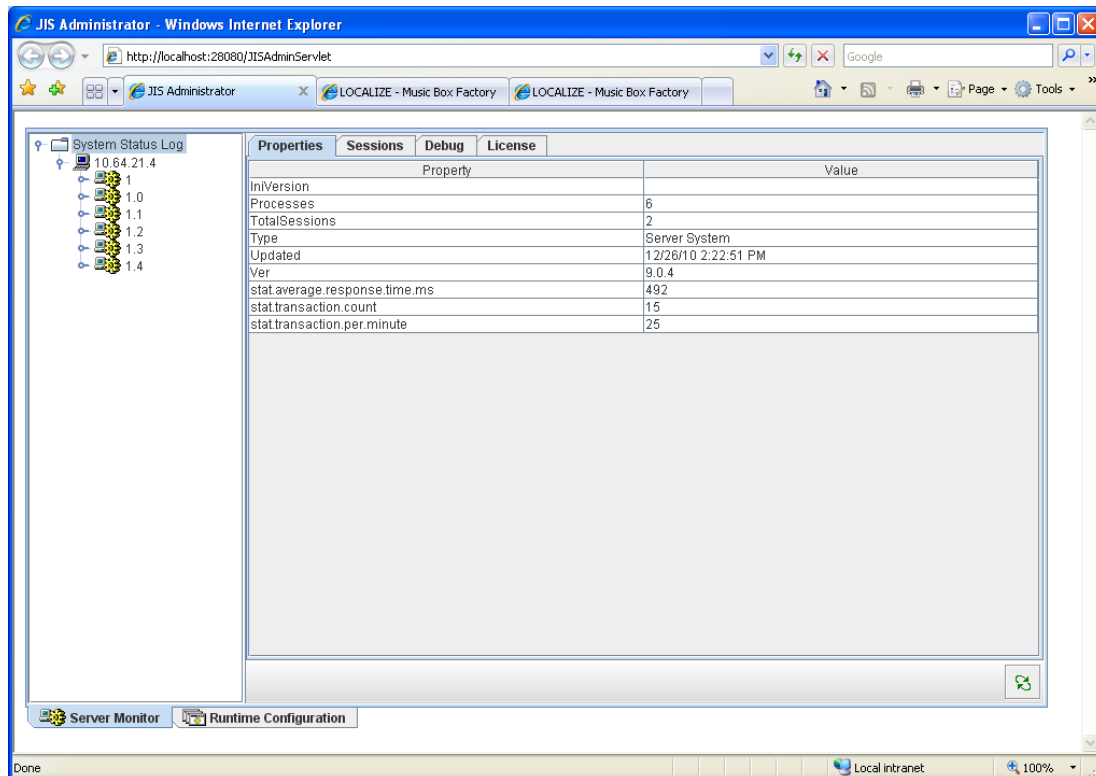
If for a given server process, Stat.Memory.total equals Stat.Memory.xmax and Stat.Memory.free is less than 10% of Stat.Memory.total, then the server process is at risk of running out of heap memory. To mitigate this risk, increase the memory heap size of the specific process using the -mx flag or allocate more work processes on the machine by increasing the MaxProcesses setting.

Before allocating more memory to a process, always make sure the server machine itself is not running out of memory.

A single Java process has limited capacity for running operating system threads, the larger the heap memory the smaller the number of threads available for the Java process. Use

the following rule of thumb: if for a given server process, Stat.Thread.peak increases above 2000, consider allocating more Java processes on the server machine.

New system status attributes:



The JIS administrator now monitors the total number of transactions performed by the server at any given moment. A transaction is defined as the unit of work starting by a client action or host action and ending when the complete response is written to the client. In most cases a transaction consists of a single Mainframe screen transition.

stat.average.response.times.ms – the average server response time in milliseconds. The response time is measured from the time a client request was received by the server and until the response has been fully written back to the client. Therefore this value includes any think time caused by the host and the communication between the server and the host but does not include any think time caused by the client browser or communication between the client and the server. Typically a value of more than 2000 (2 seconds) indicates a performance tuning problem.

stat.transaction.count – the total number of transactions since the server was started. Use this parameter to evaluate the total load of the server and to make sure work is equally distributed between servers in a multi-server configuration (this parameter is not implemented when deploying the application as an .ear file)

Stat.transction.per.minute – the current number of transactions per minute. Measuring this parameter is especially important during peak hours and during server loadtest. You can compare the value of this parameter with the Software AG benchmark results (this parameter is not implemented when deploying the application as an .ear file)

The new performance indicators are exposed in the following configurations:

Standalone JAM, JAM in J2EE, JISAdminServlet, JMX and Java code acting as a JMX client.

Note that a JMX enabled monitoring tool may monitor these parameters over time and allow you to chart the data and define alerts.

Localization Improvements

The following localization improvements have been made to Java Client localization support:

- A new parameter for specifying the encoding of the localization resource file has been added: "ResourceFileEncoding". This parameter is necessary when the encoding used when creating the resource file is different than the encoding used by the client workstation.

Examples:

To read a resource file encoded as UTF-8. This is the recommended encoding:

```
<PARAM name = "ResourceFileEncoding" value = "UTF-8">
```

To read the resource file using simplified Chinese encoding:

```
<PARAM name = "ResourceFileEncoding" value = "gbk">
```

To read the resource file using simplified Japanese encoding:

```
<PARAM name = "ResourceFileEncoding" value = "sjis">
```

- Text of dynamic menu items is now translated according to the resource file.
- Text labels in the Help-About dialog box can now be translated according to the resource file.

The following localization improvement has been made to both the Java Client and XHTML localization support:

The original string and the translated string can now include multiple appearances of the equal sign '=' and the quotes sign ''.

ACE

Creation of the runtime installation is only possible for platforms for which runtime was generated.

Runtime Installation

It is now possible to install the JIS runtime installation on Windows to a path which includes spaces. For example: c:\program files\<company name>\<product name>.

This is currently not supported on Unix and AS/400.

Java Client Improvements

Mixed code warning displayed by all versions of JIS when using Java 1.6.0_19 and higher, is no longer displayed.

The clfull-signed.jar and clbase-signed.jar files are now digitally signed and time stamped; hence their signature will continue to be valid after the certificate used for signing the files has expired.

The following limitations have been removed when running the Java client as an application:

1. Link controls are now operational for activating methods (but not for opening a browser URL).
2. The params.txt file is no longer locked for editing while the application is running.

GUI Printing improvements:

- Images in popup windows are now printed correctly.
- Some deprecated APIs have been replaced and logging messages have been improved.

Detailed Description of Version 9.1.1 Fixes

Note: The number at the beginning of each ticket item, represents the external support system incident number.

Installation

JAVA Client

Ticket 1019009 - getLocalizedString() API has been added.

Ticket 5028497 - The getCurrentPanel() API may return a null value if called while a screen is being loaded. To solve this problem we introduced the getNextPanel() api. The getNextPanel() API will never return a null value during the session lifetime. If getNextPanel() is called while the screen is loading, it will wait for the screen to fully load before sending back the return value.

Ticket 5020684 - When using UseEventDispatchThread=false, when closing popup windows, sometimes the window froze requiring restarting the browser session.

Ticket 1021759 - When working with the JIS Java client proxy servlet, running inside the server and the server side closed the connection, an exception was written to the server log of the proxy servlet. This exception will no longer be written. Instead the message: "Connection closed by server" is written to the log.

XHTML Client

The default value of the OptimizeStyleAttributes setting has been set to 0 so that the page size optimization feature is now turned off by default.

Ticket 5020973 - Cannot print spool files from the iSeries after upgrade

Ticket 5022110 – When using skin extensions, the server log displayed unimportant exceptions related to the control in focus.

Server

Ticket 5024870 - Generate runtime warnings are no longer displayed.

Ticket 1021672 - The JBSToService utility used for creating the Windows service for JIS now prints more detailed logging information.

Ticket 5026386 - Default http.xml and proxyHttp.xml files have been cleaned up.

AS/400

Ticket 5026742, 1117746 - Deploying the server to AS/400 did not work properly on V5R4.

Innovator

Ticket 709592 - Disconnections occurred in Dual Mode

Ticket 708837 - Removed obsolete "GDS C/COPY QINOSRC,INOINKLE" statements which were added by the Translator immediately before a source line which started with a slash such as "/eject".

Ticket 5024661 - The RPGLE translator will now translate source files which have a member type SQLRPGLE.

ACE

Ticket 5031177 - Problems relating to deleting a file during generate runtime have been fixed.

Limitations

- JMX is not supported when running the server using IBM JVM version 1.5.
- Java Client: In Windows 7 and Windows 2008, menu items' keyboard shortcut text is not properly displayed.
- The JISAdminServlet and the JIS Administrator utility cannot run on Mac OS.
- The MS Sans-serif font does not look optimal on Mac OS.
- On Mac OS, Safari, the frame in Group box components, without header text, are displayed incomplete.
- When using logical colors such as "Active Border", the actual color differs between operating systems.
- XHTML host printing: You need to click twice on the Connect/Disconnect button in order to connect/disconnect the printer from the host.
- When running the Java client un-signed Applet and the JISAdminServlet, an Exception related to the crossdomain.xml file is logged to the Java console.
- When running the JISAdminServlet the online help dialogs are no longer available.
- #5008614 (#234) The runtime installation, update libraries feature does not utilize the ftp option to automatically copy files to the remote machine.
- Starting from JIS 9.1, all product components will no longer be able to run using Java 1.4 or lower versions of Java since the product code is compiled for a Java 1.5 target release. A typical error message when trying to run a product component using Java 1.4 is: Exception in thread "main" java.lang.UnsupportedClassVersionError: cst/server/module/ServerStarter (Unsupported major.minor version 49.0) (#241)
- When clicking on the 'X' button to close the server console window, though the window is closed, not all server processes are terminated. We recommend that you always close the server using the QUIT command or using the JIS administrator. (#248)
- When using IE8 to run a JIS XHTML application which is deployed to an application server, it is not possible to open more than one JIS session from the same browser window.
- It is not possible to run the JIS server using a 64 bit JRE. Use 32 bit JRE instead.
- The JIS common installation for J2EE deployment cannot be installed on a Windows 2008 64 bit machine.
- When the user updates an existing runtime installation for Unix to the same location on the Windows machine, and changes the Unix installation folder or JVM folder using the installation wizard, the new folders are not updated into the jacadasv.ini file.

- When running the JIS server as a Windows service, when stopping the JIS server from the administrator utility, the service is still displayed as 'started' in the Windows services panel. Stop the service from the services panel to clear out this inconsistency.
- When running Jam on WebSphere with clustering, not all the clustered servers are displayed.