Sun Java™ Message Service Grid Release Notes

Release 5.1.3

Part Number: 820-1004-10

Version 20070417105622

Contents

Chapter 1

Sun Java™ Message Service Grid Release Notes

These release notes contain important information available at the time of release of Sun Java™ Message Service Grid 5.1.3. New features and enhancements, known issues and limitations, and other information are addressed here. Read this document before you begin using JMS Grid.

1.1 What's New in this Release

This section lists the new features of JMS Grid 5.1.3/5.1.2/5.1.1 compared with its predecessor product SpiritWave. Most of the features are the same in the previous versions of JMS Grid 5.1.3, JMS Grid 5.1.2 and JMS Grid 5.1.1.

See the list of fixes that are included in this release in **Bugs Fixed in this (5.1.3) Release** on page 7.

1.1.1 New Feature

Two new commands have been added in version 5.1.3 (`dumpsubs` and `buildsubs`) which can be used to transfer the definitions of durable subscriptions from one daemon's message store to another. This feature is explained in Chapter 8 of the *JMS Grid User's Guide*.

1.1.2 New name

This product was previously called SpiritWave but has now been renamed Sun Java Message Service Grid.

1.1.3 New Distribution Format

There is a separate JMS Grid distribution for each platform that is supported. This is because the distribution now contains a JRE suitable for that platform.

Previous releases of this product were distributed as a compressed InstallShield™ archive. JMS Grid does not use InstallShield™ and instead uses the standard archive formats appropriate to the platform.

For each platform, JMS Grid is available in two alternative formats.

1. A compressed archive appropriate to the platform (e.g. `JMS_Grid-win32.zip` for Windows or `JMS_Grid-Solaris_SPARC.tar.gz` for Solaris running on Sparc). This file should be unpacked into your chosen installation directory using the standard tools for that archive format. You then need to run the JMS Grid installer to accept the licence condition before you can use the installation.
2. A Sun Java CAPS sar file appropriate to the platform (e.g. `JMS_Grid-win32.sar` for Windows or `JMS_Grid-Solaris_SPARC.sar` for Solaris running on Sparc). This is for use when JMS Grid is being used as part of a CAPS installation. You need to upload the sar file to the CAPS repository and subsequently download the compressed archive. For more information on this mechanism please see the Sun Java CAPS Repository Users Guide. The downloaded archive is identical to that mentioned in the previous paragraph and needs to be unpacked and installed as described above.

1.1.4 New Installer

After you have unpacked the compressed archive to a suitable directory you will need to run a new installer tool to prepare your JMS Grid installation for use.

The installation tool invites you to accept the licence conditions and then asks you to nominate the TCP and SSL ports to be used when a default daemon is started.

1.1.5 New Scripts to Start and Stop a Default Daemon

To start a default daemon run the script `startserver.bat` (Windows) or `startserver` (UNIX) in the root directory of your JMS Grid installation. This starts a single daemon which listens on the TCP and SSL ports that were defined when you ran the install script.

To shut down a default daemon run the script `stopserver.bat` (Windows) or `stopserver` (UNIX) in the root directory of your JMS Grid installation. This will shut down a default daemon that was started using the `startserver` script.

The `startserver` script can also be used to start a named daemon defined using the admin tool. It can also be used to start a daemon whose configuration is defined in a specified file. For

The `startserver.bat/startserver` scripts replace the scripts `wmd.bat/wmd` (UNIX) that were provided with previous releases and which had almost identical functionality. For more information see the JMS Grid users' guide.

The `stopserver.bat/stopserver` scripts can only be used to shut down a default daemon. If you want to shut down a non-default daemon you must use the sms (stop message server) command which can be found in the mgmt directory of your JMS Grid installation. For more information see the JMS Grid users' guide.

1.1.6 JMX Management Changes

A new fast connection method has been added for those who do not need metric information in their JMX clients. This is used in all the commands, apart from those which query metrics, and they now run much more quickly. This method is `WaveManager.fastInit()`. See the javadoc for more details.

The sd command has been renamed to `killd` to make clearer the fact that it kills the daemon immediately, preventing graceful closedown. Note that `sms` is recommended for a clean closedown of a daemon.

The `qhage` and `qtage` commands have been removed. There is now a general statistics command which incorporates the information that these used to provide.

New commands have been added:

`qstats`, `tstats`, `substats`: return statistical information about queues, topics and subscriptions.

`lt` (List Topics): lists topics which have at least one durable subscriber.

The command to remove a message from a subscription, `rmtm`, has been enhanced so that it removes a message from all subscriptions to a topic that might receive it.

New message display commands `showtm` and `showqm` have been added so that properties and content of a particular messages can be displayed.

Please refer to the JMX Management section of the JMS Grid User Guide for details of the new and updated commands.

1.1.7 Java Runtime Environment now Included

JMS Grid now contains a suitable Java Runtime Environment (JRE) as part of the product installation. For more information see "Hardware and software requirements" below.

1.1.8 Other Enhancements

J2CA Resource Adaptor

JMS Grid is now provided with a J2CA 1.5 compliant resource adaptor `rawave.rar`. This allows JMS grid to be used with any application server which supports this specification. For a list of application servers supported see "Hardware and software requirements" below.

1.1.9 Bugs Fixed in this (5.1.3) Release

This is a list of bugs that have been fixed and tested for the 5.1.3 release.

Ports of JMS Grid Hotfixes		
Work Ticket	**HotFix**	**Description**
104042	104254	Grid Network Connections are dropped and not recovered
Ports of JMS Grid ESRs		
Work Ticket	**ESR Ticket**	
105883	105847	JMS Grid - JMX client connection timeout
106258	106278	java.util.ConcurrentModificationException when a new client connects in Grid
106531	107168	ConcurrentModificationException when calling ClusterManager.processClientResetComplete
106533	107170	Close() message constructor uses slow method to generate id. Will affect processing of closed clients
106532	107171	deadlock in client reconnect processing when running in Integration Server
102698	107172	EAP: ADEPTRA: NullPointerException received in daemon log during stress test (longevity)
106566	107173	NullPointerException raised in daemon logs when turning on debug logging dynamically
106619	107174	ConcurrentModificationException caused by unsynchronized access to cluster model in ClusterManager.processUpdatedClientID
106908	107175	Does not reconnect if a client loses a connection while another thread is closing it
Work Tickets		
105598	Upgrade bundled JREs to a version which fixes incorrect US DST dates	
104225	Error in memory counting in `HWMMemoryManager.java` (required to fix 104042 above)	

1.1.10 Changes to Platform Support

HP Tru64

JMS Grid no longer supports HP Tru64 on Alpha 64-bit processor.

1.2 Directory Structure

This distribution contains the following files:

- Root directory `JMS_Grid` - contains tools and licence files
- bin
- `catalina` - files used by the management console web application including the deployment file `jmxConsole.war`
- `docs/javadocs` - contains Javadocs
- `examples` - contains a selection of examples demonstrating standard JMS features and JMS Grid specific mechanisms. See the JMS Grid user's guide for details
- `jmsjca` - contains a J2CA 1.5 resource adaptor for use when JMS Grid is used from within an application server
- `jndi` - default admin store
- `jre` - Java runtime environment for running the JMS Grid daemon and all tools
- `mgmt` - contains management commands
- `packages` - contains jar files needed to run JMS Grid
- `properties` - contains property and configuration files needed to run JMS Grid
- `wdir` - when a daemon is started, this directory will be used to store the daemon log files and the message store
- `WEB-INF` contains the web.xml used by the embedded Catalina servlet engine

1.3 Sample SSL Key Store and Client Certificates

This release also contains a sample key store for the daemon (`properties/testkeys`) and a sample certificate for use by a client (`examples/samplecacerts`). These are samples provided with Sun Microsystems' JSSE distribution.

If you require your JMS Grid clients to connect to the JMS Grid Message Server over SSL you will want to create your own certificates. Please see the system documentation with your jre to explain how to do this.

For the Sun Microsystems JRE the `keytool` utility should be used. This is documented at **http://java.sun.com/j2se/1.5.0/docs/tooldocs/windows/keytool.html** for Windows and at **http://java.sun.com/j2se/1.5.0/docs/tooldocs/solaris/keytool.html** for Solaris. A useful example can be found at **http://java.sun.com/j2se/1.5.0/docs/guide/security/jsse/JSSERefGuide.html#CreateKeystore**

1.4 Known Issues and Limitations

1.4.1 Cluster size limitations

We recommend that clusters consist of either one or two daemons if persistent messages are being used.

Once a cluster is defined to contain either one or two daemons, the configured size of the cluster should not be changed. So users should not configure a cluster to contain one daemon and then expect to be able to dynamically change it to use two daemons (even if the cluster is shut down completely).

1.4.2 XA Transaction limitations

JMS Grid implements the API for XA transactions. However transaction state will not be persisted, so that global transactions cannot be guaranteed in the case of total cluster failure.

1.4.3 Message Order not Maintained in Applications using Multiple Concurrent MDBs

The Sun SeeBeyond IQ Manager (STCMS) has a feature to allow message order to be maintained when multiple MDBs are concurrently consuming messages from one queue and sending them on to another. JMS Grid does not support this feature in this release.

1.4.4 Stopserver Command will only stop a Default Daemon

The stopserver command can only be used to stop a daemon which is listening on the TCP port that was specified to be the default when JMS Grid was installed. This will be `tcp://localhost:50607`, unless you specified something different.

If you wish to stop a daemon which is not listening on this protocol and port (e.g. if you are using a different port, a different protocol or if the daemon is on a remote machine) then you must use the sms (stop message server) command in the mgmt directory. The sms command allows you to specify the protocol and port to use to connect to the daemon.

For example, if the daemon is listening only on port 444 using the SSL protocol, use the following:

```
sms -connect ssl://mybox:444,admin,admin -context
default.daemon1
```

1.4.5 Admin Store Issues When Using JREs from More Than One Vendor

There are some known issues if a JRE from one vendor (e.g. Sun or IBM) is used to create users and secure destinations in the admin store and then these are used by a secure daemon running a JRE provided by another vendor.

The table below shows the issues that have been identified with the Sun and IBM JREs for users and for secure destinations:

Table 1 Users: Compatibility Between JREs

JRE used to Create User	Client JRE	Daemon JRE	Does it Work?
Sun	Sun	Sun	Yes
IBM	IBM	IBM	Yes
Sun	Sun	IBM	No
IBM	Sun	IBM	Yes
Sun	IBM	Sun	Yes
Sun	IBM	IBM	No

Table 2 Secure Destinations: Compatibility Between JREs

JRE used to Create User	Client JRE	Daemon JRE	Does it Work?
Sun	Sun	Sun	Yes
IBM	IBM	IBM	Yes
Sun	Sun	IBM	No
IBM	Sun	IBM	No
Sun	IBM	Sun	No
Sun	IBM	IBM	Yes

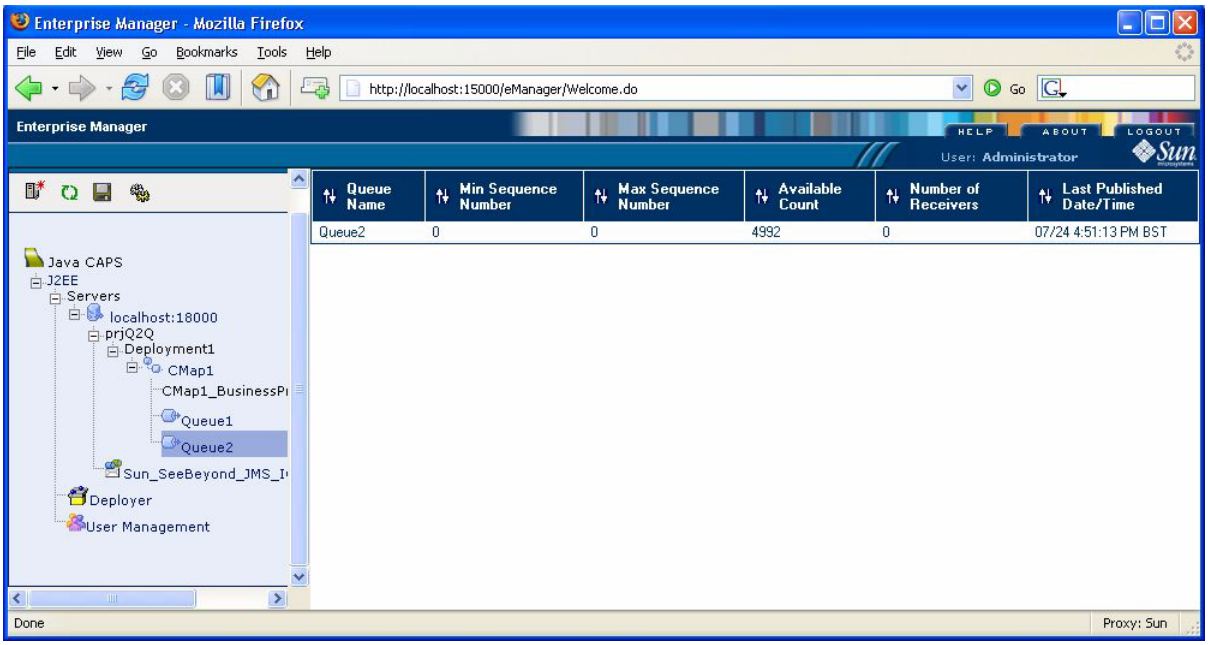
1.4.6 Java CAPS Enterprise Manager Integration Limitations

The Java CAPS Enterprise Manager can be used to view the state of JMS Grid in a similar way as for the Sun SeeBeyond IQ Manager JMS (STCMS). However, there are some limitations in the level of support for JMS Grid.

- Management scope

  In the present release it is not possible to manage JMS Grid as a whole, that is, to manage a daemon in a cluster or view all the queues and topics currently in existence. See the following figure.

Figure 1 Enterprise Manager



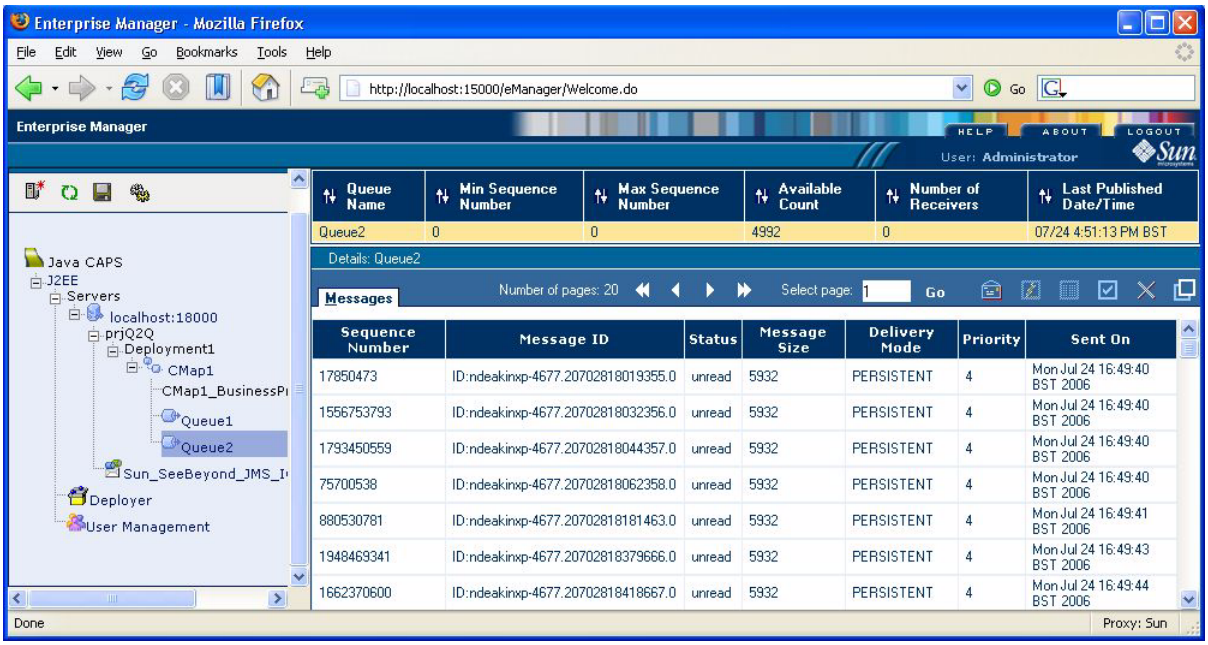
The figure shows an example of the Enterprise Manager user interface. You can see a node labelled 'Sun_SeeBeyond_JMS_IQ...' from which you can manage STCMS as a whole. There is no equivalent JMS Grid node. However, the 'prjQ2Q' node represents an application which uses JMS Grid destinations. These can be seen as the 'Queue1' and 'Queue2' objects in the tree structure. For the current release you need to use the JMX Console web application. Refer to the product documentation.

- Queues

  You can use many of the Enterprise Manager's queue management options on the queues utilized by an application deployed in a server. These are set out here, with a description of those aspects which are and are not supported:

  - You can see how many messages are on a queue in the top right panel. See Figure **Enterprise Manager** on page 11. JMS Grid does not use sequence numbers so the two columns referring to the maximum and minimum unconsumed sequence numbers of messages columns will always show zero.
  - You can list the messages on a queue in the bottom right panel. See the following figure.

Figure 2 Enterprise Manager - Messages



- The sequence numbers shown here are a hash value generated from the message ID and have no meaning for JMS Grid. They are used by the Enterprise Manager for identifying messages.
- The function buttons on the top right of the message list panel, are, from left to right: "Send a message" button – supported, but only for text messages; "View/edit" button – allows you to view message content, but not edit it; "Properties" button – supported, though not all properties may be available; "Delete" button – supported; "Show Journaled" button is not used for JMS Grid.

- Topics

  The facilities for topics are the same as for queues, and the same limitations apply. Please note that the message listing in the bottom right hand panel may not be displayed in the order in which they were sent.

1.4.7 JMX Console Reconnection Timeouts

If the JMX console client is attached to a daemon which fails it will reconnect to another daemon in the cluster. If this reconnect takes more than 5 seconds to happen it will not refresh correctly. The short term work around is just to log back into the `jmx` console. The correct fix is to wait until the `jmx` client reconnects before issuing the state change from the daemon.

1.4.8 Message Store Format

The only form of message store supported is JMS Grid's own internal storage format, JMSGridDB (formerly known as SpiritDB). Other storage formats such as JDBC databases are not currently supported.

1.4.9 faultTolerant Flag cannot be set to False

Section 5.4.2 of the *Sun Java Message Service Grid User's Guide* describes the `faultTolerant` flag. In this release, this flag must be left in its default setting which is "true." The use of JMS Grid with the `faultTolerant` flag set to "false" is not supported.

1.4.10 Security Issues with SpiritWave 6 Clients

Although a JMS Grid 5.1.3, 5.1.2 or 5.1.1 daemon can be used with SpiritWave 6 clients, this is only supported if the JMS Grid daemon is not running in secure mode. If the daemon is running in secure mode then any attempt to connect with a user and password will fail with a `javax.jms.JMSSecurityException`.

1.4.11 Compatibility Issues with SpiritWave 6

JMS Grid is not compatible with the version of SpiritWave released in the patch ESR 100114. This means that:

- A message store created using a ESR 100114 daemon cannot be upgraded to JMS Grid
- An ESR 100114 client cannot be used with a JMS Grid daemon