TIBCO DataSynapse GridServer® Manager

Release Notes

Version 7.1.0
July 2022

Contents

New Features

The following features have been added in this release of TIBCO GridServer®:

- Events generated within GridServer Manager can now be published to an Apache Kafka server.

- Added API for Engine Daemon Configuration. The Java and Web Service API information is in JavaDoc format whereas C++ and XML documentation is present in the HTML format. The .NET API help is available in HTML format in the GridServer SDK under the `docs` directory. You can also view and search for the documentation from the GridServer Administration Tool. To do so, after you log in to Administration Tool, go to **Download Components > Documentation**.

- Engine JRE has been updated to:

  - Oracle Java 11.0.15 for Win64 and Linux64.

  - Oracle Java 1.8.0.311 for Win32 and Linux32.

- Grid library has been added to run the Engine on Oracle Java 1.8.0.311 for Windows and Linux.

- TERR version has been upgraded to 6.0.0 for Windows and Linux.

- Authentication has been provided for all Grid components such as Broker, Secondary Director, or Failover Broker when logging in to the Director. For more information, see the "Authentication of Grid Components" topic in *TIBCO GridServer® Installation*.

- The size of the Engine logs window has been changed to 1000 x 600 pixels and the previous setting of **Background of Status** has been changed to **Background of Header Row**. Now, the page header reflects the color applied by this setting.

- Added the **Gridlib Load Delay** property in the Engine configuration. The Engine now waits for Grid Libraries to synchronize and load before signaling the Manager that it is ready to accept tasks.

- Added new features to the Admin UI:

  - A configuration row is highlighted if the value is altered after comparing it with

the default value.

- A sparkline is displayed for the System Status (Engine, Task, Driver, and so on)

- You can now configure the size of the Notifications Queue. A new category has been added under **Admin > Manager Configuration > Communication > Connection Thread Management > Maximum Multiplexer Sender Queue Size**.

- The following operating systems are now supported:

  - Amazon Linux 2

  - Amazon Linux

- Support for the following versions of Visual Studio has been added:

  - Visual Studio 2019 (VC16).

  - Visual Studio 2017 (VC15).

- Support for gcc83 compiler has been added.

- On the Engine Daemon page in the Administration Tool, the **Engine Configuration** column now expands for Engine configurations with longer names.

- The **DS_USE_SNAT_FQDN** environment variable has been created for the Engine to use with FQDN.

- Added .NET5 support.

- Tomcat version has been upgraded to 9.0.62.

- A `parked` flag for EngineDaemon can now be set to `true` or `false` through API. After the parked flag is set to `true`, no new task is assigned to the Engine; the running tasks continue until they are completed. For more information, see "REST API Reference" in *TIBCO GridServer® Developer's Guide*.

- Driver host names that have logged in to the Manager have been added to Reporting Database. A version mismatch event in the Driver event table has also been added. Event -7 now corresponds to the Driver version mismatch.

- Grid Server can now be run on:

  - Oracle JDK11

  - Oracle JDK8

  - Open JDK11

- Open JDK8

- Azul Open JDK11

- Azul Open JDK8

- The ability to record peak memory and peak CPU utilization at task and service session level has been added. New configuration has been added at **Engine Configuration > Report cpu memeory usage for tasks**.

- Engine Balancer Instrumentation has been implemented under: **Diagnostics > Engine Balancer Instrumentation**. For more information, see "Configuring Engine Instrumentation" topic in *TIBCO GridServer® Installation*.

- REST API, which contains all the APIs supported by SOAP service, has been added. For more information, see the "REST API Reference" topic in *TIBCO GridServer® Developer's Guide*.

  - You can retrieve the release version value by using REST API.

- Authentication for Engine installation has been added. For more information, see "Enabling Engine Daemon Authentication" topic in *TIBCO GridServer® Installation*.

- Provided a way to encrypt or decrypt `Internal.script`, Internal database, and Reporting database passwords present in the `installation.properties` file. For more information, see the "Securing Passwords and Internal.script" topic in *TIBCO GridServer® Installation Guide*.

- The `DSEncryptPassword` property has been added to allow users to encrypt the user password in the `driver.properties` file.

- An option, **Enable Preemption for Urgent Job**, has been added to disable Service Priority 10 at the Manager level.

  This option is available at **Manager Configuration > Services > Scheduling**.

- A new configuration property, `Reschedule Task`, has been added to Engine Configuration. This property allows rescheduling the tasks when a memory cap is detected.

- Command-line options that allow users to configure an Engine during installation have been added. For more information, see the "Command Line Unattended Install" topic in *TIBCO GridServer® Installation*.

- Support for Custom Log Date Format has been added.

- All Linux driver libraries are now compiled with the `SONAME` attribute.

- A new default property has been added in `driver.properties` file. You can set it as "`DSLogDateFormat=MM/dd/yy HH:mm:ss.SSS`"

  If you want to display the custom date format in the logs, you can change it in the properties file, and accordingly, the date format is reflected. You must remember that only the supported, valid, and simple date formats are allowed.

Changes in Functionality

The following changes in functionality have been made in this release of TIBCO GridServer®:

- The HTTP Connection Timeout and Socket time have now been properly set.

- The Java HttpClient header connection is now `keep-alive` by default.

- To reduce the number of persistent open connections, the `keep-alive` setting for the Driver and the Engine has now been set to `False` by default.

- To prevent a possible situation where the Broker would reject connections during a state of very heavy load, the Broker Scheduler pauses between each scheduling episode.

For details on changes in functionality since the last major release of this product, see the section Upgrading GridServer in the *TIBCO GridServer® Installation Guide*.

Deprecated and Removed Features

The following features have been deprecated or removed as of this release of TIBCO GridServer®:

For deprecated features, if relevant, useful alternatives are listed. Any use of a deprecated feature must be discontinued because it might be removed in a future release. To avoid becoming dependent on deprecated features, ensure that you become familiar with the suggested alternative features.

Deprecated Features

Affected Component	Description	Deprecated Release
Admin Interface	Win32 support is deprecated.	7.1.0
Admin Interface	Linux32 support is deprecated.	7.1.0

Removed Features

Affected Component	Description	Deprecated Release	Removed in Release
Operating Systems	Solaris Sparc and Solaris X86 support has been removed.	7.0.0	7.1.0
Database	Sybase support for Reporting Databases has been removed.	7.0.0	7.1.0
Drivers-All	32-bit gcc49 compiler has been removed.	-	7.1.0

Affected Component	Description	Deprecated Release	Removed in Release
Drivers-All	vc10 and vc11 support has been removed.	-	7.1.0

Migration and Compatibility

The following information provides migration procedures and a compatibility matrix for this release of TIBCO GridServer®:

- RDriver has been upgraded to VC15 and therefore, [[[Undefined variable productvar.productNameSubsequent]]] does not support 32-bit for R Driver.

- Switched to 64-bit executable for Pdriver.

- Build files are bundled with VC12 in GridServer SDK.

- The garbage collector has been updated from CMS to G1.

- The .NET COM object is now built with the latest CPP driver (VC12).

For details on how to migrate from a previous release to the current release, see the section Upgrading GridServer in the *TIBCO GridServer® Installation Guide*.

Closed Issues

The following issues have been fixed in this release of TIBCO GridServer®:

.NET Specific

Key	Description
GS-16118	Sometimes on the GridServer Engine, when you use a Non-Uniform Memory Access (NUMA) CPU configuration, the following error occurs: `System.Runtime.Remoting.RemotingException from .NET Remoting`

Admin Interface

Key	Summary
GS-17692	GridServer version 7.0.0_hotfix05 is not compatible with the Manager Administration interface in the GridServer version 6.x.
GS-17416	When running a service for **Service Session Admin > Select Service Options > View Instrumentation** option, the `jobs.js` file in the `manager/inc/scripts` folder is missing and therefore the following message is displayed: `Unexpected manager error occurred.` To rectify it, the `jobs.js` file has been added to the `manager/inc/scripts` folder.

Key	Summary
GS-17369	**Broker Routing** does not take new values if the property name is the same. When you update Broker Routing, the new value is not saved. The new values are overwritten by the existing value.
GS-17284	An issue occurs when you try to sort a Grid library by **Name** column under **Services > Services > Grid Library**. This happens when the Grid library has different names in the **Name** column and the **Download** column.
GS-17123	In Manager Administration Tool, the **Grid Search** function on the **Dashboard** does not function properly in case of a Standalone Broker.
GS-17122	Every time a user wants to see the Engine logs on the GridServer UI, the log file window needs to be resized.
GS-17120	In the Administration tool, a few pages such as **Services > Service Session Admin**, the scroll bar is added to table level instead of page level.
GS-17108	Internal database users are displayed on the User Admin page, when authentication is LDAP.
GS-16899	In Administration Tool, the **Grid Components > Engines > Daemon Admin** page shows incorrect labels for RHEL and CentOS.
GS-16869	Even after you log off from the application, you can access the pages in the browser by using the back button or the built-in cache browsing functionality.
GS-16841	You are not able to upload the .properties file through **Services > Services > Grid Library**.
GS-16382	On the Engine Daemon page, the **Engine Configuration**

Key	Summary
	column does not auto-scale if the Engine Configuration names are long.
GS-16206	On the Service Conditions page, the text Error is displayed in the **Extra Condition** column when Service Discriminator is added by using an API.
GS-16108	On the **User Admin > Role Admin** page of GridServer Administration Tool, the action menu does not display items as expected.
GS-15654	If the **Overwrite** option is not selected when importing Director configuration or Broker configuration or both, then instead of refreshing the same page, the **Admin > System Admin > Manager Reinstall** page is displayed.
GS-15497	Sorting search results in **GridServer Administration Tool Dashboard > Grid Search** sometimes results in a NullPointerException error.

C++ Specific

Key	Summary
GS-16753	The zlibs compiled with assembly code cause the system to crash.
GS-17113	The CPP driver crashes when you retrieve task results after they are transferred over HTTPS from the CURL library.
GS-15255	The OpenSSL library that GridServer uses is old. It has been updated to version 1.1.1n.
GS-15254	The CURL library that GridServer uses is old. It has been updated to version 7.83.0.

Communication and Network

Key	Summary
GS-17116	A number of Engines sit idle with 0% CPU usage and do not take new jobs in spite of receiving an HTTP 503 from the Driver when downloading task input data.
GS-17038	Tasks are missing from the Broker.

Database

Key	Summary
GS-16079	The Reporting Database does not release database cursors appropriately. This eventually leads to resource exhaustion.

Diagnostics

Key	Summary
GS-16496	An individual, extraordinarily long log line entry might span between two log files; due to this, you might not be able to view the second log file in the Administration Tool.

Documentation

Key	Summary
GS-16993	If you change the server.keystore password to anything other than the default password, the GridServer fails to startup.
GS-16319	Users and roles tables are not described in *TIBCO GridServer® Administration*.
GS-15617	In *TIBCO GridServer® Installation* guide, it is wrongly mentioned that GridServer versions 5.0 and 6.0 are supported for mixed version deployment.
GS-15570	The *TIBCO GridServer® Upgrade* guide needs an overhaul.
GS-15173	Information about GridServer installation on AWS, Azure, and GCP is not provided in *TIBCO GridServer® Installation*.
GS-14674	The metrics for **input_size** statistics are missing in *TIBCO GridServer® Administration*.
GS-14040	The *TIBCO GridServer® Installation* guide does not describe how to use a self-signed certificate.
GS-13414	If both **compressData** and **encryptionEnabled** fields are set to true, data compression is ignored and only encryption is done.
GS-13271	If you set the `gridLibraryStrictVersioning` setting to `true`, you are not able to control the version.

Drivers-All

Key	Summary
GS-17337	An error occurs while clearing disconnected or logged-off drivers.
GS-17177	From the dynamic error message displayed, it is not possible to understand the cause of it. Hence the message has been updated as follows: `An unexpected Manager error has occurred; the request might not be authorized or the authorization service is not available. Please go back and try again.`
GS-16488	Instead of accessing results over Direct Data Transfer for the current session, Java Driver Web Server is able to access Direct Data Transfer files from other sessions as well.
GS-16137	When payload encryption is enabled, it is possible under certain specific conditions for the key to cause an "Unable to Decrypt" issue on the Broker.
GS-15682	The `getManagerAdmin().getBrokerName()` property returns BrokerId instead of BrokerName.

Drivers-All, Manager

Key	Summary
GS-17117	The Driver becomes unresponsive in a scenario when a task is completed before it has been added to the collection map.

Engine

Key	Summary
GS-17271	Engines do not respect proxy for Resource Synchronization. Changes have been made to enable Resource Synchronization and Data Transfer by using authenticated and unauthenticated Proxy. Two fields have been added - **Proxy User** and **Proxy Password** under **Grid Components > Engine > Engine Configuration > Proxy Server**, to be used when using Proxy with authentication. For more information, see the "Configuring a Caching HTTP Proxy Server" topic in the *TIBCO GridServer® Administration*.
GS-17121	Sometimes after a 64-bit Windows Engine dies, it erroneously re-starts as a 32-bit Windows Engine.
GS-17106	Engine instance 1 does not wait for the set delay to elapse before Engine instance 0 completes accepting tasks from the Manager. You can now force all Engine instances to wait until all Grid libraries have completely finished loading. To use this feature, in the **Engine Configuration**, add the `Gridlib Load Delay` property.
GS-17103	There are some spelling errors in the Engine logs.
GS-17102	The Engine does not pick up an assigned task after restarting.
GS-17099	The Engine fails to parse and does not retry when the Broker is overloaded and sends 503 (Service Temporarily Unavailable) error.
GS-16983	The Engine does not respond to rebalancing requests.
GS-16982	Engine fails to restart if an error of type `IOException`

Key	Summary
	(`org.apache.http.conn.HttpHostConnectException`) occurs during task write operation.
GS-16487	Engine log directories allows directory browsing. This should not be allowed.
GS-16114	When the Broker is overloaded, HTTP 503 errors (service temporarily unavailable) occur. It cannot interpret anything other than the XML messages that are generated by the code.
GS-16082	The Engine hangs after the following exception occurs: `java.io.IOException: Could not find the Processing Instruction for this XML.`
GS-16033	On the GridServer Engine, the `StringIndexOutOfBoundsException` error occurs when HTTP error message is too long.
GS-15889	The `Core Relative Engine Instances` property (in the Engine Configuration) does not work for Linux Engines.
GS-15640	On initial Engine installation, sometimes some of the Engine instances start to take tasks while Engine instance 0 is still syncing the Grid Libraries.
GS-15468	Due to some issues, Engine Notification timeouts cause task assignment expiration.

Engine Daemon

Key	Summary
GS-17114	When downloading Engine log files through **Grid**

Key	Summary
	Components > Daemon Admin > Log Files, sometimes fails to download the logs for comparatively larger files. This leads to Engine Daemon failure.
GS-17097	A failed Engine instance shutdown causes an account lockout when the RunAs with an Active Directory account is used.
GS-17095	When the Engine Daemon restarts, it changes the Engine Mode to Auto instead of keeping the previous configuration.
GS-16511	There are some unused Engine properties related to Amazon EC2, such as `AMIInstanceId`, `AMIAvailZone`, and `AMIProductCode`, which must be removed.
GS-16494	Although **Allow Download Logs** is set to false, users are able to download files from the log folders on the Engine.
GS-15729	Windows Engine Daemon logs do not rotate properly after changing the log file size in the Engine Configuration.
GS-15721	The Engine Daemon socket exhaustion leads to failure in downloading task outputs in the Driver.
GS-15486	Parsing null values logged `NumberFormatException` messages in the Engine and Director logs.

Engine, Engine Daemon

Key	Summary
GS-16775	User credentials for RunAs are encrypted by using an old encryption scheme when they are passed from the Engine Daemon to the Engine Instance.
	This encryption scheme has been updated to AES encryption.

Manager

Key	Summary
GS-17406	When exporting all configurations under **Admin > System > Admin > Manager Import/Export**, an Out of Memory (OOM) error occurs because of an increase in the JAR file size. To overcome this issue, the maximum heap size has been increased from 1024 MB to 4096 MB.
GS-17124	The Manager attempts to sign files with a `.tmp` extension and such files are displayed in the Administration Tool UI.
GS-17119	In the Task Admin section of the Administration Tool, in the Manager, threads are not always released after a task has been canceled.
GS-17115	In the Manager UI, you are unable to switch between Engine instance log files in the **Log Files** section.
GS-17109	Task cancellation operation blocks other operations, causing the existing running services to hang.
GS-17094	The thread limit of the default Manager thread pool (DefaultPool) is not enough. To overcome this issue, the `Default Thread Pool` size has been increased from 200 to 350.
GS-17054	When using the Grid with mixed deployment, the Engine count duplicates.
GS-16719	You are not able to use the dot (.) character and the dash (-)character in the email address when creating new users. To overcome this, the default Regular Expression has been updated. Also, a new property called `Regular Expression for Email Validation` has been added under **Admin > System Admin > Manager Configuration > Admin** section. You can use this property to implement your custom

Key	Summary
	regular expression to validate user email addresses.
GS-16484	When you create a `.gsdd` file in a new Service Type registry, the file is not correctly formatted.
GS-16117	Driver routing does not work as expected if the Director ID is not part of the Manager's list on the Roles page.
GS-16099	The following error occurs when you start the GridServer: `UnsatisfiedLinkError`.
GS-16098	Engine Discriminators do not work as expected.
GS-16094	The number of open networking connections between the Engine and the Manager is higher than it must be.
GS-16089	The User Admin page loads slowly when LDAP authentication is enabled.
GS-16088	When using Windows Authentication, users cannot log in to the Broker after the Manager has been restarted.
GS-15926	Excessive TCP connections to Engines exhaust the Manager file descriptors.
GS-15745	On Windows Server 2008R2 and 2012R2, you cannot modify or delete the Broker hook JAR file after the hook has been added in the UI until you restart the GridServer.
GS-15701	When using Windows Authentication, the **User Roles** field for a user does not get populated on the User Admin page when you start or restart the server. It gets populated only when the user logs in to the Admin UI.
GS-15582	It is not possible to get a list of all driver host names that are connected to the Grid Manager other than the ones with the current version.

Key	Summary
GS-15292	The MIT Kerberos-dependent library that GridServer uses is old. It has been updated to version 1.19.2.
GS-15257	All the expat libraries that GridServer uses are old. They have been updated to version 2.4.1.
GS-15066	The version of Apache Ant that GridServer uses is old. It has been updated to 1.10.7.

Resource Deployment

Key	Summary
GS-17351	Broker shows all the Grid libraries as null when **Admin > Manager config > Resource deployment > Synchronize Resources to Engines** is set to `False`.

Scheduler

Key	Summary
GS-16041	The following unexpected error occurs when scheduling a task: `java.util.ConcurrentModificationException`.

Security

Key	Summary
GS-16495	The library prototypejs version 1.4.0 has known security issues.
GS-16492	User inputs on the Manager Admin Interface are stored without proper HTML encoding.
GS-16490	Driver and Engine error reports include stack traces that might reveal sensitive information.
GS-16489	The jQuery library version 1.4.2 has known security issues. It has been updated to version 3.6.0.
GS-16486	The Grid Server management console uses URLs that redirect users to the relevant pages without any validation.
GS-16368	The default error page (`default-404-error-page.html`) is wrongly installed on the remote Apache Tomcat server.
GS-16304	Engines do not use HTTPS to download task data when you enable **Use HTTPS for Engine Communication** on the **Admin > Manager Configuration > Security** page.
GS-15407	You are not able to create user names with upper case letters.

Server

Key	Summary
GS-17329	Environment variables are not properly set by using `grid-library.xml`.

Key	Summary
GS-16853	The Engine Daemon does not properly close the sender object on Daemon log-off.
GS-16144	There are multiple `commons*.jar` files in the `\datasynapse\manager\webapps\livecluster\WEB-INF\lib` folder.

Web Services

Key	Summary
GS-17270	WSDL is not generated correctly for `engineRoutingConditions` and `driverRoutingConditions`.
GS-16493	Web Services API inputs via XML are not sanitized prior to processing.

Known Issues

This section lists known issues in this release of TIBCO GridServer®:

Engine, Engine Daemon

Key	Summary/Workaround
GS-17640	**Summary** When move Engines from GridServer version 6.3.1_hotfix05 to GridServer version 7.1.0, sometimes the win32 and win64 Engines do not move to the GridServer 7.1.0 server. The server running is the SSL server using a self-signed certificate. **Workaround:** 1. After the Engines are online on GridServer version 6.3.1, change the Primary Director URL from 631 to 710 in the Engine Configuration. 2. Check after some time (for example, 15 secs), the GridServer version 7.1.0 Primary Director URL reflects in the `engined.log` file and that the Engine is trying to connect to the GridServer version 7.1.0 server. 3. Then copy the GridServer version 7.1.0 certificates to the Engine directory.

Manager

Key	Summary/Workaround
GS-17691	**Summary:** Task collection generates an excessive amount of logs at the FINE level. **Workaround:** None

Key	Summary/Workaround
GS-17648	**Summary:** You cannot assign a role to an LDAP user if no email is entered. **Workaround:** None
GS-17647	**Summary:** On Windows Engines, the logs `engine-stderrxxx.log` and `engine-stdoutxxx.log` are not generated as expected. **Workaround:** None
GS-17646	**Summary:** If you use `DSConfigureOnStartup=true` in the `installation.properties` file to re-configure the server, it causes a Grid Cache problem. Grid Cache is not properly initialized after the server is up. **Workaround:** For SSL server - Install SSL server using Silent installation mode - Install SSL server using UI installation mode (before installing an SSL server, a non-SSL server must not be installed) **Note:** For changing the non-SSL server to an SSL server, ensure that the Manager ID before and after reconfiguration is the same. You must manually enter the old server ID during configuration. For the non-SSL server (for converting a Broker to a Director or vice versa) - Ensure that the Manager ID before and after reconfiguration is the same. You must manually enter the old server ID during configuration. For an already running server - Purge the offline Broker from **Grid Components > Broker Admin**.

Key	Summary/Workaround
	2. Stop the server. 3. Go to `DS_DATA/cache` and delete the `old_offline_broker_id.broker` file. 4. Start the server.
GS-17645	**Summary:** When changing a non-SSL server to an SSL server, the Manager (Broker) ID changes when re-configuring the server. **Workaround:** • Install SSL server using Silent installation mode • Install SSL server using UI installation mode (before installing an SSL server, a non-SSL server must not be installed) **Note:** For changing the non-SSL server to an SSL server, ensure that the Manager ID before and after reconfiguration is the same. You must manually input the old server ID during configuration.

Services

Key	Summary/Workaround
GS-17423	**Summary** Service Priority Changed Event is not captured through Kafka Event Streaming. **Workaround:** None

TIBCO Documentation and Support Services

For information about this product, you can read the documentation, contact TIBCO Support, and join TIBCO Community.

How to Access TIBCO Documentation

Documentation for TIBCO products is available on the TIBCO Product Documentation website, mainly in HTML and PDF formats.

The TIBCO Product Documentation website is updated frequently and is more current than any other documentation included with the product.

Product-Specific Documentation

Documentation for TIBCO GridServer® is available on the TIBCO GridServer® Product Documentation page.

The following documents for this product can be found in the TIBCO Documentation site:

- TIBCO GridServer® Release Notes
- TIBCO GridServer® Installation
- TIBCO GridServer® Introducing TIBCO GridServer®
- TIBCO GridServer® Administration
- TIBCO GridServer® Developer's Guide
- TIBCO GridServer® Upgrade
- TIBCO GridServer® Security
- TIBCO GridServer® COM Integration Tutorial
- TIBCO GridServer® PDriver Tutorial
- TIBCO GridServer® Speedlink
- TIBCO GridServer® Service-Oriented Integration Tutorial

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- For creating a Support case, you must have a valid maintenance or support contract with TIBCO. You also need a user name and password to log in to TIBCO Support website. If you do not have a user name, you can request one by clicking **Register** on the website.

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