



TIBCO ActiveSpaces®

Release Notes

Version 4.5.0

August 2020



Contents

Contents	2
TIBCO Documentation and Support Services	3
About This Product	5
Terminology Used to Address the TIBCO FTL Realm	6
New Features	7
Changes in Functionality	8
Deprecated and Removed Features	9
Migration and Compatibility	10
Closed Issues	11
Known Issues	13
Legal and Third-Party Notices	16

TIBCO Documentation and Support Services

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. To access the latest documentation, visit <https://docs.tibco.com>.

Product-Specific Documentation

Documentation for TIBCO ActiveSpaces® is available on the [TIBCO ActiveSpaces® Product Documentation](#) page.

To directly access documentation for this product, double-click the following file:

`TIBCO_HOME/release_notes/TIB_as_4.5.0_docinfo.html` where `TIBCO_HOME` is the top-level directory in which TIBCO products are installed. On Windows, the default `TIBCO_HOME` is `C:\tibco`. On UNIX systems, the default `TIBCO_HOME` is `/opt/tibco`.

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

- TIBCO ActiveSpaces® *Release Notes*
- TIBCO ActiveSpaces® *Installation*
- TIBCO ActiveSpaces® *Concepts*
- TIBCO ActiveSpaces® *Administration*
- TIBCO ActiveSpaces® *API Reference*
- TIBCO ActiveSpaces® *Security Guidelines*

How to Contact TIBCO Support

You can contact TIBCO Support in the following ways:

- For an overview of TIBCO Support, visit <http://www.tibco.com/services/support>.
- For accessing the Support Knowledge Base and getting personalized content about products you are interested in, visit the TIBCO Support portal at <https://support.tibco.com>.

- 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 <https://support.tibco.com>. If you do not have a user name, you can request one by clicking Register on the website.

How to Join TIBCO Community

TIBCO Community is the official channel for TIBCO customers, partners, and employee subject matter experts to share and access their collective experience. TIBCO Community offers access to Q&A forums, product wikis, and best practices. It also offers access to extensions, adapters, solution accelerators, and tools that extend and enable customers to gain full value from TIBCO products. In addition, users can submit and vote on feature requests from within the [TIBCO Ideas Portal](#). For a free registration, go to <https://community.tibco.com>.

About This Product

The TIBCO ActiveSpaces® software is a distributed in-memory data grid product. Some features of ActiveSpaces® include use of familiar database concepts, high I/O capacity, and network scalability.

ActiveSpaces features a complete redesign and reimplementaion of the product and is straightforward to understand, use, and administer.

Product Editions

ActiveSpaces is now available in two editions: Community Edition and Enterprise Edition.

ActiveSpaces - Community Edition

ActiveSpaces® - Community Edition is ideal for getting started with ActiveSpaces for implementing application projects, including proof of concept projects, for testing, and for deploying applications in a production environment. Although the community license limits the number of production instances, you can easily upgrade to the enterprise edition as your use of ActiveSpaces expands.

The community edition is available free of charge. It is a full installation of the ActiveSpaces product. The limitation of using the community edition is that the users can run up to 25 nodes (a total of the copyset nodes or proxies in your data grid).

ActiveSpaces - Community Edition is compatible with both the enterprise and community editions of TIBCO FTL®.

ActiveSpaces - Enterprise Edition

ActiveSpaces® - Enterprise Edition is ideal for all application development projects, and for deploying and managing applications in the production environment of an enterprise. It includes all features presented in this documentation set, and you also have access to TIBCO Support. Choose the enterprise edition for production deployments with more than 25 nodes (a total of the copyset nodes or proxies in your data grid) and for enterprise monitoring using dashboards.

ActiveSpaces - Enterprise Edition depends on the enterprise edition of TIBCO FTL for monitoring and management of data grid components and secure communication.

Terminology Used to Address the TIBCO FTL Realm

With TIBCO FTL 6.1 or later, ActiveSpaces uses the realm service capabilities or processes of the TIBCO FTL server. The following changes are made to the terminology to generically address the components of TIBCO FTL 5.x and TIBCO FTL 6.x:

The Term Used in the Document	The Equivalent Component in TIBCO FTL 5.4.1	The Equivalent Component in TIBCO FTL 6.1 or Later
Realm service	Realm server	Realm service running on the TIBCO FTL server
Realm service URL	Realm server URL	TIBCO FTL server URL
Backup realm service	Backup realm server	TIBCO FTL server that is a member of a cluster of three or more TIBCO FTL servers
Primary Realm	Primary Realm Server and its Backup Realm Server	A cluster of primary TIBCO FTL servers that provide realm services for the data grid.
Satellite Realm	Satellite Realm Server and its Backup Realm Server	A cluster of satellite TIBCO FTL servers that are connected to a cluster of primary TIBCO FTL servers.

New Features

The following features have been added in this release of TIBCO ActiveSpaces®.

The UPDATE Operation

ActiveSpaces now includes an UPDATE operation that you can use to modify rows in a data grid.

Improved Performance of Snapshot Queries and Iterators

Snapshot queries and iterators that return a small number of rows have been improved to perform better.

Status Updates in the tibdg node status Command

The `tibdg node status` command now shows additional details about some internal objects that can affect disk usage.

Changes in Functionality

The following functionality and features have been changed in this release of TIBCO ActiveSpaces®.

Nesting Depth for Expressions Limited to 100

The nesting depth for expressions in a SQL statement is now prevented from going beyond a depth of 100. A SQL statement that contains an expression with a depth > 100, receives an exception indicating the limit has been exceeded. This change prevents you from executing a query that could lead to unexpected behavior.

Nodes are Faster in Executing Queries

Improved performance while processing each row when executing a query in a node.

Optimizations to Guarantee Fault-Tolerance for Transactions

Optimizations were made to reduce the number of disk writes required to guarantee fault-tolerance for transactions.

Improved Performance of Some Operations in the tibdgnode Process

Improved performance in the node related to how memory is used and reclaimed.

Deprecated and Removed Features

There are no deprecated or removed features in this version of TIBCO ActiveSpaces®.

Migration and Compatibility

This version of ActiveSpaces is backward compatible with ActiveSpaces 3.x. However, ActiveSpaces 3.0 and later is not backward compatible with ActiveSpaces 2.x.

For information about upgrading from an earlier version of ActiveSpaces see "Upgrading from an Earlier Version" in *TIBCO ActiveSpaces Installation*.

This release requires TIBCO FTL® 6.4 or later. For information about migrating from TIBCO FTL 5.x to TIBCO FTL 6.4, see the "Migration and Compatibility" section in *TIBCO FTL® Release Notes* and "Upgrade Migration to a New Release" section in *TIBCO FTL® Administration*.



Note: For the upgrade to be successful, the latest version of ActiveSpaces `tibdg grid rebuild` must run on the existing data grid before upgrading the ActiveSpaces components.

Closed Issues

The following issues have been fixed in this release of TIBCO ActiveSpaces®.

Closed Issues

Key	Summary
FFY-3551	After closing a connection, some resources were not completely released. As a result, future <code>grid connect()</code> calls might fail.
FFY-3480	The <code>tibdg <proxy node keeper> logLevel</code> command did not alter some log levels.
FFY-3464	Queries on <code>datetime</code> columns returned the wrong time. This issue occurred when the timezone used was an offset from Universal Time Coordinated (UTC).
FFY-3450	On start up, the state keeper was unresponsive.
FFY-3446	When an application updated or deleted a row that was being expired at the same time, the expiration or TTL stopped taking effect. As a result, a resource was left open which prevented file compaction thereby consuming more disk space.
FFY-3436	Occasionally, when a query was closed, the snapshot of the grid was not released for the last query executed for a statement. Instead, the snapshot was released when the statement was closed.
FFY-3410	Table statistics were returned for deleted tables and indexes. Now, an error is returned.
FFY-3396	At start up, a message from a secondary node to a primary node resulted in an error or unexpected behavior.
FFY-3389	When using the <code>ORDER BY</code> clause, you were expected to specify all columns of an index in the <code>ORDER BY</code> column list.
FFY-3373	Even after a session is closed by the application, the <code>tibdgSession_</code>

Closed Issues(Continued)

Key	Summary
	ExecuteUpdate() left the session open.
FFY-3314	A memory leak occurred when a node received a tibdg administrative promote request.
FFY-3217	If a node was too busy handling client requests, there was a delay in replying to a request from the tibdg tool. Therefore, the tool interpreted the delay as the node not running.
FFY-3178	The standby state keeper failed when the tibdg grid rollback was issued while the standby state keeper was still running.
FFY-3060	With queries involving GROUP BY, you could not use labels from the select list in the WHERE clause.
FFY-2974	With queries involving GROUP BY, you could not use string concatenation in the result list of queries.

Known Issues

The following are the known issues in this release.

Key	Summary/Workaround
FFY-2942	<p>Summary: Queries involving GROUP BY do not work with expressions. The following limitations apply when using GROUP BY:</p> <ul style="list-style-type: none"> • SQL CASE Expressions cannot be used in select lists when aggregation is used. • SQL CASE Expressions cannot contain aggregation functions. • Nested functions and nested expressions in select lists cannot be used when aggregation is used. <p>Workaround: None</p>
FFY-2711	<p>Summary: The SQL INSERT parameter values must exactly match the type defined for the column in the table. No attempt is made to cast from the data type of the parameter to the data type of the column in the table.</p> <p>Workaround: Set the parameter value into the statement by using the type that exactly matches the column type of the table.</p>
FFY-2140	<p>Summary: Removing a mirror grid from a gridset, either by using the <code>tibdg gridset remove</code> command or by using the <code>tibdg gridset delete</code> command, results in an unexpected behavior if the <code>-p</code> or <code>--makePrimary</code> flags are not used. As a result, data grids cannot be removed from gridsets and then added back.</p> <p>Workaround:</p>

Key	Summary/Workaround
	<p>Use the <code>-p</code> or <code>--makePrimary</code> flag when performing an operation to remove a data grid from a gridset. Using these options transitions the mirror grid into a standalone grid. As a result, the data grid removed cannot be added to a gridset as a mirror grid.</p>
FFY-1654	<p>Summary:</p> <p>When creating a table using SQL, the SQL data types are mapped to their underlying FTL types. When the metadata for the table is returned, the original data types are not preserved and you can only see the following mapping:</p> <ul style="list-style-type: none"> • long => BIGINT • string => VARCHAR • double => DOUBLE • datetime => TIMESTAMP • opaque => VARBINARY <p>Workaround:</p> <p>For information about how SQL data types are mapped to ActiveSpaces data types, see the "SQL Data Type Mapping" section in the <i>TIBCO ActiveSpaces® Administration</i> guide.</p>
FFY-1569	<p>Summary:</p> <p>In an iterator, calling <code>tibdgRow_ToString()</code> on a row or executing a query such as <code>SELECT * FROM <table></code> does not always return columns in the order defined in the table.</p> <p>Workaround:</p> <p>Retrieve the columns individually by name and in the order you wanted.</p>
FFY-1474	<p>Summary:</p> <p>Occasionally, using special characters for identifiers is out-of-sync between the <code>tibdg</code> tool and the SQL DDL commands. In some scenarios, it is possible to create a table by using the <code>TABLE CREATE</code> command, but not drop the table by using the <code>tibdg</code> tool or by using the <code>SQL DROP TABLE</code> command.</p>

Key	Summary/Workaround
	<p>Workaround: Create simple table names. The tables names must use lowercase characters, but no special characters or embedded spaces.</p>

Legal and Third-Party Notices

SOME TIBCO SOFTWARE EMBEDS OR BUNDLES OTHER TIBCO SOFTWARE. USE OF SUCH EMBEDDED OR BUNDLED TIBCO SOFTWARE IS SOLELY TO ENABLE THE FUNCTIONALITY (OR PROVIDE LIMITED ADD-ON FUNCTIONALITY) OF THE LICENSED TIBCO SOFTWARE. THE EMBEDDED OR BUNDLED SOFTWARE IS NOT LICENSED TO BE USED OR ACCESSED BY ANY OTHER TIBCO SOFTWARE OR FOR ANY OTHER PURPOSE.

USE OF TIBCO SOFTWARE AND THIS DOCUMENT IS SUBJECT TO THE TERMS AND CONDITIONS OF A LICENSE AGREEMENT FOUND IN EITHER A SEPARATELY EXECUTED SOFTWARE LICENSE AGREEMENT, OR, IF THERE IS NO SUCH SEPARATE AGREEMENT, THE CLICKWRAP END USER LICENSE AGREEMENT WHICH IS DISPLAYED DURING DOWNLOAD OR INSTALLATION OF THE SOFTWARE (AND WHICH IS DUPLICATED IN THE LICENSE FILE) OR IF THERE IS NO SUCH SOFTWARE LICENSE AGREEMENT OR CLICKWRAP END USER LICENSE AGREEMENT, THE LICENSE(S) LOCATED IN THE “LICENSE” FILE(S) OF THE SOFTWARE. USE OF THIS DOCUMENT IS SUBJECT TO THOSE TERMS AND CONDITIONS, AND YOUR USE HEREOF SHALL CONSTITUTE ACCEPTANCE OF AND AN AGREEMENT TO BE BOUND BY THE SAME.

This document is subject to U.S. and international copyright laws and treaties. No part of this document may be reproduced in any form without the written authorization of TIBCO Software Inc.

TIBCO, the TIBCO logo, the TIBCO O logo, TIB, Information Bus, FTL, eFTL, and Rendezvous are either registered trademarks or trademarks of TIBCO Software Inc. in the United States and/or other countries.

TIBCO FTL® is an embedded and bundled component of TIBCO ActiveSpaces® Enterprise Edition.

Java and all Java based trademarks and logos are trademarks or registered trademarks of Oracle Corporation and/or its affiliates.

This document includes fonts that are licensed under the SIL Open Font License, Version 1.1, which is available at: <https://scripts.sil.org/OFL>

Copyright (c) Paul D. Hunt, with Reserved Font Name Source Sans Pro and Source Code Pro.

All other product and company names and marks mentioned in this document are the property of their respective owners and are mentioned for identification purposes only.

This software may be available on multiple operating systems. However, not all operating system platforms for a specific software version are released at the same time. See the readme file for the availability of this software version on a specific operating system platform.

THIS DOCUMENT IS PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THIS DOCUMENT. TIBCO SOFTWARE INC. MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) AND/OR THE PROGRAM(S) DESCRIBED IN THIS DOCUMENT AT ANY TIME.

THE CONTENTS OF THIS DOCUMENT MAY BE MODIFIED AND/OR QUALIFIED, DIRECTLY OR INDIRECTLY, BY OTHER DOCUMENTATION WHICH ACCOMPANIES THIS SOFTWARE, INCLUDING BUT NOT LIMITED TO ANY RELEASE NOTES AND "READ ME" FILES.

This and other products of TIBCO Software Inc. may be covered by registered patents. Please refer to TIBCO's Virtual Patent Marking document (<https://www.tibco.com/patents>) for details.

Copyright © 2009-2020. TIBCO Software Inc. All Rights Reserved.