



TIBCO® Data Virtualization

Release Notes

Version 8.8.1 | April 2025

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Installing TDV, Studio, BD and Drivers

Refer to the Installation Guide, section *Installing TDV, Studio, and Drivers* for instructions on using the installer to install TDV 8.8.1 Server, Studio and Drivers. Refer to the Business Directory Guide, section *Install Business Directory* for instructions on Installing Business Directory.

Note: Make sure your Windows OS has all the necessary updates installed, so that TDV installation can run smoothly. TDV installer and patch are packaged with VC++ redistributables which are needed for svn connections to run smoothly.

TDV installer installs Microsoft Visual VC++ version 2013. This is required for svn connections to be successful. When using a patch, this version of VC++ (2013) needs to be manually installed. Execute the file `vcredist_x64.exe` which can be found in the directory `<TDV_INSTALL_DIR>\bin`. For more details about applying Service Pack refer to the next section [Upgrade Instructions](#)

Upgrade Instructions

Upgrading TDV Server, Studio and Business Directory to a Long-Term Support (LTS) Release

Long-Term Support (LTS) releases are supported with Hotfixes and Service Packs for 2 years. This approach provides an option more suited for strictly regulated environments or for customers who prefer a supported environment that covers a longer period of time, without the need for upgrades when compared with an MS (Mainstream) release. Please refer to https://docs.tibco.com/pub/tdv/general/LTS/tdv_LTS_releases.htm for more information about the LTS Release Support information.

To Upgrade to the LTS Release

1. Optionally, perform a full TDV and Business Directory backup. For details about backup export, see the *TDV Administration Guide* or the *Business Directory Guide*.
2. If installing on Windows, be sure to use Run as Administrator.
3. For Windows, make sure to close any open windows to the repository/jdk folder.
4. Stop all TDV processes, instances, and databases.
5. Download the TDV installation media from the Spotfire site below:

<https://www.spotfire.com/downloads/11801>

- TIB_tdv_server_8.8.1_all.zip (download the server zip file to your server installation folder.)
 - TIB_tdv_bd_8.8.1_all.zip (download the BD server zip file to your BD server installation folder.)
 - TIB_tdv_studio_8.8.1_all.zip (download the studio zip file to your studio installation folder.)
6. Unzip the files.

When asked whether to replace the existing files, reply Yes.

If you are not asked whether to replace files, the service pack is being extracted to some directory other than <TDV_INSTALL_DIR>. The service pack must be

extracted to the appropriate installation directory, and must overwrite files in that directory.

7. Run the following scripts to upgrade your product.

Notes: When running on a Linux/AIX environment, you will have to grant execute permission on the upgrade scripts. Run the following command to do this:

```
chmod 755 *.sh
```

If you are upgrading from TDV 8.5.6 to 8.8.1, follow these steps:

- i. Export Full Server Backup of TDV 8.5.6.
- ii. Install new TDV 8.8.1.
- iii. Import Full Server Backup from step 1 into the new TDV 8.8.1 install

If you are upgrading from TDV 8.6 to 8.8.1, follow these steps:

- i. Run TDV 8.7 Upgrade process.
- ii. Run TDV 8.8.1 Upgrade process.

Refer to the Upgrade Path - Examples section in the *Installation Guide* for more information on the different upgrade paths.

8. Enter the repo and cache passwords when prompted.

Product	Directory	Script
TDV Studio	bin	studio_upgrade_patch.bat
TDV Server	bin	cis_upgrade_patch.<sh bat>
TDV Business Directory	bin	bd_upgrade_patch.<sh bat>

Note: On the windows platform only, if you are upgrading from a pre-8.7 TDV Server installation to TDV Server 8.7 or higher, you need to upgrade your TDV Studio to the same version you upgraded your TDV Server with.

9. (Optional) For svn connection to be successful, Microsoft Visual VC++ version 2013 is required. When using a TDV patch upgrade, this version of VC++ needs to be manually installed. Execute the file vcredist_x64.exe which can be found in the directory <TDV_INSTALL_DIR>\bin.

10. (Optional) Follow this step only if you are using the default self signed TDV Server/Studio/Business Directory certificate files and you have upgraded from a TDV 8.5.x/8.6.x/8.7.x/8.8.0 installations.

Note : TDV installers provide default self signed certificates for SSL. We do not recommend using these for production TDV installations.

Now that you have upgraded your TDV Server/Business Directory/Studio to 8.8.1, the following steps will guide you on how to update your TDV self signed certs since you are using them.

1. Stop your TDV Server/Business Directory/Studio processes.

Note: you do not need to stop the Postgresql repository (TDV Server/Business Directory) nor cache (TDV Server only) processes.

2. Backup your existing TDV certificates

- TDV Server - backup files under <TDV_INSTALL_DIR>/conf/server/security/*.jks (cis_server_keystore.jks and cis_server_truststore.jks)
- TDV Business Directory - backup files under <TDV_INSTALL_DIR>/conf/server/security/*.jks (cis_server_keystore.jks and cis_server_truststore.jks)
- TDV Studio - backup files under <TDV_INSTALL_DIR>/conf/studio/security/*.jks (cis_studio_keystore.jks and cis_studio_truststore.jks)

3. Replace your TDV certificate files with ones from the latest TDV Server/Business Directory/Studio patch.

- TDV Server - copy <TDV_INSTALL_DIR>/conf/server/security/installcerts/cis_server_keystore.jks to <TDV_INSTALL_DIR>/conf/server/security/cis_server_keystore.jks
- TDV Business Server - copy <TDV_INSTALL_DIR>/conf/server/security/installcerts/cis_server_keystore.jks to <TDV_INSTALL_DIR>/conf/server/security/cis_server_keystore.jks
- TDV Studio - copy <TDV_INSTALL_DIR>/conf/studio/security/installcerts/cis_studio_keystore.jks to <TDV_INSTALL_DIR>/conf/studio/security/cis_studio_keystore.jks

4. Restart TDV Server/Business Directory/Studio processes.

To rollback the Mainstream Release that you just applied, refer to [Upgrade Instructions](#).

Notes:

- Customers using advanced data source adapters that require OAuth authentication, need to first run TDV as a stand-alone server (no Monitor Daemon), set up OAuth once, and then run TDV with the Monitor Daemon.
- Sometimes when running Manager after a service pack install an error message pops up (Unable to finish loading...). You can safely ignore this message, close, and reopen Manager.

Upgrading the Active Cluster from 8.7 to 8.8.1

When updating Active Cluster, it is critical that clusterid remain unchanged. Changing it can adversely affect cached data.

These instructions are guidelines developed from testing with a two node Active Cluster environment.

To upgrade with scheduled system downtime

1. Determine and note the clusterid, so that it can remain unchanged.
2. Make sure that the cluster is in sync. That is, make sure both nodes are in the cluster and are functional.
3. Disable any cache refreshes on both of the nodes.
4. Configure the load balancer to stop sending traffic to node 1. Shutting down node 1 would cause in-flight requests to fail.
5. Remove node 1 from the cluster.
6. If your TDV products are running, stop them, including all processes and databases used as repositories or caches.
7. Apply the service pack or hot fix to node 1.
8. Start up node 1, and re-join the cluster.
9. Configure the load balancer to send traffic to node 1 instead of node 2.
10. Remove node 2 from the cluster.
11. If your TDV products are running, stop them including all processes and databases used as repositories or caches.
12. Apply the service pack or hot fix to node 2.
13. Startup node 2 and rejoin cluster.

14. Enable cache refreshes on both of the nodes.
15. Verify the cluster status.

Downgrade

1. If working on Windows, any open windows to the repository or jdk folder must be closed.
2. *For BD, follow these steps:*

Edit /opt/TIBCO/TDV_BD_Server_8.8/bd/conf/server/bd_server_values.xml 2. Add the below tag between <common:attributes xmlns:common="http://www.compositesw.com/services/system/util/common"> and </common:attributes>

```
<common:attribute>
<common:name>/bd/config/enableAdminInterface</common:name>
<common:type>BOOLEAN</common:type>
<common:value>true</common:value>
</common:attribute>
```

Make sure that the TDV Server is stopped.

```
composite.<bat|sh> monitor stop
```

Note: To check if the Monitor daemon has stopped completely, check for the “Bye” message in cs_server.log.

3. Start the TDV Server back up without the monitor, by running the following command:

```
composite_server.<sh|bat> run
bd_server.<sh|bat> run (For BD)
```

Wait until the server comes up completely before proceeding to the steps below. This can be checked by seeing the logs. (Logs will display *Ready* when TDV Server comes up).

4. You will be unable to downgrade your TDV version directly to an 8.5.x/8.6/8.7 version . You have to downgrade the TDV repository first to the corresponding 8.x

release and then apply the upgrade patches accordingly. Open a new window and continue the following steps.

To downgrade your TDV repository version to 8.5.x run the following command:

```
$ bin/server_util.<bat|sh> -server localhost -port 9400 -user xyz_admin -password <TDV
ADMIN PASSWORD> -rollbackRepository -toVersion 8.5.0
```

To downgrade your TDV repository version to 8.6.x run the following command:

```
$ bin/server_util.<bat|sh> -server localhost -port 9400 -user xyz_admin -password <TDV
ADMIN PASSWORD> -rollbackRepository -toVersion 8.6.0
```

To downgrade your TDV repository version to 8.7.x run the following command:

```
$ bin/server_util.<bat|sh> -server localhost -port 9400 -user xyz_admin -password <TDV
ADMIN PASSWORD> -rollbackRepository -toVersion 8.7.0
```

Run the following command for BD Server:

```
bd_server_util.<bat/sh> -server <id> -port <port> -user <uid> -password <password> -
rollbackRepository -toVersion 8.5.0 (or 8.7.0 Or 8.8.0)
```

For example,

```
bin/bd_server_util.bat -server localhost -port 9500 -user admin -password admin1 -
rollbackRepository -toVersion 8.8.0 /8.5.6
```

In case of BD, when you run the above command, it displays the below message error message:

```
No KeyStore password strings in init_server_keystore_files file and exiting to restore defaults
in the script. Please re-run the program.
```

Rerun the command until you don't see the error.

Refer to the section [Verifying your Repository Version](#) to verify your repository version that you have downgraded to.

5. Kill all Java processes.
6. Stop repo and Cache.

7. Run the rollback script located in:

TDV Server:

```
<TDV_INSTALL_DIR>/install/rollback_TIB_tdv_server_<product
version>.<service pack number>_all.<bat|sh>
```

TDV Studio:

```
<TDV_INSTALL_DIR>/install/rollback_TIB_tdv_studio_<product
version>.<service pack number>_all.bat
```

Business Directory:

```
<TDV_INSTALL_DIR>/bd/install/rollback_TIB_tdv_bd_<product
version>.<service pack number>_all.<bat|sh>
```

8. Run the downgrade script located in:

TDV Server:

```
<TDV_INSTALL_DIR>/bin/cis_downgrade_patch.<bat|sh>
```

TDV Studio:

```
<TDV_INSTALL_DIR>/bin/studio_downgrade_patch.bat
```

Business Directory:

```
<TDV_INSTALL_DIR>/bin/bd_downgrade_patch.<bat|sh>
```

9. Navigate to <TDV_INSTALL_DIR> and reapply the last service pack. After rollback it is necessary to apply the previous version of service pack before starting the server.

10. Run the Upgrade script of the TDV version you have downgraded to.

While downgrading from 8.8.1 to 8.5.6 to 8.7.0, the user has to copy these files from 8.5.6 or 8.7.0 GA install to downgrade environment and restart the server. It applies to all three- Server, Studio and Business Directory.

```
./apps/common/lib/saxon9ee-9.4.jar
./apps/common/lib/saxon9-sql-9.4.jar
./apps/common/lib/saxon9-unpack-9.4.jar
```

11. (Optional) Only follow this step if you updated the default self signed TDV Server/Studio/Business Directory certificate files for your previous 8.X upgrade.

Replace your existing TDV certificates with your previous backup of them.

- TDV Server - copy your backup jks files to <TDV_INSTALL_DIR>/conf/server/security/ (For example, cis_server_keystore.jks and cis_server_truststore.jks)

- TDV Business Directory - copy your backup jks files to <TDV_INSTALL_DIR>/conf/server/security/ (For example, cis_server_keystore.jks and cis_server_truststore.jks)
- TDV Studio - copy your backup jks files to <TDV_INSTALL_DIR>/conf/studio/security/ (For example, cis_studio_keystore.jks and cis_studio_truststore.jks)

12. On AIX when you downgrade to earlier version, you would need to add `Djava.net.preferIPv4Stack=true` to `AIX aix.vargs` in `conf/server/server.properties` and `conf/server/server.properties.cfgt` and start the server.

This will resolve issue with creating clusters.

13. You have to manually un-deploy a few adapters and re-deploy them due to the Java version changes in earlier TDV versions. Follow these steps to do that:
- i. Undeploy the ComputeDB, ApacheDrill and TibcoStreaming adapter using the following commands

```
bin/server_util.sh -server localhost -port 9400 -user admin -password admin1 -
domain composite -undeploy -name ComputeDB -version 1 -verbose
```

```
bin/server_util.sh -server localhost -port 9400 -user admin -password admin1 -
domain composite -undeploy -name ApacheDrill -version 1 -verbose
```

```
bin/server_util.sh -server localhost -port 9400 -user admin -password admin1 -
domain composite -undeploy -name TibcoStreaming -version 1 -verbose
```

- ii. Redploy ComputeDB, ApacheDrill and TibcoStreaming adapter using following commands.

```
bin/server_util.sh -server localhost -port 9400 -user admin -password admin1 -
domain composite -deploy -package packages/archived_ds_adapters/dst-drill-
8.7.0-080700001.jar -verbose
```

```
bin/server_util.sh -server localhost -port 9400 -user admin -password admin1 -
domain composite -deploy -package packages/archived_ds_adapters/dst-
computedb-8.7.0-080700001.jar -verbose
```

```
bin/server_util.sh -server localhost -port 9400 -user admin -password admin1 -
domain composite -deploy -package packages/archived_ds_adapters/dst-
streambase-8.7.0-080700001.jar -verbose
```

14. Restart the Monitor.
15. Import backup CAR files as needed.
16. Optionally, redefine all your VCS roots and connections.

Verifying your Repository Version

TDV 8.8.1 has a new repository version. Whenever you downgrade to a different repository version, it is recommended that you verify that the repository version matches to the TDV version that you have downgraded to. To do this verification, run the following command:

```
./repository/bin/psql -Uroot -hlocalhost -p9408 -d cisrepo -c "select * from
cisrepo.metadata_version"
```

The following table lists the TDV/BD versions and the corresponding repository versions.

Release Version	TDV Server	BD
8.3	32	30
8.4	33	30
8.5	34	30
8.6	34	30
8.7	35	30
8.8.0	36	30
8.8.1	37	31

New in 8.8.1

The TIBCO® Data Virtualization (TDV) 8.8.1 release has two distribution types. One is for on-premises installations that utilize our platform specific installer binaries or patch archives. The second is for container and Kubernetes runtime environments that use our container distribution (i.e. Docker files and Helm charts). The container distribution can be used in private and public cloud environments (for example, Azure).

For more information on the products and components included in TDV, refer to the TDV Installation and Upgrade Guide.

For more information on the products and components in the Business Directory, refer to the TDV Business Directory Guide.

TDV 8.8.1 includes features and enhancements in the following areas.

- Server Improvements
- Governance and Security Improvements
- Datasource Improvements
- Deployment Improvements
- Documentation Enhancements

Server Improvements

Caching Improvements

- In-progress cache refreshes can now be canceled manually in TDV Studio and Web Manager cache refresh consoles or programmatically by invoking an the `/services/webservices/system/admin/resource/operations/cancelCacheRefresh` admin API or `/rest/task/v1/actions/cancel/invoke` REST API.
- Access control for cached resources has been streamlined so that access is determined based on the access control rules applied to the resources providing the original data sets rather than resources associated with the cached data sets. A new configuration setting named “Disable Transparent Model” can be used to revert to the access control model prior to TDV 8.8.1.

- Direct references to cache target table(s) can be prohibited, allowing them only as replacements for cached resources. This rule is enforceable through the use of a new server configuration setting named “Disable Direct Cache Table Access”.

Query Engine Improvements

- JSON_TABLE function has been extended to include a COSTREAM ARRAYS clause with INDEX-ing support. Use of this feature can significantly boost the performance of converting JSON content with one or more array fields to a tabular format.
- Row paths used by JSON_TABLE functions have been extended to accept wildcard characters. The wildcard character is configurable based on a new configuration setting named ‘Any JSON key value identifier in JSON_TABLE row paths’ with its default value being ‘%’.

Java Platform Improvements

- TDV Server has been upgraded to use JDK-17.0.13

Governance and Security Improvements

Authentication Improvements

- The PowerBI driver now supports the automatic retrieval of OAuth2 tokens from the Microsoft Entra ID identity provider (IDP).
- A refresh token field named ‘refreshToken’ is now supported by all the TDV driver connection properties (.i.e. JDBC, ODBC, ADO Net, PowerBI and SSIS) to support automatic refresh of expired access tokens.
- The Certificate-based SSL Mutual Authentication was enhanced to provide an extra level of security by allowing only users with a certificate attribute defined in an externally provided mapping table.
- Active Directory Authentication library (ADAL) support has been replaced with the Microsoft Authentication Library (MSAL) in the TDV Azure domain setup.
- **PAM Module Improvements**
 - Login requests routed through the PAM module will now be applied only to the users who belong to the specific domain that has been configured to use the

module.

- The PAM login module will now also fetch the client IP address (in addition to the account credentials) to validate the clients attempting to access TDV.

Authorization Improvements

- Column privilege management has been streamlined. Specifically, column-level privileges are implicitly maintained only once they have been explicitly set by the user.
- Controls in Studio have been simplified to allow for the scope of resources onto which the changes should be applied and the scope of privilege changes to be applied to be selected independently
- READ privileges are automatically assigned on parent and ancestor containers when it is detected that any of SELECT, INSERT, UPDATE, DELETE or EXECUTE privileges are assigned on a given resource - The same implicit assignments are applied when privilege assignment is propagated on contained resources, dependencies and/or dependents
- **Principal Restrictions**
 - The server access control model has been extended beyond the use of “rights” assigned to security principals - such as users, groups and claims - and “privileges” assigned to principals on specific resources to also include the option to apply “restrictions” on principals. Principal restrictions supported in TDV 8.8.1 include blocking direct access to data source tables and/or procedures.

KPI Module Improvements

- The description column of the metrics_requests table can be searched for matching results.
- An hourly retention of KPI metrics has been added to the Metrics configuration screen.
- The queryplan column has been added to the metrics_requests table.

Workload Management Improvements

- Support has been added for a new workload management rule that controls the maximum number of top-level concurrent requests issued against a server by a security principal - i.e. user, group member or claim carrier.

Datasource Improvements

- The existing option to allow introspection to continue even if failures are found has been improved to include many new use cases.
- Any remaining BCP files will be cleared automatically after a TDV Server restart.
- A new configuration option, named “Trust server certificate”, has been added to control the use of -u option by BCP bulk loading commands.

Deployment Improvements

- Server runtime monitoring - The status log (cs_server_status.log) has been enhanced to report the proper adapter name for all data sources, capture the wait/blocking times thread dumps and report the server start and up times.
- The built-in procedure library has been extended with the addition of /lib/resource/ListResourceMutationsInTransaction procedure which supports the introspection of server transactions in progress. The new procedure can be used in the context of Deployment Manager to specify additional actions to be taken during deployments based on the resource contents of deployment plans.

Documentation Enhancements

- A Troubleshooting Guide has been provided to include some Frequently asked questions and a possible solution that was provided in the past to help resolve the issue.
- User Guide documentation has been improved to include specific instructions on the resources that should and should not be saved under the My Home directory of the Studio Modeler Resource Tree.

TDV and Business Directory 8.8.1 Fixed Issues

The following issues are fixed in this Service Pack of TIBCO® Data Virtualization.

Key	Summary
CIS-116227	Fixed SQL Script PRINT function when JSON_TABLE is involved.
CIS-115948	Union Join Flip optimization creates more optimal query plans
CIS-115871	Fixed the rest data source kerberos negotiate issue when login studio with kerberos sso and rest data source passthrough is true.
CIS-115865	Fixed issue with JSON_TABLE operator
CIS-115737	Fixed issue with data conversion from signed/unsigned number to string Affected corner case(s).
CIS-115615	No change is done on this issue. We need to explain to the user how to use this feature: Here is how to activate the "Search button" for the RSyntaxArea library search dialog: Users need to type in a search text; and perform a "Search", or click the "Find Next" or "Find Previous" button first. These actions will enable the Replace options once it identifies matches for the search term.
CIS-115610	Fixed the issue that non-existing service return response 200 ok.
CIS-115470	Fixed the issue that cis_truststore file getting restored when kubernetes pod is restarted.
CIS-115425	Updated SSIS driver documentation regarding TDV tokens (i.e. UserTokens, AccessToken, IdToken and RefreshToken).
CIS-115196	Blocked cache refreshes caused by duplicate cache key entries have

(Continued)

Key	Summary
	been fixed.
CIS-115181	Fixed the reported Server Version after a patch.
CIS-114742	Resolved issue with Snowflake adapter not pushing COUNT OVER().
CIS-114620	Fixed ConcurrentModificationException that can occur when running queries and viewing a query status simulatenously.
CIS-114574	After deploying end-user bundles, some cache tables are being cleared, even if they are not part of the deployment. This issue has been fixed.
CIS-114432	Fixed issue concerning workload management and prepared statements.
CIS-114123	SUM function was not returning expected result data. This has been fixed.
CIS-114009	Data source certificates could not be loaded due to classCastException. This has been fixed.
CIS-113472	Fixed class cast exception for Kerberos authentication in TDV Server.
CIS-113380	The JSON_TABLE function now supports the COSTREAM ARRAYS clause.
CIS-113265/CIS-113327	TO_NCHAR function allows a 2nd argument to be an INTEGER. If the 2nd argument is an INTEGER, the output will be restricted to that length
CIS-113262	Fixed the issue that databases and web services doesn't display when adding tdv as site in BD.
CIS-113209	The row path of the JSON_TABLE function now honors a wildcard value, based the wildcard character set in the Server configuration.
CIS-112916	Date values retrieved in TDV for a snowflake procedure was incorrect (it

(Continued)

Key	Summary
	was one lesser than the actual value). This has been fixed.
CIS-112758	After an in-place upgrade, NTLM authentication failed with an error "Illegal base64 character 5c/5f". This has been fixed.
CIS-112342/CIS-112755	When calling stored procedures, after setting the Numeric column precision, it was noticed that precision was not used but length (Length in bytes used by the column) was being set. This has been fixed.
CIS-112236	Stored procedure input parameters were replaced by question marks in the logs when called directly from the TDV Studio. This has been fixed.
CIS-112167	The connection credentials specified through a dynamic configuration procedure configured on a particular data source now takes precedence over any other credentials associated with the data source, whether they are fixed service account credentials set on the data source or passthrough credentials used by the request accessing the data source.
CIS-111974	When composite.sh script was executed from a directory other than the TDV_INSTALL directory, an exception is thrown. This has been fixed. GDB package needs to be installed to solve this issue. Instructions for installing the package is provided in the Installation Guide.
CIS-111974/CIS-112165	When composite.sh script was executed from a directory other than the TDV_INSTALL directory, an exception is thrown. This has been fixed. GDB package needs to be installed to solve this issue. Instructions for installing the package is provided in the Installation Guide.
CIS-111500	Built-in procedure library has been extended to support introspection of server transactions.
CIS-111077	Importing a CAR file with the "data source connections" flag selected/unselected was not working as expected. This has been fixed.
CIS-110676	Boolean data types were not properly handled when the data source does not support boolean. This has been fixed.

(Continued)

Key	Summary
CIS-110660	The child request in the TDV sys_requests or request panel was showing wrong status. This has been fixed.
CIS-110602	The Annotation property for the view columns was not displayed in TDV Studio 8.8.0 when using SAP Hana. This has been fixed.
CIS-110592	When upgrading to TDV 8.8 from earlier versions, logging into TDV Studio with encryption threw an exception. This has been fixed.
CIS-110131	A cluster with two nodes on Windows where high CPU % (over 100) was experienced very frequently. This has been fixed.
CIS-110119	When using the backup feature in Deployment Manager, the persistPassword property was encoded when the expected value was True or False based on what was set for this property. This has been fixed.
CIS-110116	BCP files were not automatically cleared when TDV Server was restarted. This has been fixed.
CIS-110104	WRITE privileges on REST data sources configured to use OAuth2 are no longer required by users making requests against the data source endpoints
CIS-110045	Please use TDV ADO.NET 2024 driver version 24.0.9056 if you require .NET 8 and Entity Framework support.
CIS-109917	Privilege assignment propagation has been streamlined.
CIS-109908/CIS-109911	Implicit column privilege assignments have been streamlined.
CIS-109825	Fixed alias related issues in Google BigQuery adapter.
CIS-109822	Improved error handling of log4j2 configuration file when bad entries are

(Continued)

Key	Summary
	present inside it.
CIS-109764	TDV Server status log has been enhanced with thread dumps capture wait/blocking times and to capture server start time/up time so we can see how long an instance has been running for.
CIS-109742	Documentation Update: Active Cluster references have been removed from the Business Directory documentation.
CIS-109690	TDV 8.8.1 supports the latest Oracle Java Security patch for Java 17.
CIS-109661	When using the pkg_import command line utility, the -nosourceinfo option was not working as expected. This has been fixed.
CIS-109640	Documentation Update: In the Installation Guide, the instructions have been updated to indicate that during parallel upgrade, the TDV Server services must be put to manual start.
CIS-109527	The inconsistencies in Request tree were fixed.
CIS-109490	Documentation Update: In the User Guide, the instructions are updated about where to save the resources that will be published.
CIS-109260	Updated SQL Server 2019 adapter to push TZCONVERTOR or AT TIME ZONE functions.
CIS-109181	The SQL Server Adapter Guide, has been updated to correct the java.security file path listed.
CIS-109129	The internal PostgreSQL database has been upgraded to PostgreSQL 14. On-premises (installers): TDV 8.8.1 Server and Business Directory now use PostgreSQL 14.13. Docker and Kubernetes: TDV 8.8.1 Server now uses Postgresql 14. Future 14.X updates will automatically be updated for this distribution when the TDV images are rebuilt.
CIS-109035	Following enhancements have been made to the TDV KPI Metrics:

(Continued)

Key	Summary
	<ol style="list-style-type: none"> 1. Hour based metrics data retention option has been implemented. 2. A new column query plan has been added to the metrics_requests table. 3. The description column in the metrics_requests table is now searchable,
CIS-109022	In an LDAP environment with several active user accounts, when a user executing long running queries against the KPI data source is deleted, the rest of the users were blocked from logging into TDV server. This has been fixed.
CIS-109004	Fixed a defect in Deployment manager to port the explicit privileges of composite/all group from source to target site.
CIS-108983	Documentation Update: In the documentation of TDV Business Directory, the curl command given to disable the protocols for SSL Connectors is corrected.
CIS-108969	Documentation Update: A reference for Release Notes is added in the Installation Guide for in-place upgrades.
CIS-108968	Documentation Update: The Studio installer name has been added in the section "Running the Studio Installer" in Installation Guide.
CIS-108797	Documentation Update: The token URL is Administration guide for Azure AD OAuth has been corrected.
CIS-108727	When queries submitted through the ODBC TDV client are canceled their final status in the query reporting console within Studio or Web Manager will be displayed as TERMINATED.
CIS-108679/CIS-108742/CIS-110065/CIS-	When using the Custom Java Procedure, the Url cannot be manually edited and the user must use the Browse button to locate the Url.

(Continued)

Key	Summary
110553	
CIS-108462	Documentation Update: Active Cluster Guide has been updated to indicate that when joining 2 nodes, the XML configuration file and the binary file do not get replicated.
CIS-108281	Documentation Update: API Guide has been updated to include ACCESS_TOOLS rights for the getResource API.
CIS-107929	Documentation Update: Administration Guide updated to include documentation about Piped Buffer size default and maximum value.
CIS-107816	The length of the char field was fixed to fix this issue.
CIS-107801	Thread leak issues while accessing Web manager has been fixed.
CIS-107501	Support was added to the catalogs wherever required to fix this ticket.
CIS-107294	PAM module was executed for all non admin and non-composite user irrespective of the domain or group. This has been fixed.
CIS-107292	After upgrading to 8.8.1 if the Repository is dropped/recreated, TDV successfully starts without any issues.
CIS-107123	Fixed Redshift adapter to accept DML in native statements.
CIS-106699	In the TDV Azure domain setup, Active Directory Authentication library support has been replaced with the Microsoft Authentication Library.
CIS-105994	Fixed version info related to localization content in online docs.
CIS-105975	A sample code has been provided with TDV 8.8.1 to demonstrate the use of the Pluggable Authentication Module with an ip address. The sample implementation can be found at the location <TDV_InstallDir>\docs\examples\SamplePAMAuthenticationModule.

(Continued)

Key	Summary
CIS-105871	Updated Cosmos DB adapter to resolve query issue related to WHERE clause usage.
CIS-102860	<p>TDV Studio does not display some languages (Korean, Hindi) correctly in the Email Trigger setup screen.</p> <p>To display different language in a machine is dependent on the fonts installed in the operating system.</p> <p>For example, to display "Hindi" in Windows 11, the Hindi language pack should be installed. Follow these steps to install the Hindi language pack:</p> <ol style="list-style-type: none"> 1. Go to Settings > Time & language > Language & region 2. Click on "Add a language" 3. Search for and select "Hindi" 4. Click "Next" and then "Install"
CIS-102806	A new Adapter Guide for Non-ODBC Access adapter has been added.
CIS-93630	Fixed documentation for UpdateResourceEnabled procedure which can operate on DATA_SOURCE and TRIGGER resource types.
CIS-87718	While introspecting SQLServer to list all databases, the introspection stopped if there was an access problem and an error was thrown. This has been fixed. The "Show all databases" option will now skip any inaccessible databases and display the rest without any errors.
CIS-29487/CIS-67179	In-progress cache refreshes may be canceled manually. A Cancel button has been added above the result set.

Known Issues

The following issues exist in this release of TIBCO® Data Virtualization.

Key	Summary
CIS-116425	SSIS Driver (24.0.9056) may intermittently fail when passing an empty access token with a valid refresh token for OAuth configuration.
CIS-116415	PowerBI Driver (24.0.9111) does not support passing an empty access token with a valid refresh token for OAuth configuration. As a workaround, a "dummy" token - e.g. "abc" - in combination with a valid refresh token can be used instead.
CIS-116404	TDV 8.8.1 still has Web applications/Studio changes that require more Japanese/French localization content updates.
CIS-116396	TDV Server deployments on AIX that have downgraded from 8.8.1 to an earlier version can run into an issue when creating a cluster. To resolve that, please add -Djava.net.preferIPv4Stack=true to the AIX section "aix.vargs" in <TDV_INSTALL_DIR>/conf/server/server.properties and <TDV_INSTALL_DIR>/conf/server/server.properties.cfgt. Then restart the server.
CIS-116313	While downgrading from 8.8.1 to 8.5.6 to 8.7.0, the user has to copy these files from 8.5.6 or 8.7.0 GA install to downgrade environment and restart the server ./apps/common/lib/saxon9ee-9.4.jar ./apps/common/lib/saxon9-sql-9.4.jar ./apps/common/lib/saxon9-unpack-9.4.jar
CIS-116190	Support for XQuery 3.1 was delivered in TDV 8.8. However, our experience with the performance and memory issues when deploying this feature required us to downgrade support back down to XQuery 3.0. If an implementation requires support for XQuery 3.1, it is advised that customers remain on TDV 8.8.

(Continued)

Key	Summary
CIS-115978	REST Adapter OAuth fields are not available or configurable in Deployment Manager. Support for REST OAuth fields in DM will be supported in a future release.
CIS-115900	User Management UI incorrectly displays elevated rights while logged in using an OAuth domain.
CIS-115893	The ReplyTo field in /lib/util/SendEmail procedure doesn't work. replyTo email address will be missing in the emails sent.
CIS-115613	In a rare case, users may have log running Deployments that may cause Deploy Manager to not update the final status of the completed deployment which may result in a Deployment appearing to be in progress when in reality, it has been completed. Development is in the process of reproducing and resolving this rare defect.
CIS-115557	<p>How to use CData PowerBi Adapter for TDV with SSO Kerberos:</p> <p>Pre-requisites:</p> <p>Kerberos configuration MUST be configured correctly across all TDV environment specially for SSO.</p> <ol style="list-style-type: none"> 1. Install CData PowerBi Adapter for TDV 2. Open ODBC x64 bit app 3. Create a new connection with CData PowerBi Adapter for TDV 4. Select SSO Kerberos optional parameters: User, Password, & Kerberos KDC Required Options (MUST): Kerberos REALM, KERBEROS SPN (TDV Server SPN) and Use Platform Kerberos API=TRUE <p>Note: Do not select FALSE for "Use Platform Kerberos API" - this is a known issue</p>
CIS-115474	Permissions policies header is not configurable to restrict the use of browser features from TDV manager.
CIS-115143	Resolved an 'Invalid request' error that appears in Studio when saving changes to data source configuration settings (e.g. Host,Port) .

(Continued)

Key	Summary
CIS-114832	When published web services are accessed via Postman, an API exception is logged in Dynatrace: Exception: com.compositesw.server.qe.QueryExecutionContext\$a
CIS-114389	While using Oracle data source, push down of CLOB data type columns in UNION ALL and DISTINCT is not supported. Pushing CLOB columns in UNION ALL to Oracle.
CIS-114139	Fixed swagger request body element name issue.
CIS-113207	New tdv config /server/sql/overrides/selectOptionNestedMode This controls the behavior of how TDV select options are propagated when subqueries are present. Select options will be propagated into subqueries when this flag is set to TRUE
CIS-113180	'jdbcds.insert_with_multi_row_values' is set to 'false' in Redshift_properties.yaml instead of 'true'
CIS-113086	Increased the buffer size used for I/O from/to UI field.
CIS-112444	Allow the use of Okta IDP to connect Power BI to TDV using OAuth (non-ropc flow)
CIS-111938	Fixed DEBUG logs to be logged in cs_server_session.log and cs_server_request.log based on the log4j2 configuration.
CIS-111453	In TDV Query Engine, division between a WHOLE NUMBER DECIMAL and INTEGER results in a WHOLE NUMBER DECIMAL. This is inconsistent when compared to other data sources.
CIS-111409	Fixed hardcoded password in DriverOptions.
CIS-111369	TDV does not allow SameSite to be configured as a cookie attribute. We will allow SameSite to be configured in a future release with the following options: Disable, Lax, Strict, None (Secure).

(Continued)

Key	Summary
CIS-111150	Resolves the issue of an OPTION_NOT_VALID error occurring (with the cache status simultaneously changing to 'STALE') when selecting RFC_READ_TABLE as the SAP 'Table Read Function' and refreshing the cache.
CIS-111074	ODBC Driver PingInterval and PingTimeoutWindow were not working as expected due to a concurrency issue. This has been resolved.
CIS-111005	SQL syntax keyword highlighted color sometimes does not recognize keywords that should be highlighted due to incorrect parsing of keywords with special characters such as a semicolon, tabs, spaces surrounding the undetected keyword.
CIS-109875	The initial handshake while login into the Web UI is "Basic Auth" even when the HTTPS is used and the details are encrypted using BASE64 which can be decrypted easily and this contains in the request headers. Solution is to use a better encryption such as Argon2, bcrypt, scrypt, or PBKDF2 ____.
CIS-109859	Fixed handle leak when using Windows API for Socket related function
CIS-109636	A memory leak of RepositoryConnection objects caused by the KPI monitoring of user sessions has been fixed.
CIS-109453	Resolved backward compatibility w.r.t Unicode 9.0 changes in TDV-server
CIS-109277	Fixed JSON_TABLE issue when using independent transaction in a sql script
CIS-109266	Using the Studio View Modeler to create UNIONS can cause invalid SQL to be generated.
CIS-109238	Fixed the rest data source request issue.

(Continued)

Key	Summary
CIS-109168	Values of Distributed Runtime Engine Heap Size and Direct Memory Size are set to null when parallel processing is disabled.
CIS-108951	Fixed the published web service Rest API swagger issue.
CIS-108939	Fixed ODATA id issue.
CIS-108781	In Web UI, a New Column (Derived column) within the "Column Operator" cannot be sorted. This bug is resolved and users can now sort Derived columns within the "column operator"
CIS-108776	The "Browser section must be visible" part is removed from the tooltip. The location requirement of the jar file is now displayed on the tooltip.
CIS-108761	Fixed division and multiplication operator precedent.
CIS-108678	TDV Salesforce with SSO adapter returned incorrect precision and scale for columns containing decimal data type values. The digits containing decimal precision and scale information were being truncated incorrectly upon querying using this adapter.
CIS-108603	Missing data in ODATA v4.
CIS-108556	Using cis_install-services.sh to install services will not load user related env variables automatically. This is known issue . As a workaround edit cis.server, cis.repository and cis.cache and add "-" for start and stop (nohup su - "\$USER_NAME" -c composite.sh start
CIS-108218	The Zookeeper configuration file of one ore more cluster nodes might get corrupted during the shutting down and restart of a cluster node. If this issue occurs, a remedy that could be applied would be to remove the TDV_INSTALLATION_FOLDER/tmp/zk folder containing the corrupted configuration file and restart all affected cluster nodes.
CIS-108190	Jetty threads do not exit as expected and result in retained memory for an extended period of time. It has not been fixed.

(Continued)

Key	Summary
CIS-107975	Display issue with Annotation property fixed for MSSQL views.
CIS-107722	<p>Japanese help does not show up when language is changed to Japanese in the Business Directory UI. In order to display the Japanese help, you need to manually change the url to point to the Japanese help folder. For example:</p> <p><code>https://<hostname>:9502/directory/help/ja/index.html</code></p>
CIS-107692	When viewing the catalog in the Web UI, if you click too quickly on resources in the left panel, you may see the results of a previous selection rather than the final selection in the middle panel.
CIS-107656	In Web UI, users will be allowed to click on the Select button when a parent folder (such as Tutorial) is selected from the list of datastores. However, it will not select all the underlying tables into the canvas as one might expect. Open the parent resource and select the individual tables/views into your canvas.
CIS-107650	In Web UI, when you attempt to delete multiple flows (that were selected using the keystrokes), only the last selected flow will be deleted, instead of all selected flows.
CIS-107629	SSO related fields are not disabled when user launches TDV Studio using the Kerberos authentication. You need to check SSO again to workaround this issue.
CIS-107602	When downgrading from TDV 8.8 to Pre-8.8 version a few adapters does not undeploy adapters in packages folder. Refer to the Rollback instructions .
CIS-107560	An introspection failure is encountered when introspecting a table that has been modified by deleting its columns in Greenplum data source.
CIS-107530	Using TDV Snowflake adapter v22.0.8626, you will be unable to use WITH clause that contains string comparison in where clause.

(Continued)

Key	Summary
CIS-107465	The "URI" field of the "Local File Storage" can now accept paths that contain spaces. We can also now connect to a remote HDFS using this adapter.
CIS-107453	TDV Query Engine errors when encountering SQL with too many AND/OR predicates.
CIS-107360	Data source passwords containing double underscores, encounter 'Invalid Login' Errors.
CIS-107323	Table annotations are absent in Business Directory for a published table whose base table is annotated.
CIS-107318	Table annotations are absent in WebUI for a published table whose base table is annotated.
CIS-107271	CTAS statement with UNION from a 3rd party tool via TDV results in incremental column names instead of DDL defined ones.
CIS-107239	Wide queries (sum of projected column lengths exceeding the SAP read-table row length) against tables where the sum of all primary key lengths exceed the SAP read-table row length will fail with a DATA_BUFFER_EXCEEDED error.
CIS-107219	Re-introspection may cause adapter jars to be transferred across cluster nodes.
CIS-107204	TDV restricts regular and multi-column IN clause result set to 1000 rows when pushing to Oracle and Oracle does not have any such restrictions for multi-column IN.
CIS-107100	When executing queries against SAP data source tables, an ArrayIndexOutOfBoundsException error is encountered.
CIS-107057	Due to changes in the Twitter API and the service itself, the current Twitter adapter is no longer functional. A future adapter fix will be

(Continued)

Key	Summary
	required to address this.
CIS-107015	Using a Snowflake data source, there is an issue with the find box (Search) in the introspection tab, where the previous search name continues to display, forcing you to manually clear the previous value every time you want to initiate a new search.
CIS-106929	DROP TABLE DDL command fails because of case sensitivity issues.
CIS-106841	WebUI Canvas - auto scroll does not work. A workaround is to use the keyboard arrow keys to scroll the diagram to the desired location while dragging a node.
CIS-106840	LastModifiedDate field is not updated in the ALL_RESOURCE_PROPERTIES table.
CIS-106640	Some URLs may or may not require a trailing slash (/) depending on the Oauth provider used.
CIS-106513	With wrong encryption password the import will fail with error, but data source jar files in the car file are still imported.
CIS-106448	Packaged query on a RedShift data source fails when attempting to execute the "Copy" command.
CIS-106294	When changing the input source to a filter node in the Web UI canvas, the Filter Operator node may not report an error of non-matching columns used in the Filter Operator node's filter clause.
CIS-106240	Information about the Original owner of a resource is not stored in the system tables in TDV.
CIS-106221	In TDV Studio, after switching from Japanese to English, some items are still showing in Japanese. The workaround is to restart Studio.

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Key	Summary
CIS-106145/106683	When using an OAuth Domain using the Azure authentication, you may encounter authentication errors when logging into the TDV Studio or other TDV apps. Change the value of the field <code>accessTokenAcceptedVersion</code> in the Manifest tab in the Azure Portal to 2 and try again.
CIS-106142	Keyboard shortcuts do not work as intended in TDV Studio in the Japanese version.
CIS-105878	When publishing a service as a webservice in TDV. If a user accesses the service using 3rd party tools with the wrong URL then TDV returns success code with no data.
CIS-105703/ CIS-106259/	When a federated join query creates several JVM threads to execute and is interrupted (such as canceled), then the parent thread is terminated but the child threads would not be cleaned up (terminated). This causes the application to leak a couple of threads which remained active in the JVM process until the JVM process was restarted. Eventually, the error indicates that the Operating System could not allocate memory for a request to create a new thread.
CIS-105625	Queries using WITH clauses that have references to cached resources and define table references that are used in the context of CASE statements might fallback to the classic engine while being processed by the MPP engine.
CIS-105247	Web UI will not display a table when the table name matches it's schema name. Workaround is to either change the table name or corresponding schema name in order for the table to show in Web UI.
CIS-105193	For Encrypted data source properties consistency, we would recommend customers to retype the secrets appear String type to be EncryptedString, and save the data source properties.
CIS-105043	Google Cloud Storage databases with Folder names containing spaces cannot be introspected.

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Key	Summary
CIS-105040	When using Package Import utility doing a Full Server Backup, the relocate or set options are not honored causing the file storage data sources to be skipped or fail.
CIS-104994	Google Cloud Storage adapter does not support files with white space in their name.
CIS-104882	When there are multiple errors in the Monitor, the server will throw exception once it encountered the first error, and will not continue to save the rest.
CIS-104712	When user edits the sql tab, the model is being destroyed. All the layout changes are deleted. Thus when doing the operation "Generate Model", the sql tab generates the tables/link from scratch.
CIS-104694/CIS-104994	Google Cloud Storage databases with file names containing spaces cannot be introspected.
CIS-103438	The 'group' column in KPI metrics is not populated.
CIS-103395	Inconsistencies are seen in the model panel when using the PUT method on the View that was created and edited in SQL tab.
CIS-102734	When using /services/webservices/system/admin/user/operations/createGroup to add a new group to Active Directory, the new group takes upto 30 minutes to be added.
CIS-101652	In PaaS environments, the WebUI displays endpoints with hostname as computer name and accessing such an endpoint will fail to work. If hostname in the endpoint URL is manually changed to machine name, then it will work.
CIS-101378	When explicit privileges are given to a group "testgroup" in source site on a view (testgroup does not exist in target), the export plan that contains resource bundle and principal bundle and principal mappings

(Continued)

Key	Summary
	from source to target does not export the explicit privileges to target.
CIS-101351	While transforming data using UNION, the UNION output prevents the CASE to give an integer result.
CIS-100874	TDV's OData V4 implementation does not currently support having spaces in published tables or procedures names.
CIS-100866	When setting up an OAuth domain with a token created with the Auth0 IDP, any leading or trailing whitespaces in the fields "Audience url", "Authorization url", "Token url", "Client Id", "Issuer Value" should be deleted. If there are any leading or trailing whitespaces, TDV applications will throw an exception.
CIS-100830	OAuth domain containing an "&" in the domain name throws an exception when used to login to TDV applications.
CIS-100826	Invalid OAuth domain configuration may throw an authentication error when logging into TDV applications.
CIS-100753	When updating the URL or classpath of an existing CJP datasource with paths containing spaces or "/" after file:, an error is thrown.
CIS-100732	Removing claim in Web Manager intermittently throws error - Service failure: ServerError: An internal error occurred while processing the request. Cause: null [9901201].
CIS-100571	Launching Web Manager from Studio as Okta user intermittently throws "Parse input argument error". Logout and log in again to workaround this issue.
CIS-99695	When editing a flow that was created in Web UI from TDV Studio using the "Edit in Web UI option", you will be transferred to the Web UI login page and you need to login to the tool and then select the flow to edit.

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Key	Summary
CIS-99672	<p>When using Deployment Manager, Migrate Resources Operation to deploy artifacts containing a cache to another site, choosing the option "Caches for Existing Objects: Re-Create Cache Tables" may throw the following exception:</p> <pre>MESSAGE TYPE RuntimeError MESSAGE Cannot create target table(s) '/shared/examples/ds_orders/tutorial/ViewSales_cache' for resource : '/shared/examples/ViewSales'. Detail Message: Unable to execute "CREATE TABLE "tutorial"."ViewSales_cache" ("cachekey" integer NOT NULL, "ProductID" numeric(32, 0), "ProductName" varchar(32768), "CategoryID" numeric(32, 0), "CategoryName" varchar(32768), "ProductDescription" varchar(32768), "SerialNumber" varchar(32768), "UnitPrice" numeric(32, 6), "ReorderLevel" numeric (32, 0), "LeadTime" varchar(32768), "Status" varchar(50), "Discount" numeric(12, 2))" in data source "/shared/examples/ds_orders". SQL State = 42P07 SQL Error Code = 0 [data-3911071] - Cause: ERROR: relation "ViewSales_cache" already exists</pre>
CIS-98707	<p>The Manual Cardinality Override settings value can only accept 2147483647 as the maximum. This may sometime need to be greater than this value depending on the data volume and currently this value cannot be changed.</p>
CIS-98668	<p>When the number zero is entered as the Minimum/Maximum value in the statistics gathering table, "0" is not displayed.</p>
CIS-98442	<p>If an adapter has QueryPassthrough=true enabled in the Other field, then only packaged queries will work for that data source.</p>
CIS-98364	<p>TDV Web UI loads data in the Data Grid control a 100 rows at a time.</p>

(Continued)

Key	Summary
	<p>This data stays in the grid until the buffer is full. However, if there are more rows of data beyond the buffer, all rows will not be exported. You may scroll until all rows are displayed and then try to export to csv file. This limitation will be address in a future enhancement in TDV Web UI.</p>
CIS-98163	<p>For any site being added in Deployment Manager, if any changes are made and saved, then those changes disappear when user navigates to a different target site and back to the original site. This issue happens only with the 'Containers' tab for any data source under 'Resource Mappings'.</p> <p>To workaround this and see the change made, simply refresh the browser/click on the refresh icon in the DM.</p>
CIS-98016	<p>Execution of CTAS statements for a Cloud File System data source will throw an error in the Windows environment.</p>
CIS-97999	<p>An exception "Internal error has occured" is encountered when deleting records on published view with WHERE-IN clause.</p>
CIS-97946	<p>Cloud File System adapters are currently not supported on Windows OS.</p>
CIS-97273	<p>Refreshing the cache data after creating single table cache in Singlestore having CLOB value(s), results in an "incompatible type" error.</p>
CIS-97272	<p>Creating a single table cache in Singlestore with BLOB value(s), throws an "Invalid Datatype formatter" error.</p>
CIS-97012	<p>For any site being added in Deployment Manager, if any changes are made and saved, then those changes disappear when user navigates to a different target site and back to the original site. This issue happens only with the 'Containers' tab for any data source under 'Resource Mappings'.</p>

(Continued)

Key	Summary
	To workaround this and see the change made, simply refresh the browser/click on the refresh icon in the DM.
CIS-96737	SSL handshake between the Excel client (version 2016 and 2019) and TDV which uses a self signed certificate for secure end points (i.e. https) displays a connection error message: "couldn't establish the trust relationship for the SSL/TSL secure channel".
CIS-96701	PostgreSQL adapter cannot identify that a cursor/record type is being returned as the executed function's result. As a result, it cannot return a table as one of the output parameters.
CIS-96447	The default value for enableFlood is False in TDV Server as well as the clients drivers. Set it to True manually if you want to enable the functionality.
CIS-96087	If TDV has been upgraded from a prior version, the Published REST Web Service panel will show the base installed version instead of the current version.
CIS-95625	<p>When configuring UNION on the Model tab, the column information (meta data) for the added view is not loaded on the Grid tab. The Grid does not show any columns that are available. To workaround this issue, put the first table/view in the model before adding the UNION and then switch to the Grid tab and pull down the column information.</p> <p>This only needs to be performed once while creating the view. The column information will be available in the resource grid views after adding other resources, and there will be no exceptions thrown.</p>
CIS-95293	When the user wants to remove the SQL or Script, a NULL cannot be specified at this time to unset it. "--" can be set as a workaround, when SQL is to be unset. To unset the SCRIPT definition, use

(Continued)

Key	Summary
	<pre>PROCEDURE script1() BEGIN END</pre> <p>as the value for "script" parameter, where "script1" is the name of the procedure that is being altered.</p>
CIS-95001	TDV Web UI does not support re-introspection of datasets for possible newly created indexes. To workaround this issue, remove the dataset and add it back in the Flow editor.
CIS-94768	Discrepancies are seen in node statuses in a cluster after adding/removing a node when "Copy Repository Database For Cluster Join" is set to TRUE
CIS-94728	The Format Query button in the TDV Studio's SQL Script window does not format the query as expected and deletes the SQL definition.
CIS-94413	In TDV Web UI, if a flow is impacted for some reason (for example, due to an invalid filter operator) then such flows do not sometimes show the impact message.
CIS-94274	There are intermittent query optimization issues on data sources that do not support derived tables (for example, Informix).
CIS-94210	In TDV Web UI, a user with ASCII characters in the user name, cannot copy/rename a flow.
CIS-93868	<p>After a memory setting change, contents in the Manager's Server Overview tab in TDV Studio does not get updated after restarting TDV Server.</p> <p>The workaround is to restart Studio or "Switch User" instead of re-authenticating.</p>
CIS-93537	In TDV Web UI, when the data types of the columns do not exactly match, you will not be able to assign them in the Union/Intersect/Except operators.

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Key	Summary
CIS-93339	TDV does not support Bitbucket variant of Git Version Control System.
CIS-92933	When you set the Studio configuration option "Cursor Fetch Limit" to over 4197 rows, there is a de-serialization error in Studio while saving the results to a .csv file.
CIS-92451	When a car file is imported into Studio with VCS roots and connections, the existing resources in Studio that were not imported may show in TDV as checked-in. In this case, the user will have to detach and reattach using CIS as baseline to push resources to repository or Pull from remote repository to overwrite resources in studio.
CIS-91894	TDV queries run in the MPP engine and involving COUNT aggregates on top of joins that return no results, might return no rows instead of a single row with the value 0.

Disabling the Drill Console

The TDV Server embeds Apache Drill to assist with the runtime for the MPP Engine. The Apache Drill console uses an older version of jQuery which has known security vulnerabilities. The Apache Drill console is not required for normal operation of TDV or its MPP capability. This console can safely be disabled by blocking access to it via OS configuration (for on-premise installations), Docker Container/Pod configuration, or Kubernetes Helm Chart. To disable the Drill Console follow these instructions below:

TDV Server (on-premises):

On operating system hosting TDV Server (Windows/Linux/AIX), change the firewall to not expose (TDV_BASE_PORT - 100)+3.

Example: TDV Server installation on Linux using default TDV_BASE_PORT=9400.

Change firewalld or iptables to not allow inbound requests to port 9303.

TDV Server (docker) :

Modify TDV container/pod to not expose port (TDV_BASE_PORT - 100) + 3.

Example: Change the TDV Docker run_tdv_container.sh script to only allow external access to 9300-9302,9304-9306 using the content below.

Assumption: default TDV_BASE_PORT=9400. All previous ports will continue to be open except (TDV_BASE_PORT - 100) + 3.

Old content	New content
<pre>local H_DRILL_PORT_1=\$((H_DRILL_ BASE_PORT + 1)); local C_DRILL_PORT_ 1=\$((C_DRILL_BASE_PORT + 1))</pre>	<pre>local H_DRILL_PORT_2=\$((H_ DRILL_BASE_PORT + 2)); local C_ DRILL_PORT_2=\$((C_DRILL_BASE_ PORT + 2))</pre>
	<p><i>Add this new line</i></p> <pre>local H_DRILL_PORT_4=\$((H_ DRILL_BASE_PORT + 4)); local C_ DRILL_PORT_4=\$((C_DRILL_BASE_ PORT + 4))</pre>
<pre>CONTAINER_PORTS="-p \${H_BASE_PORT}- \${H_PORT_3}:\${C_BASE_PORT}-\${C_PORT_ 3} -p \$H_PORT_5:\$C_PORT_5 -p \$H_ PORT_9:\$C_PORT_9 -p \${H_DRILL_BASE_ PORT}-\${H_DRILL_PORT_2}:\${C_DRILL_ BASE_PORT}-\${C_DRILL_PORT_2} -p \${H_ DRILL_PORT_4}:\${C_DRILL_PORT_6}"</pre>	<pre>CONTAINER_PORTS="-p \${H_BASE_PORT}- \${H_PORT_3}:\${C_BASE_PORT}-\${C_PORT_ 3} -p \$H_PORT_5:\$C_PORT_5 -p \$H_ PORT_9:\$C_PORT_9 -p \${H_DRILL_BASE_ PORT}-\${H_DRILL_PORT_6}:\${C_DRILL_ BASE_PORT}-\${C_DRILL_PORT_6}"</pre>

Note: If you are not running the *run_tdv_container.sh* script that is provided with TDV, then you must manually exclude port 9303 when running the container using the **docker run** command. For example:

```
docker run -itd -v <volume>:<location> type=volume,source=tdv-vol,target=/opt/TIBCO --
cpus=2.000 -env [TDV_ADMIN_PASSWORD=<PASSWORD>] [TDV_ADMIN_PASSWORD_
FILE=<FILE with tdv admin password>] -m=8g -p 9300:9300 -p 9301:9301 -p 9302:9302 -
p 9304:9304 -p 9305:9305 -p 9306:9306 -p 9400:9400 -p 9401:9401 -p 9402:9402 -p 9403:9403 --
hostname=localhost --name tdv myrepo/tdv:8.4 Dockerfile.tdv.repo
```

TDV Server Kubernetes:

Modify TDV helmchart to not expose port (TDV_BASE_PORT - 100) + 3.

Example: The content of the TDV helmchart should be changed to only allow external access to 9300-9302,9304-9306 as described in the table below.

Assumption: default TDV_BASE_PORT=9400. All previous ports will continue to be open except (TDV_BASE_PORT - 100) + 3.

tdv.yaml	tdv-svc.yaml
Remove the following content from the file <i>tdv/templates/tdv.yaml</i>	Remove the following content from the file <i>tdv/templates/tdv-svc.yaml</i>
<pre>- name: "p9303" containerPort: 9303</pre>	<pre>- port: 9303 name: "p9303" - port: 9303 nodePort: 31303 name: "p9303" - port: 9303 name: "p9303"</pre>

TDV and Business Directory 8.7 Fixed Issues

The following issues are fixed in this Service Pack of TIBCO® Data Virtualization.

Key	Summary
CIS-54055	DB2 tables of TYPE NICKNAME can now be introspected.
CIS-72734	After a drop & re-create of a TDV repository schema, the admin password does not get reset to the most recent password. This has been fixed.
CIS-73006	TDV's DECIMAL data type now supports arbitrary values. Datasources Oracle, Postgres, Teradata, Greenplum (fork of Postgres) support this arbitrary NUMERIC datatype.
CIS-87717	Unable to create Oracle EBS datasource during the Oracle EBS adapter. This has been fixed.
CIS-91810	Fixed the Oracle EBS datasource introspection issues.
CIS-93995	Support has been added for TO_NCHAR function
CIS-95475	The "re-introspect previously introspected resources" checkbox was checked and disabled for Greenplum datasource and therefore indexes created were lost. This option will now be in the active state for the Greenplum data source.
CIS-96008	When setting up a data source using the "Composite" adapter, Pass-through works only with the domain entered in the data source when it was first created. In all other domains it fails with an error "Unable to connect to pass-through credential data source". This has been fixed.
CIS-96599	Fixed issues in re-introspection of cache tables after they were created.

(Continued)

Key	Summary
CIS-96669	Fixed XML/SQL encoding and decoding issue when importing a car file from a version control repository (VCS) into TDV server.
CIS-96849	Keystore attached to soap datasource got corrupted intermittently. This has been fixed.
CIS-98139	When connecting to a SOAP data source, use the alias specified in the Advanced > Certificates section if it exists to allow SSL connections.
CIS-98286	REST datasource now supports content type "application/x-www-form-urlencoded" and grant_type "password".
CIS-98308	When connecting to Google contacts adapter, an "Invalid Table" exception was displayed. This has been fixed.
CIS-98744	When a GIT PUSH was executed, the GIT LOG displayed that it was ahead of origin by 1 commit, causing unexpected behavior. This has been fixed.
CIS-98751	When creating a CJP datasource , the URL generated by clicking on Browse and choosing a path containing space characters must be edited to change all "%20" characters to " " (space characters) before creating the datasource.
CIS-98912	NLS datatype mismatch encountered when the view had an attached RBS policy. This has been fixed.
CIS-99036	TDV Oracle adapter will now handle special character column size scenarios.
CIS-99146	Support for Connection KeepAlive functionality has been included to the JDBC driver.
CIS-99342	VCS can not be enabled in TDV 8.5 or higher if there has been an in-place upgrade of just the TDV Sever from TDV 8.x to TDV 8.5.0. On the windows platform only, if you are upgrading from a pre-8.5 TDV Server installation

(Continued)

Key	Summary
	to TDV Server 8.5 or higher, you need to upgrade your TDV Studio to the same version you upgraded your TDV Server with.
CIS-99810	CREATE table failed on Amazon Redshift data source due to Double precision column type. This has been fixed.
CIS-100037	Performance improvements have been done to the Query Engine Parser configuration.
CIS-100158	TDV SAP adapter now assumes non-deterministic ordering of RFC_READ_TABLE data. This fixes inconsistencies in the query execution result set.
CIS-100170	Fixed run_tdv_container.sh issue where the wrong network was used to start the container. Now we start the tdv container with the tdv-bridge network and then connect to the tdv-bridge-internal. If you override the network name, then accordingly we will use that first then connect to {new network name} -internal.
CIS-100609	Using a CosmosDB TDV adapter, flattening of a sub array within the JSON provided, was not working as expected. This has been fixed in the new CosmosDB adapter.
CIS-100669	Active Directory adapter has been updated to version 21.0.8133.0.
CIS-100674	When API call cbsGetPolicy was run, it returned an error "value may not be null". This has been fixed.
CIS-100675	There was a Memory leak noticed in TDV Studio when moving the columns up and down in the Grid tab of a view. This has been fixed.
CIS-100703	Nodes drop off the cluster as a result of inefficiencies with LEFT PARENTHESIS causing an infinite loop in PreparedParser. This has been fixed.
CIS-100731	EXTRACTVALUE and XML_EXTRACT functions are now supported for

(Continued)

Key	Summary
	MySQL data source.
CIS-100736	Studio's sql editor's "Save To File" option saved incorrect results in the file. This has been fixed.
CIS-100779	When loading an Informix data source into TDV, in which tables contained an INT8 data type column, TDV remapped this data type to LONG. This has been fixed.
CIS-100797/CIS-101947	JDBC ODBC bridge adapter throws an exception "column label not found"" when connecting to/Introspecting PostgreSQL datasource. This has been fixed.
CIS-100808	Fixed hanging issue in queries containing deeply nested WITH clauses.
CIS-100811	Fixed issue where cancelling of a query request can take abnormally long.
CIS-100812	Deployment Manager threw an exception when DEBUG was enabled and user.dir is not set. This has been fixed.
CIS-100817	When running a request to Google Spread Sheets, you may encounter the exception "User Rate Limit Exceeded. Rate of requests for user exceed configured project quota.". This has been fixed in GoogleSheets adapter version v21.0.8137.0 and later.
CIS-100864	After creating an LDAP domain of type Other, the Edit Domain panel showed "Active Directory". This has been fixed.
CIS-100886	WITH clause is not being pushed down to MySQL in TDV. This has been fixed. You need to modify the capabilities file (apps/dlm/cis_ds_mysql/conf/mysql_5_5.mysql.capabilities) to include the following: jdbcds.column_aliasing_in_with_clause: true Also modify the file apps/dlm/cis_ds_mysql/conf/mysql_5_5_config_defs.xml and change the defaultValue to "true". This will Push down the WITH clause to the underlying data source MySQL.

(Continued)

Key	Summary
CIS-100999	Division between two integers resulted in an INTEGER. This has been fixed. The following configuration setting has been added. Administration -> Configuraton -> Server -> SQL Engine -> SQL Language -> Numeric Division. Default value is False.
CIS-101029	Fixed use case involving non standard identifiers belonging to a WITH clause. Identifiers normally follow the following regular expression <code>a-zA-Z0-9_ \$#</code>
CIS-101031	The configuration file <code>wrapper.conf</code> is no longer available in TDV. The size of the <code>monitor.out</code> file is now controlled by the <code>log4j.properties</code> file that is available in the locations: <code><TDV_INSTALL_DIR>/conf/monitor/</code> and <code><TDV_INSTALL_DIR>/bd/conf/monitor/</code>
CIS-101094	When a Principal Bundle is deployed, the "all" group was not replicated to the Target. This caused users to lose privileges on resources located under <code>/services</code> . This issue has been fixed.
CIS-101095	"Client Warning" option has been disabled for the "Request Lifetime Limit" rule in Workload Management as it is not relevant.
CIS-101170	When executing queries with nested WITH clauses, the following error was encountered: The request has been closed. No operations can be performed using it".
CIS-101201	Cassandra adapter has been updated to version 21.0.8160.
CIS-101227	When using the <code>DATE_TRUNC</code> function in TDV against Oracle, it failed with the below error: Cause: ORA-01821: date format not recognized
CIS-101229	Web Manager unable to change the language to japanese even if the browser and localisation is set to Japan. This has been fixed.
CIS-101237	Exporting a Full Server Backup failed with an decryption error: This has been fixed.

(Continued)

Key	Summary
CIS-101244	Amazon Redshift adapter has been updated to version 21.0.8180.
CIS-101317	Executing queries with WITH clause failed intermittently with cursor closed error.
CIS-101323	Fixed the driver link in the Informix Adapter Guide.
CIS-101352	Fixed VCS issue with commit folder names having umlaut characters.
CIS-101440	The AWS GovCloud endpoints were not listed in the 'End Point Region' field of the data source. This has been fixed.
CIS-101456	<p>TDV installs vcrcdist 2015-2019 that is required for postgres, if user already has it installed, it uses it to initialize postgres. An error occurs if user has 2015-2022 vcrcdist installed and TDV tries to install 2015-2019. This has been fixed. TDV now checks if user has 2015-2019 or 2015-2022 and bypasses installation of vcrcdist and uses what is in the users machine to initialize postgres.</p> <p>When applying a patch, you must make sure that vcrcdist 2015-2022 is uninstalled before applying patch, otherwise there will be an error.</p>
CIS-101486	"Client ID" field is missing for Azure domain in TDV 8.6. This has been fixed.
CIS-101546	Upgrading from TDV 8.3 to 8.5.0 failed with CREATE INDEX error "string too long". This has been fixed.
CIS-101674	Password could not be updated for an existing Azure Domain. This has been fixed.
CIS-101750	ADO.Net logger performance has been improved.
CIS-101799	Introspecting for resources using Snowflake adapter skipped the Stored Procedures. This has been fixed/

(Continued)

Key	Summary
CIS-101816	TDV now supports PostgreSQL Adapter versions 12, 13 and 14.
CIS-101827	An error was encountered connecting to Salesforce.com adapter in 8.6 - Cause: <code>org/apache/axis/AxisFault</code> This has been fixed.
CIS-101858	DOC Update: The list of Supported Add-on adapters in the Installation guide has been updated to not list the Active Cluster.
CIS-101879	Unable to introspect SOAP data source using the default REST TDV connector. This has been fixed.
CIS-101900	TDV Postgres Adapter version 10 and up now supports <code>DATE_PART()</code> function.
CIS-101928	Adapter properties gets printed in the log file as SET statements. This has been fixed. These unnecessary properties will not be displayed anymore in the log file if not explicitly set by the user in the adapter -> advanced tab -> "JDBC connection properties".
CIS-102127/CIS-102262	Composite group User cannot 'Load Data' in Business Directory. This has been fixed.
CIS-102267	TDV REST Adapter now supports introspection of OpenAPI documentation.
CIS-102343	When a Double-Byte character (for example, a Japanese character) is contained in a table column name, it was replaced by an underscore while creating the cache table in the DDL script. This has been fixed to allow such characters.
CIS-102388	401 Unauthorized error encountered when accessing an Azure Domain in the Web Manager on the Row-Based Security page when the user name contains '@' character. This has been fixed.

(Continued)

Key	Summary
CIS-102421	When connecting to TDV ADO.NET driver 8.6.1 with NTLM authentication, it failed with an exception "Session is invalid". This has been fixed.
CIS-102441	When trying to get an Access Token using the Refresh Token using TDV REST adapter, it failed with the below error: OAuth flow failed, no parameter "access_token" found in response. This has been fixed.
CIS-102458/CIS-102580	Memory utilization issue observed with CacheFramework ASAssets utilites. This has been fixed.
CIS-102471	Fixed an internal defect that prevents using cache in Vertica data source.
CIS-102478	Email Adapter v22 has been included to fix Japanese language specific issues.
CIS-102482	After setting the memory limit on the workload management to a certain number the first time (Example: 25%), even after updating the percentage to a different number (Example: 70%) on the workload management page, the query is still being limited at the previous set percentage (Example: 25%). This is because the previous value is still cached and is limiting the query execution. This issue has been fixed.
CIS-102488/CIS-102659	Updated docker and docker_k8s images to use updated Eclipse Temurin JDK distribution.
CIS-102520	When introspecting a file-based data source using .xls files, new files were not detected when they were added to the same directory as the original one. This has been fixed.
CIS-102558	After publishing a web REST API using the POST method, the binding location is set as "Query" in the TDV generated swagger content, even though the input variables have been bound to "ENTITY". This is now fixed.

(Continued)

Key	Summary
CIS-102600	When TDV Studio language is set to Japanese, the arguments displayed in the CAST function dialog was incorrect. This has been fixed.
CIS-102619	TDV now supports Google Cloud Storage Adapter as a Cloud File System Adapter.
CIS-102620	<p>The existing customers could experience OAuth login issue on some TDV apps (Studio, Manager, WebUI) with an unknown error. The TDV server would have returned 413 code response for the login attempt. If that's the case, we should increase the header size in order to read the larger tokens used by an IDP like Azure. These options can be found in the Server configuration:</p> <p>Server > Web Services > Communications > HTTP > Header Buffer Size (On Server Restart)</p> <p>Server > Web Services > Communications > HTTPS > Header Buffer Size (On Server Restart)</p> <p>Once this is changed, restart the server.</p>
CIS-102635	Message body was garbled when an email containing Japanese strings in the subject and message body gets sent from a TDV trigger. This has been fixed.
CIS-102654	New select option NO_DATA_CACHE_IMMEDIATE has been added to disable caching for immediate views only. It does not affect sub views.
CIS-102675	TDV now supports the field Scope when creating an OAuth domain. Microsoft Azure requires to have "application ID URI" in front of the scope values (ie. prefix api://...). This will enable TDV to receive a valid access token that has a valid issuer value.
CIS-102686	Using a SAP data source, executing the SELECT statement on a table failed when using IS NOT NULL in a WHERE clause. This has been fixed.
CIS-102689	DOC Update: Erroneous date handling content has been updated for the SAP Adapter.

(Continued)

Key	Summary
CIS-102732	TDV now supports Splunk adapter version 22.0.8327.0.
CIS-102735	In certain circumstances, the logs may be flooded with these error messages. This has been fixed. ERROR [DBChannel-37] 2022-10-24 11:02:38.702 -0500 IsNumberFunction - java.lang.Exception: null at com.compositesw.cdms.function.conditional.IsNumericFunction.compute (IsNumericFunction.java:31) [csserver-080502002.jar:?].
CIS-102743/CIS-103319	Setting 'Write Timeout Window' to zero can cause a deadlock when using SSL. This has been fixed.
CIS-102807	DOC Update: Connection properties section in MS Access Adapter guide was fixed.
CIS-102816	A hardcoded error message "support@compositesw.com" in MemberCache has been updated.
CIS-102841	Updated TDV ODBC windows/linux drivers to use openssl 3.0.7 for CVE-2022-3786 and CVE-2022-3602.
CIS-102884	TDV SQL Server now supports the convert function TO_CHAR.
CIS-102888	TDV drivers JDBC/ODBC/ADO.Net now supports OAuth Token (headless flow). A new configuration parameter delegateOAuth2flowToServer has been added.
CIS-102934	Multiple Workload Management Rules can be defined for User Requests. A rule action is triggered when the user request satisfies a rule. All rules except the EXCEPTION can be invoked many times within the life cycle of request. The EXCEPTION rule however, terminates the request by throwing an exception that has been defined.
CIS-102954	When re-introspecting multiple datasources at same time (using pkg_import.sh or schedule to re-introspect), incorrect capabilities file usage resulted in some columns to be defined as OTHER. This has been fixed.

(Continued)

Key	Summary
CIS-102998	Nested procedures with PATH usage gave a null point error. This has been fixed.
CIS-103001	TDV now allows pushing UNION ALL with TEXT and NTEXT data type in MSSQL data source.
CIS-103025	When running SAP ABAP queries, the columns are returned with NULL values even though there are valid values. This has been fixed.
CIS-103211	Support has been added for new SELECT option <code>*NO_DATA_CACHE_IMMEDIATE</code> . Setting this option disables caching for immediate views only. It does not affect sub views.
CIS-103233	Third-party applications accessing a TDV web service receive an error "No 'Access-Control-Allow-Origin' header is present on the requested resource. This has been fixed.
CIS-103321/CIS-103310/CIS-103803	MERGE INTO statement in SQL Server DB always defaults to bucket 0 in a multicache table.
CIS-103423	TDV Studio when switching from a multi-display environment to a single display environment may not appear on the single monitor environment's screen. Studio may remain in off-screen coordinates. Workaround is to move the TDV Studio onto the main screen/monitor by hovering over the TDV Studio running icon on the Windows taskbar. Right click on the TDV Studio snapshot image to bring up a context-menu and select "Move". Then either hold down the right mouse and drag the mouse pointer (while holding down the right mouse button) until TDV Studio is on the main screen or tap the left, right, up, down arrow keys until TDV Studio is on the main screen.
CIS-103452	For Encrypted data source properties consistency, it is recommended that you retype the secrets that appear String type to be EncryptedString, and save the data source properties.

(Continued)

Key	Summary
CIS-103453	Executing a LISTAGG function in a query with PARTITION BY clause failed. This has been fixed.
CIS-103500	The visual presentation of the information displayed in the Execution Query Plan in TDV Studio has been improved for better readability.
CIS-103567	Web UI Expression editor now has template support for CASE statements.
CIS-103801	SQL Server table introspection failed if it contained custom data types. This has been fixed.
CIS-103803	New SELECT option NO_DATA_CACHE_IMMEDIATE has been included. This disables caching for immediate views only. It does not affect sub views.
CIS-103818	<p>TDV HSQLDB 2.2 adapter + hsqldb 2.2.9 driver jar : works for HSQLDB 2.2 up to 2.4 (not including 2.4) TDV HSQLDB 2.2 adapter + hsqldb 2.7.1 driver jar : works for HSQLDB 2.4 up to 2.7.1</p> <p>TDV 8.5+ releases currently provide hsqldb 2.2.9 driver with our HSQLDB 2.2 adapter.</p> <p>Please use the hsqldb 2.7.1 (Java 11+) or higher driver jar if you want to connect to HSQLDB 2.4 or higher. Example:</p> <ol style="list-style-type: none"> 1. Download for hsqldb 2.7.1 driver : https://sourceforge.net/projects/hsqldb/files/hsqldb/hsqldb_2_7/hsqldb-2.7.1.zip/download 2. Extract: hsqldb/lib/hsqldb.jar from zip file. <p>Note: TDV requires the driver to work with Java 11 or higher (i.e. do not use hsqldb-jdk8.jar).</p> <ol style="list-style-type: none"> 3. Stop TDV Server. 4. Replace <TDV_INSTALL_DIR>/apps/dlm/cis_ds_hsqldb/lib/hsqldb-2.2.9.jar with jar from step 2. 5. Restart TDV Server.

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Key	Summary
CIS-103852	XML serialization of TDV-collected min and max character values may result in invalid XML comments. It prevents nodes from joining a cluster that has collected such stats as stats propagation fails. This has been fixed.
CIS-103890	DOC Update: Clarified the documentation support for Apache Impala 2.x as cache target.
CIS-104103	When connecting to Cloudera Impala 2.7 adapter and execute queries, unnecessary SET statements are displayed in the log. This has been fixed.
CIS-104160	<p>The cs.monitor.out file can grow unbounded until the TDV server and monitor are restarted. Certain LDAP login failures can cause the file to grow very large and fill up the drive. To avoid this issue, statements similar to this have been removed from the cs.monitor.out file.</p> <pre> DEBUG: org.springframework.ldap.pool.validation.DefaultDirContextValidator - DirContext 'javax.naming.ldap.InitialLdapContext@7cb31f1f' passed validation. javax.naming.AuthenticationException: [LDAP: error code 49 - Invalid Credentials] </pre>
CIS-104175	<p>When logging into Web Manager to an OAuth2 (Auth0) domain, you may encounter an error "Authentication Error: PKIX path building failed:</p> <pre> sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid certification path to requested target" </pre> <p>This happens when it cannot find right certificate from the truststore and Java's built-in one. To resolve this follow these steps:</p> <ol style="list-style-type: none"> 1. Generate the certificates bases on the "domain name" in Auth0. (You can locate this in Auth0 application setting) 2. Run this "openssl s_client -showcerts -connect <domain name:443>"

(Continued)

Key	Summary
	<ol style="list-style-type: none"> Copy the section of each cert and name them as ie A1.crt.....A4.crt (There should be 4 cert files) Run keytool -importcert -keystore cis_server_truststore.jks -file A1.crt -alias "A1A" (you will need to run this 4 times since you have 4 files) Please note, you will be prompt for password use "changeit" and confirm the change Restart the server and Login to Manager.
CIS-104182	Silent Install of TDV ADO .Net Data Provider v 22.0.8370 does not install the driver. This has been fixed.
CIS-104195	TDV ADO.Net driver login failed when the password contained semicolon in it. This has been fixed.
CIS-104220	Using a TDV REST adapter, an error is encountered while sending POST Request with a body parameter.
CIS-104415	INTERVAL capabilities has been corrected for Apache Hive 2 Datasource.
CIS-104444	Using a DROP TABLE statement in MS SQL Server cache_status/cache_tracking tables threw an exception. This has been fixed.
CIS-104493	Error was encountered while configuring LDAP in TDV for Multi-byte character OU. This has been fixed.
CIS-104497/CIS-105358	DOC Update: OAuth2 documentation has been improved to include more details and examples.
CIS-104554	Support has been added for arbitrary NUMERIC type in data sources Oracle, Postgres, Greenplum, Teradata and Composite.
CIS-104584	Column annotations in TDV Tables were not carried when used in Views. This has been fixed.

(Continued)

Key	Summary
CIS-104658	In TDV Azure Domain, External groups retrieval was limited to 100 records. This has been fixed and pagination is now provided.
CIS-104714	TDV ADO.Net Data provider has been upgraded.
CIS-104747	TDV Procedures to Snowflake failed with error "Cause: Bind variable '1' not set". This has been fixed and a new version of Snowflake adapter is now included.
CIS-104750	SQL Server Introspection failed with an error "com.microsoft.sqlserver.jdbc.SQLServerException: Catalog view 'fn_listextendedproperty' is not supported in this version.". This has been fixed.
CIS-104770	The upgrade process does not delete apps/dlm/cis_ds_distributed/endorsed/slf4j-log4j12-1.7.25.jar file, and causing the introspection of local storage file to fail. This file has been moved to archive and the issue is now fixed.
CIS-104793	A particular user that has no READ privileges on data sources can select data due to insufficient checks on the metadata type. Now it's fixed.
CIS-104802	Unable to save Encrypt option in ODBC DSN editor. This has been fixed.
CIS-104957	Support has been dropped for CentOS 6 in TDV Server and TDV Business Directory. Drop support for CentOS 6 in TDV Server and TDV Business Directory.
CIS-105046	CFS adapters (Amazon S3, Azure Data Lake, Local File Storage and Google Cloud Storage) do not support INSERT statements with partial column lists.
CIS-105073	For svn connection to be successful, Microsoft Visual VC++ version 2013 is required. TDV installer now installs this version of VC++. When using a TDV patch upgrade, it needs to be manually installed. Execute the file vcredist_x64.exe which can be found in the directory <TDV_INSTALL_DIR>\bin.

(Continued)

Key	Summary
CIS-105088	DOC Update: Documentation has been improved to include information about how to configure Github for TDV using Personal Access Tokens.
CIS-105141	When the site name in the Deployment Manager is set to any Japanese character then we see "String contains non ISO-8859-1 code point" error while testing the connection.
CIS-105207	Fixed privilege issue with custom functions
CIS-105273	Fixed function EXTRACTWEEK that was failing when week was 53
CIS-105304	Filter by users option did not work as expected from the Group Management page in the Web Manager as it worked in User Management page. This has been fixed.
CIS-105342	When a XQUERY is cancelled, child procedures were not receiving the cancel call. This has been fixed.
CIS-105391	JSON_TABLE function was not working as expected in a query using a JDBC client tool. This has been fixed.
CIS-105422	Upgraded OpenSSL 1.1.1q (AIX) and 3.0.5 (Windows+Linux) in TDV ODBC drivers to 3.0.8 (Windows/Linux/AIX).
CIS-105428	The display of the options "Expiration Schedule" and "Fault Toleration Policy" overlapped in TDV Studio. This has been fixed.
CIS-105490	Domain name on the login screen of TDV Studio changed to another value automatically. This has been fixed.
CIS-105499	DOC Update: wrapper.conf file will no longer be used by TDV. Documentation is now updated to remove and replace references of this file.

TDV and Business Directory 8.6.1 Fixed Issues

The following issues are fixed in this Service Pack of TIBCO® Data Virtualization.

Key	Summary
CIS-91768	Upgraded OpenSSL 1.1.1 in TDV ODBC to 3.0.5 (Windows+Linux) and 1.1.1q (AIX).
CIS-91784	Unable to connect to a database in TDV that has space in its name. This has been fixed.
CIS-95482	Flows with emoji in the flow name in TDV Web UI, encountered an error when loading data in Tibco Spotfire. This has been fixed.
CIS-100003	ADO.NET Encoder has been modified to use the ZigZag setting for data transfers.
CIS-100372	Upgraded postgresql JDBC driver to 42.2.26 for CVE-2022-31197.
CIS-100382	When using NTLM authentication, unable to connect to ADO .Net driver. This has been fixed.
CIS-100549	Improvement to error message generated in ODBC driver when an invalid hostname is used.
CIS-100551	When using OAuth2 authentication, unable to connect to ADO .Net driver. This has been fixed.
CIS-101546	Upgrading from TDV 8.3 to TDV 8.5 failed with an error "CREATE INDEX error "string too long"". This has been fixed.
CIS-101625	When upgrading directly to TDV 8.6 from prior 8.x versions, errors were encountered which needed the users to upgrade to TDV 8.5.4 first before

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Key	Summary
	upgrading to 8.6. This has been fixed. Users can now upgrade to TDV 8.6.1 directly from prior 8.x versions of TDV.
CIS-101809	In a Local File System data source, creating 2 tables with the same file name in different schemas throws an exception similar to "[Code: 1906510, SQL State:] An exception occurred when executing the following query: "CREATE TABLE fileSchema."test1.parquet" (col1 VARCHAR, col2 INTEGER, col3 VARCHAR)". Cause: Table default.test1_46_parquet already exists. You need to drop it first. [Log ID: fd2945c2-ca22-4b80-b698-1be8376dfa95] [jdbc-1906510]". This has been fixed.
CIS-101811	When using a Local File System data source, "DROP TABLE" DDL statement did not remove the file. This has been fixed.
CIS-101827	An error was encountered connecting to Salesforce.com adapter in 8.6 - Cause: org/apache/axis/AxisFault This has been fixed.
CIS-102330	Upgraded Apache Commons Text to 1.10 for CVE-2022-42889.

TDV and Business Directory 8.6 Fixed Issues

The following issues are fixed in the 8.6 release of TIBCO® Data Virtualization.

Key	Summary
CIS-65694	DATE_ADD function is now supported by MySQL Datasource.
CIS-73453	TDV now supports as an extension for Visual Studio 2019 version.
CIS-86554	jQuery has been updated to version 3.6.0 for TDV Web Manager
CIS-88747	Red Hat Enterprise Linux 8 is now supported by TDV.
CIS-90496	Fixed the debug log to display appropriate messages about Apache Drill introspection.
CIS-91321	Fixed the CLOB type column to be CAST as varchar in MySQL datasource.
CIS-92029	Due to a yaml file specification change, a data type mismatch occurred for the existing data in repository when doing a full server backup. This has been fixed.
CIS-92349	NumberFormatException was thrown for published XQuery that has "xs:boolean" data type in REST/JSON response. This is fixed.
CIS-93190	TDV would cast a cell that contained the characters "m", "d", "y", "h", or "s" as a Date or Time data type. This has been fixed. These cells will now retain their original Excel data type.

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Key	Summary
CIS-93515	Fixed the Composite datasource connection URL string to display the domain in use.
CIS-95146	Fixed the maximum SQL length alias issue across all data sources that caused unexpected results while pushing the query to the underlying data source.
CIS-96226	GROUP BY is now supported in ODATA via system query option \$apply. The \$apply option supports the transformations: Aggregate, Group by, Compute and Filter.
CIS-96350	Server driven pagination is now supported A client can pass the header "odata.maxpagesize" to specify the max page size Also, the server has a new configuration to set a maxpagesize default.
CIS-96671	Added new optional property usable in Connection String Property Name: EnableKeepAlive Property Type: Boolean Default Value: false In DSN Editor UI(ODBC) this property is located under 'connection' tab When set to true, the driver enables TCP-KeepAlive for the connection.
CIS-96849	Fix to the Keystore attached to SOAP datasource which got corrupted intermittently.
CIS-96850	Fixed issue with accessing network files for TDV file data sources.
CIS-96924	TDV failed to execute the DELETE statement with EXISTS operator for Vertica DB. This has been fixed.
CIS-97403	Cache prepared statement plans are now supported in OData. Prepared statements will be used when an ODATA url contains a key predicate.
CIS-97412	Fixed the errors encountered when introspecting the password protected access file.

(Continued)

Key	Summary
CIS-97425	<p>After configuring SSL in TDV, the customer is unable to establish a secure connection to the Web Manager. "Select a Certificate" warning pops up each time.</p> <p>To control this, a new configuration setting has been added - Studio > Administration > Configuration > Server > Communications > Want Client Authentication. If true, Server will send client certificate request for SSL authentication. Default is true. The TDV server must be restarted to take effect. You can set this configuration to false to avoid the popup "Select a Certificate" in Web Manager. Note that if you have mutual authentication configured in any of your published web services, setting this configuration to false will disable it.</p>
CIS-97450	Snowflake adapter now supports optional Role name field.
CIS-97755	In Studio, the Client Secret was not obfuscated in the OAuth 2.0 tab for REST, SOAP, and WSDL data sources. This has been fixed.
CIS-97913	Oracle Synonyms with DB Link were not introspecting for Data Source. This has been fixed.
CIS-97991	Support has been added for \$count with \$filter in the Odata call.
CIS-97994	Fixed Null pointer exception when executing Any to Any transformation.
CIS-98010	The updateResources API now supports subtype NONE for type DATA_SOURCE.
CIS-98062	Fixed raw literal value processing issue for SAP data source.
CIS-98111	It will be possible to use the 'Pass-through login' credentials (if you need to do so) while using Teradata's 'Enable Fast Load/Fast Export for large table' option when the source and target datasources are different. This makes sure that the

(Continued)

Key	Summary
	insertion operation also occurs with the provided user credentials (pass-through) and not using the default DS credentials when using this specific set of configurations.
CIS-98320	More concise error message provided for invalid date format.
CIS-98324	ODBC Windows driver closes the connection when returning CLOB values that exceed 16000 characters. This has been fixed.
CIS-98411	Introspection for CFS data sources (Amazon S3, Azure Data Lake and Local File Storage) could skip tables whose name contained special characters. This has been fixed.
CIS-98437	MongoDB data source was not failing over to other nodes in replica set. This has been fixed in MongoDB version 21.0.7947 and up. Please get new adapter from TDV 8.4 or above TDV_adapter_<version>_all.zip hotfix.
CIS-98439	Resolved duplicate records being inserted into Snowflake tables in Snowflake adapter 21.0.7963. Please get new adapter from 8.4 or above TDV_adapter_<version>_all.zip hotfix.
CIS-98455	An 'OAuthGrantType' property has been added to the Salesforce adapter that allows you to set it to 'PASSWORD'.
CIS-98456	Support has been added for OAuth via a SharePoint app. This is made available via the 'SharePointOAuth' AuthScheme. You will also need to set OAuthGrantType to 'Client'. Required Connection Properties: AuthScheme=SharePointOAuth InitiateOAuth=GETANDREFRESH OAuthGrantType=CLIENT OAuthClientId OAuthClientSecret
CIS-98459	Calling a procedure through the TDV ADO .Net Data provider failed. This has been fixed.

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Key	Summary
CIS-98463	Snowflake JDBC driver has been updated to version 3.13.5 in Snowflake adapter 21.0.7963.0.
CIS-98499	An issue causing contention and progressive slowness when many quick requests are sent to TDV has been fixed.
CIS-98508	Updated sharepoint adapter to version 21.0.7985.0.
CIS-98510	After a deployment using Deployment Manager, the keystore in the Advanced panel on the SOAP data source at the source side would disappear. This has been fixed.
CIS-98537	SPLIT_PART function did not work with '.' or '?' in some earlier versions of TDV. This has been fixed.
CIS-98539	When defining a Column-Based Security with a "Partial String Mask" rule, the suffix value got replaced with "XXX-'," after saving. This is fixed.
CIS-98543	TDV Power BI driver has been updated to version 21.0.7942.0
CIS-98576	Column Description in SQL Server is not set as Annotation in TDV. This is fixed.
CIS-98592	Using the Redshift adapter under "packages", queries returning large amounts of data may cause memory in TDV to run high and CPU usage to increase. Using settings in the "Other" category in the adapter panel can restrict memory and CPU usage if needed. Below are the recommended settings, but these may be altered depending on your situation. MaxConnectionBuffers=50;FlushSessionBuffersPool=True;CancelPendingStatement=True Actions
CIS-98709	Fixed the inconsistent behavior of procedures created and published with OData V4.

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Key	Summary
CIS-98716	ADO.Net Data Provider version has been updated to 7997.
CIS-98734	backup_export procedure failed with an xception "Given final block not properly padded. Such issues can arise if a bad key is used during decryption.". This has been fixed.
CIS-98741	GIT resources disappeared from the repository after republishing. Thi is fixed.
CIS-98742	Fixed NPE during logging to log file.
CIS-98772	Fixed issue when using PIVOT or UNPIVOT inside a sql script
CIS-98776	Users without READ privileges on published table were able to retrieve data from that table. This has been fixed.
CIS-98779	Google BigQuery requests would intermittently return the error "HTTP/2.0 404 Not Found". This has been fixed.
CIS-98787	hasClaim/getClaim procedures return an error when a non existing claim is passed. This specifically happens when the JSON is nested. This has been fixed.
CIS-98830	While refreshing the cache the following error was encountered: "The multi-part identifier "aggrExpr3109.c3117" could not be bound". This has been fixed.
CIS-98836	Fixed alias and position errors caused by SELECT over JOIN and function arguments in aggregate functions.
CIS-98846	Fixed query engine optimization issues.
CIS-	Fixed memory leak when running queries.

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Key	Summary
98847	
CIS-98869	LDAPS users were getting dropped when "Auto-synchronization" feature is enabled due to a case-sensitive mismatch issue. This has been fixed.
CIS-98912	Fixed "NLS data type mismatch" issues encountered in RBS policy.
CIS-98932, CIS-98787	Issues with using the built-in procedures hasClaim and getClaim in a nested JSON has been fixed.
CIS-98948	Updated TDV to use log4j 2.17.1.
CIS-99020	Accessing Swagger link for "Published REST Web Service" failed with the error: Fetch error Server Error http://localhost:9490/rest/webservice.json. This has been fixed.
CIS-99024	Fixed issue related to sso Token exchange process. This affects windows driver only.
CIS-99040	Attempting to add a new domain in TDV web manager throws "ServerError: Cannot create domain "LdapLocal".external domain information is invalid. [security-1900204]" error. This has been fixed.
CIS-99042	TO_DATE and PARSE_DATE functions with format option is not throwing an error when an invalid date is provided as an input. Instead it returns an invalid date such as '2021-02-31'. This has been fixed.
CIS-99056	When querying data in Microsoft Excel, the following exception was thrown. "Unable to execute native SQL fetch to create Dataset because it is not able to create java.sql.Statement object. [data-2913120] Cause: Could not find a valid license for using JDBC-ODBC Bridge 2018 on this system." This has been fixed in the JDBCODBC adapter version 21.0.8037.0 and above. This has been fixed.

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Key	Summary
CIS-99062	Cached views were not being applied with PIVOT and UNPIVOT operators. You may see this error. "Unable to load data source with id "0" from repository. [datasrc-2940000]" This issue has been fixed.
CIS-99105	Fixed Null Pointer Exception in PushableFunctionSplitter when creating execution plan.
CIS-99130	Scalar subquery not initialized in UPDATE statement if target table is a composite view . This has been fixed.
CIS-99142	VARCHAR datatypes were not getting properly interpreted in TDV. VARCHAR (16) should be interpreted as VARCHAR with 16 characters. This has been fixed.
CIS-99164	Fixed the java.lang.ClassCastException error encountered when creating an execution plan.
CIS-99165	Fixed the Null Pointer Exception encountered when executing query with UnionPreggregator.
CIS-99194	Fixed issues encountered while generating DEBUG logging for the advanced adapters after enabling the DEBUG property in log4j2 file.
CIS-99209	Encryption failures were encountered on the joined node after the sync. This has been fixed to properly communicate between nodes.
CIS-99210	The quotes separating the schema name from the index name are missing when a table is created with an index for an Oracle data source when setting up multi-table caching. This has been fixed.
CIS-99213	Fixed MongoDB adapter to include options "x509" authentication type in the Auth Scheme drop-down list.
CIS-99252	TDV installation folder contained two versions of the ODBC driver installation files. This has been fixed and the duplicate has been removed.

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Key	Summary
CIS-99262	AGGREGATE Functions were not being pushed down to MySQL when two functions were used in the same SELECT query. This has been fixed.
CIS-99263	If TDV 8.5 ODBC Driver is used to connect to a TDV Server using python as the end client, the client ends the connection with a segmentation fault. This has been fixed.
CIS-99332	Fixed the error "Unknown where node type" encountered in Oracle DB when the "WHERE EXISTS" clause in the DELETE statement is from a view.
CIS-99376	Functions with large input counts can block if the capability file does not support the function. This has been fixed.
CIS-99392	Fixed the missing alias in Fetch node when using \$expand in OData V4.
CIS-99396	The sql projection aliases is now limited to 256 characters for sql projections that do not have a valid alias.
CIS-99403	The TDV ODBC Client throws "Unable to query text" when "Max Text Column Size" parameter is set. This has been fixed.
CIS-99404	A new Snowflake adapter is provided to address the "JWT token invalid" error received when authenticating the adapter.
CIS-99406	Fixed Role Based Access Control (RBAC) violation in TDV Server for CBS policies.
CIS-99429	When the execution plan is generated for a query that contains a function, you may get an error similar to "ERROR: missing FROM-clause entry for table 'tExpr6451'". This has been fixed.
CIS-99481	Fixed the Query Engine optimization issue.
CIS-	Columns that returned 0 in the earlier TDV versions were returning NULL in

(Continued)

Key	Summary
99490	TDV 8.5. This has been fixed.
CIS-99542	Fixed TDV windows only installer (uninstaller.exe) issues CVE-2021-22037 and CVE-2021-22038.
CIS-99554	The users were dropped while enabling "Auto-Sync" in LDAP domain. This has been fixed.
CIS-99588	Using a UNIQUEIDENTIFIER in INSERT or UPDATE in Microsoft SQL Server is now supported. This restriction has been removed when using TDV's Data Ship functionality.
CIS-99640	Fixed GoogleBigQuery adapter timestamp parsing error.
CIS-99655	Documentation update: Instructions to build docker image for Azure Kubernetes environment has been improved for clarity.
CIS-99694	Cannot update the password for the existing LDAP domain if the password contains special characters.
CIS-99772	An "Invalid Login attempt" error encountered while changing the login name for the LDAP domain when the password of the user is different. This has been fixed.
CIS-99773	If the TDV WebUI Data Catalog consists of an incorrect flow created by one user, then the All Flows section of the Web UI gives a blank screen when used by a different user. This issue has been fixed.
CIS-99775	Documentation update (Administration Guide): The requirements to use VCS with TDV has been updated for accuracy.
CIS-99803	Alias resolution for a query was resulting in the error "missing FROM-clause entry for table". This has been fixed.
CIS-	CREATE table failed on Amazon Redshift data source due to Double precision

(Continued)

Key	Summary
99810	column type. This has been fixed.
CIS-99827	REST API POST operation with multi-form data input failed. This has been fixed.
CIS-99840	ClassCastException occurred when trying to take a full server backup. This has been fixed.
CIS-99841	Query against SAP fails with the error "An error has occurred while parsing a dynamic entry" when the query contains a WHERE clause using characters. This has been fixed.
CIS-99871	Functions FIRST and LAST were not working as expected. This has been fixed.
CIS-99993	Column and View data are unavailable using authentication type OAuth when using Dynamics CRM adapter. This has been fixed.
CIS-100034	In a query involving two different SQL servers, a SEMI JOIN caused duplicate rows in the result set. This has been fixed.
CIS-100035	Doc Update: correction to the directory that must be used for placement of the Oracle OCI adapter jars for XML support.
CIS-100053	Odata URL not working as expected when using "ne null & eq null" as a filter option. This has been fixed.
CIS-100097	Doc Update: Support for MS SQL Server 2016 added to the Adapter Guide.
CIS-100152	Doc Update - Kerberos support removed from PostgreSQL Adapter Guide.
CIS-100217	Function FIRST VALUE IGNORE NULLS returned incorrect results. This has been fixed.

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Key	Summary
CIS-100306	Fixed the error encountered while connecting from Spotfire to TDV using Load balancer Fully Qualified Domain Name.
CIS-100332	Using the client drivers (JDBC, ODBC and ADO.Net, queries with concurrent calls to server gets hung. This has been fixed.
CIS-100510	Fixed the exception thrown when using ODBC driver with SQL Server "Linked Services".
CIS-100610	Importing a car file failed to re-analyze dependencies and hook the links again, because of a few exceptions encountered in the ImpactApi. This has been fixed.
CIS-100703	Fixed the infinite loop issues in PreparedParser that was caused due to inefficiencies with LEFT parenthesis.
CIS-100819	Doc Update: Package Import Utility usage instructions have been updated in the Admin Guide.
CIS-100872	Doc Update: Clarified the usage of the CREATE TABLE AS SELECT statement in the Reference Guide.
CIS-100877	Doc Update: Deployment Manager Guide has been updated with the correct curl command in the syntax section.

TDV and Business Directory 8.5.4 Fixed Issues

The following issues are fixed in this Service Pack of TIBCO® Data Virtualization.

Key	Summary
CIS-91768	Upgrade TDV ODBC Drivers (Windows/Linux) to use OpenSSL 3.0.5 Upgrade TDV ODBC Driver (AIX) to use OpenSSL 1.1.1q
CIS-91810	Fixed the Oracle EBS datasource introspection issues.
CIS-92349	NumberFormatException was thrown for published XQuery that has "xs:boolean" data type in REST/JSON response. This is fixed.
CIS-95146	Fixed the maximum SQL length alias issue across all data sources that caused unexpected results while pushing the query to the underlying data source.
CIS-96671	Added new optional property usable in Connection String Property Name: EnableKeepAlive Property Type: Boolean Default Value: false In DSN Editor UI(ODBC) this property is located under 'connection' tab. When set to true, the driver enables TCP-KeepAlive for the connection.
CIS-96849	Fix to the Keystore attached to SOAP datasource which got corrupted intermittently.
CIS-97750	A new setting is added to the Snowflake properties YAML which allows literal-only comparisons.

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Key	Summary
CIS-97755	In Studio, the Client Secret was not obfuscated in the OAuth 2.0 tab for REST, SOAP, and WSDL data sources. This has been fixed.
CIS-97913	Oracle Synonyms w/DB Link were not introspecting for Data Source. This has been fixed.
CIS-97937	Snowflake adapter has been updated to include new capability for CurrentDate() support.
CIS-97991	Support has been added for \$count with \$filter in the Odata call.
CIS-97994	Fixed Null pointer exception when executing Any to Any transformation.
CIS-98139	When connecting to a SOAP data source, use the alias specified in the Advanced > Certificates section if it exists to allow SSL connections.
CIS-98411	Introspection for CFS data sources (Amazon S3, Azure Data Lake and Local File Storage) could skip tables whose name contained special characters. This has been fixed.
CIS-98455	An 'OAuthGrantType' property has been added to the Salesforce adapter that allows you to set it to 'PASSWORD'.
CIS-98456	Support has been added for OAuth via a SharePoint app. This is made available via the 'SharePointOAuth' AuthScheme. You will also need to set OAuthGrantType to 'Client'. Required Connection Properties: AuthScheme=SharePointOAuth InitiateOAuth=GETANDREFRESH OAuthGrantType=CLIENT OAuthClientId OAuthClientSecret
CIS-98459	Calling a procedure through the TDV ADO .Net Data provider failed. This has been fixed.

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Key	Summary
CIS-98499	An issue causing contention and progressive slowness when many quick requests are sent to TDV has been fixed.
CIS-98508	Updated sharepoint adapter to version 21.0.7985.0.
CIS-98539	When defining a Column-Based Security with a "Partial String Mask" rule, the suffix value got replaced with "XXX-', " after saving. This is fixed.
CIS-98543	TDV Power BI driver has been updated to version 21.0.7942.0
CIS-98576	Column Description in SQL Server is not set as Annotation in TDV. This is fixed.
CIS-98592	Using the Redshift adapter under "packages", queries returning large amounts of data may cause memory in TDV to run high and CPU usage to increase. Using settings in the "Other" category in the adapter panel can restrict memory and CPU usage if needed. Below are the recommended settings, but these may be altered depending on your situation. MaxConnectionBuffers=50;FlushSessionBuffersPool=True;CancelPendingStatement=True Actions
CIS-98709	Fixed the inconsistent behavior of procedures created and published with OData V4.
CIS-98716	ADO.Net Data Provider version has been updated to 7997.
CIS-98734	backup_export procedure failed with an xception "Given final block not properly padded. Such issues can arise if a bad key is used during decryption.". This has been fixed.
CIS-98741	GIT resources disappeared from the repository after republishing. Thi is fixed.

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Key	Summary
CIS-98776	Users without READ privileges on published table were able to retrieve data from that table. This has been fixed.
CIS-98787	hasClaim/getClaim procedures return an error when a non existing claim is passed. This specifically happens when the JSON is nested. This has been fixed.
CIS-98830	While refreshing the cache the following error was encountered: "The multi-part identifier "aggrExpr3109.c3117" could not be bound". This has been fixed.
CIS-98836	Fixed alias and position errors caused by SELECT over JOIN and function arguments in aggregate functions.
CIS-98912	Fixed "NLS data type mismatch" issues encountered in RBS policy.
CIS-98932, CIS-98787	Issues with using the built-in procedures hasClaim and getClaim in a nested JSON has been fixed.
CIS-98948	Updated TDV to use log4j 2.17.1.
CIS-99036	TDV Oracle adapter has been modified to handle special character column size scenarios.
CIS-99040	Attempting to add a new domain in TDV web manager throws "ServerError: Cannot create domain "LdapLocal".external domain information is invalid. [security-1900204]" error. This has been fixed.
CIS-99042	TO_DATE and PARSE_DATE functions with format option is not throwing an error when an invalid date is provided as an input. Instead it returns an invalid date such as '2021-02-31'. This has been fixed.
CIS-	When querying data in Microsoft Excel, the following exception was thrown.

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Key	Summary
99056	"Unable to execute native SQL fetch to create Dataset because it is not able to create java.sql.Statement object. [data-2913120] Cause: Could not find a valid license for using JDBC-ODBC Bridge 2018 on this system." This has been fixed in the JDBCODBC adapter version 21.0.8037.0 and above.
CIS-99062	Cached views were not being applied with PIVOT and UNPIVOT operators. You may see this error. "Unable to load data source with id "0" from repository. [datasrc-2940000]" This issue has been fixed.
CIS-99105	Fixed Null Pointer Exception in PushableFunctionSplitter when creating execution plan.
CIS-99209	Fixed encryption error in fast cluster join.
CIS-99130	Scalar subquery not initialized in UPDATE statement if target table is a composite view . This has been fixed.
CIS-99142	VARCHAR datatypes were not getting properly interpreted in TDV. VARCHAR (16) should be interpreted as VARCHAR with 16 characters. This has been fixed.
CIS-99164	Fixed the java.lang.ClassCastException error encountered when creating an execution plan.
CIS-99165	Fixed the Null Pointer Exception encountered when executing query with UnionPreggregator.
CIS-99194	Fixed issues encountered while generating DEBUG logging for the advanced adapters after enabling the DEBUG property in log4j2 file.
CIS-99209	Encryption failures were encountered on the joined node after the sync. This has been fixed to properly communicate between nodes.
CIS99210	The quotes separating the schema name from the index name are missing when a table is created with an index for an Oracle data source when setting

(Continued)

Key	Summary
	up multi-table caching. This has been fixed.
CIS-99213	Fixed MongoDB adapter to include options "x509" authentication type in the Auth Scheme drop-down list.
CIS-99262	AGGREGATE Functions were not being pushed down to MySQL when two functions were used in the same SELECT query. This has been fixed.
CIS-99263	If TDV 8.5 ODBC Driver is used to connect to a TDV Server using python as the end client, the client ends the connection with a segmentation fault. This has been fixed.
CIS-99332	Fixed the error "Unknown where node type" encountered in Oracle DB when the "WHERE EXISTS" clause in the DELETE statement is from a view.
CIS-99342	VCS can not be enabled in TDV 8.5 or higher if there has been an in-place upgrade of just the TDV Sever from TDV 8.x to TDV 8.5.0. On the windows platform only, if you are upgrading from a pre-8.5 TDV Server installation to TDV Server 8.5 or higher, you need to upgrade your TDV Studio to the same version you upgraded your TDV Server with.
CIS-99376	Functions with large input counts can block if the capability file does not support the function. This has been fixed.
CIS-99392	Fixed the missing alias in Fetch node when using \$expand in OData V4.
CIS-99396	Limit for sql projection aliases has been set to 256 characters for the sql projections that do not have a valid alias.
CIS-99403	The TDV ODBC Client throws "Unable to query text" when "Max Text Column Size" parameter is set. This has been fixed.
CIS-99404	A new Snowflake adapter is provided to address the "JWT token invalid" error received when authenticating the adapter.

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Key	Summary
CIS-99406	Fixed Role Based Access Control (RBAC) violation in TDV Server for CBS policies.
CIS-99429	When the execution plan is generated for a query that contains a function, you may get an error similar to "ERROR: missing FROM-clause entry for table "tExpr6451"". This has been fixed.
CIS-99481	Fixed the Query Engine optimization issue.
CIS-99490	Columns that returned 0 in the earlier TDV versions were returning NULL in TDV 8.5. This has been fixed.
CIS-99554	The users were dropped while enabling "Auto-Sync" in LDAP domain. This has been fixed.
CIS-99588	Using a UNIQUEIDENTIFIER in INSERT or UPDATE in Microsoft SQL Server is now supported. This restriction has been removed when using TDV's Data Ship functionality.
CIS-99640	Fixed GoogleBigQuery adapter timestamp parsing error.
CIS-99694	Cannot update the password for the existing LDAP domain if the password contains special characters.
CIS-99772	An "Invalid Login attempt" error encountered while changing the login name for the LDAP domain when the password of the user is different. This has been fixed.
CIS-99773	If the TDV WebUI Data Catalog consists of an incorrect flow created by one user, then the All Flows section of the Web UI gives a blank screen when used by a different user. This issue has been fixed.
CIS-99803	Alias resolution for a query was resulting in the error "missing FROM-clause entry for table". This has been fixed.

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Key	Summary
CIS-99810	CREATE table failed on Amazon Redshift data source due to Double precision column type. This has been fixed.
CIS-99840	ClassCastException occurred when trying to take a full server backup. This has been fixed.
CIS-99841	Query against SAP fails with the error "An error has occurred while parsing a dynamic entry" when the query contains a WHERE clause using characters. This has been fixed.
CIS-99871	Functions FIRST and LAST were not working as expected. This has been fixed.
CIS-99993	Column and View data are unavailable using authentication type OAuth when using Dynamics CRM adapter. This has been fixed.
CIS-100034	In a query involving two different SQL servers, a SEMI JOIN caused duplicate rows in the result set. This has been fixed.
CIS-100217	Function FIRST VALUE IGNORE NULLS returned incorrect results. This has been fixed.
CIS-100268	The \$filter condition with null values in a OData query failed. This has been fixed.
CIS-100332	Using the client drivers (JDBC, ODBC and ADO.Net, queries with concurrent calls to server gets hung. This has been fixed.
CIS-100510	Fixed the exception thrown when using ODBC driver with SQL Server "Linked Services".
CIS-100593	Upgrade TDV Server, BD and Studio to use Java 11.0.15. Windows - java version "11.0.15" 2022-04-19 LTS Linux - java version "11.0.15" 2022-04-19 LTS

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Key	Summary
	AIX - openjdk version "11.0.15" 2022-04-19
CIS-100609	Update CosmosDB driver to 21.0.8180.0.
CIS-100610	Importing a car file failed to re-analyze dependencies and hook the links again, because of a few exceptions encountered in the ImpactApi. This has been fixed.
CIS-100669	Active Directory adapter has been updated to version 21.0.8133.0.
CIS-100674	API call cbsGetPolicy failed with an error "value may not null". This has been fixed.
CIS-100703	Fixed the infinite loop issues in PreparedParser that was caused due to inefficiencies with LEFT parenthesis.
CIS-100720	Prevented storing any Cross-Site Scripting created while adding rule into the policy of Row-Based-Security in Web Manager.
CIS-100736	Studio's sql editor's "Save To File" option saved incorrect results in the file. This has been fixed.
CIS-100808	Query containing WITH clause failed with error "The request has been closed. No operations can be performed using it".
CIS-100811	Fixed issue where cancelling of a query request can take abnormally long.
CIS-100812	When user.dir is not set and DEBUG is enabled, Deployment Manager throws an exception.
CIS-100817	When running a request to Google Spread Sheets, you may encounter the exception "User Rate Limit Exceeded. Rate of requests for user exceed configured project quota.". This has been fixed in GoogleSheets adapter

(Continued)

Key	Summary
	version v21.0.8137.0 and later.
CIS-100886	WITH clause was not pushed down in MySQL datasource. This has been fixed.
CIS-100999	The Divide operator in TDV did not return the fractional part of the result and returned only the integer part. For Oracle, Hive data sources, this was contrary to the native behavior. This has been fixed.
CIS-101029	Fixed use case involving non standard identifiers belonging to a WITH clause. Identifiers normally follow the following regular expression: <code>a-zA-Z0-9_ \$ #</code>
CIS-101094	In Deployment Manager, when a Principal Bundle is deployed, the "all" group is not replicated to the Target. This causes users to lose privileges on resources located under "/services". This has been fixed.
CIS-101157	The value of Write Timeout Window server configuration setting does not get updated on the node that was joined. This has been fixed.
CIS-101170	Queries that ran successfully in a previous release of TDV failed with an error "The request has been closed. No operations can be performed using it". This has been fixed.
CIS-101201	Cassandra adapter has been updated to version 21.0.8160.
CIS-101227	When using the DATE_TRUNC function in TDV against Oracle, a "Failed query" error was encountered. This has been fixed.
CIS-101229	Web Manager unable to change the language to japanese even if the browser and localisation is set to Japan. This has been fixed.
CIS-101237	Exporting a Full Server Backup failed with an decryption error: This has been fixed.

(Continued)

Key	Summary
CIS-101244	Amazon Redshift adapter has been updated to version 21.0.8180.
CIS-101352	Fixed VCS issue with commit folder names having umlaut characters.
CIS-101440	The AWS govcloud end points were not listed in the Amazon S3 adapter endpoints list.
CIS-101546	Upgrading from TDV 8.3 to 8.5.0 failed with CREATE INDEX error "string too long". This has been fixed.

TDV and Business Directory 8.5.3 Fixed Issues

The following issues are fixed in this Service Pack of TIBCO® Data Virtualization.

Key	Summary
CIS-99406	Fixed Role Based Access Control (RBAC) violation in TDV Server for CBS policies.
CIS-99542	Fixed TDV windows only installer (uninstaller.exe) issues CVE-2021-22037 and CVE-2021-22038.
CIS-100985	<p>FastJson was removed from the TDV distribution in 8.5.3. It was a required component in older versions of TIBCO Streaming adapter, but was removed in the newest version.</p> <p>Note: The FastJson library has a known vulnerability CVE-2022-25845, which is fairly severe, but neither TDV nor the Streaming adapter has been vulnerable due to the use of "safe mode" when handling the FastJson library.</p>

TDV and Business Directory 8.5.2 Fixed Issues

The following issues are fixed in this Service Pack of TIBCO® Data Virtualization.

Key	Summary
CIS-98948	Updated TDV to use log4j 2.17.1.
CIS-99023	Removed slf4j-log4j12 dependency for ComputeDB and TibcoStreaming adapters
CIS-99059	Fixed missing log4j class issue in TDV adapter (cis_ds_distributed).
CIS-99162	Updated logback software to logback 1.2.10.
CIS-99238	Added tdv namespace label to tdv.yaml configmap.

TDV and Business Directory 8.5.1 Fixed Issues

The following issues are fixed in this Service Pack of TIBCO® Data Virtualization.

Key	Summary
CIS-98476	<p>A new server configuration is added. Set the following configuration value to True if you want to run Custom Java Procedures:</p> <pre>Administration -> Configuration -> Data Sources -> CJP -> Enable the ability to run Custom Java Procedures</pre> <p>By default this is set to False. This is a change in behavior from the earlier versions of TDV server. If you set this to True, make sure you fully trust the JAR files used for Custom Java Procedures.</p> <p>Note: The Custom Java Procedure JAR file must exist within the directory specified in the Custom Jar Import Directory server configuration (Administration -> Configuration -> Server -> Configuration -> Files -> Custom Jar Import Directory) and must have a .jar extension in the file name. Because of this, it is important to note that once a customer upgrades to 8.3.1, 8.4.1, or 8.5.1, it will be impossible for Custom Java Procedure data sources to have their URLs pointing to a location other than within the Custom Jar Import Directory.</p>
CIS-98743	<p>To mitigate CVE-2021-44228 ("Log4Shell" zero-day exploit), all bundled log4j2 jar dependencies have been upgraded to log4j 2.17.</p>

TDV and Business Directory 8.5 Fixed Issues

The following issues are fixed in the 8.5 release of TIBCO® Data Virtualization.

Key	Summary
CIS-66502	TDV now supports Oauth2 for published web services (REST, OData) and drivers (JDBC, ODBC and ADO.Net).
CIS-90344	Couchbase adapter now supports query-passthrough option.
CIS-91652	Fix to the Studio UI to improve readability when large data is appended in OAuth tab of the data source.
CIS-92723	<p>The internal PostgreSQL database has been upgraded to PostgreSQL 12.8.</p> <p>On-premises (installers): TDV 8.5 Server and Business Directory now use PostgreSQL 12.8.</p> <p>Docker and Kubernetes: TDV 8.5 Server now uses Postgresql 12.8. Future 12.X updates will automatically be updated for this distribution when the TDV images are rebuilt.</p>
CIS-94227	<p>Fix for the following issue encountered while connecting through the ODBC driver, which prevents users from executing queries using DBLINK:</p> <pre>ORA-28562: Heterogeneous Services data truncation error</pre>
CIS-94498	Ability to control the max size of the log files (cs_monitor.log and cs_monitor.out) has been added to the composite.sh/bat files in the linux/windows environments.
CIS-94530	Support for Binary Literals have been added to TDV 8.5.

(Continued)

Key	Summary
CIS-94531	Fix for not saving the empty PASSWORD_STRING in the new Data Source window with asterisks.
CIS-94570	Documentation update for the isBlocking parameter set in executeProcudure, executeNativeSql, executeSql, executeSqlScript and executePreparedSql APIs.
CIS-94763	TDV now allows customers to disable group synchronization during the login. A built-in procedure is available that can be invoked to manually sync the groups in the Web Manager or create a trigger to sync the groups.
CIS-95268	Fix to remove Spike Triggers from the list of system event triggers.
CIS-95437	Fix to make HTTP/S Jetty settings (Max/Min Threads, Accept Queue, Max Idle Time) configurable and clean up unused settings
CIS-95846	Fix to the monitor service process which failed to start on non-English Windows Operating Systems in TDV Business Directory version 8.4.
CIS-95913	Documentation update to clarify the MPP Engine functionality in a cluster environment.
CIS-96184/CIS-95834	TDV now supports Table Column Aliases (SQL-92).
CIS-96550	Fix for annotation details to not be truncated when using the ODBC driver.
CIS-96558	Fix to the functions DATEADD, DATEDIFF and DATEPART to remove mandatory quotes requirement for the first parameter.
CIS-96670	Fix for issues encountered while executing UPDATE statements on a Vertica data source with Table alias specified.

(Continued)

Key	Summary
CIS-96695	Fix to improve Studio login delay when user is part of the Ldap domain group.
CIS-96742/CIS-97539	Fix for an intermittent ADO.NET connection failure.
CIS-96915	Fix for retaining the double quotes around the datasource path in the opt file.
CIS-96955	Fix to address a change in the published procedure type with an OUT parameter in TDV 8.3 which created functions instead of procedures in Cognos client.
CIS-97178	Fix for the permission issues seen in the shell script files when applying hotfix.
CIS-97269	Documentation fix with updated links to retrieve the driver for Oracle adapter.
CIS-97544	Fix to the site refresh operation in Business Directory.
CIS-97577	Fix for loading special characters from UTF-8 file when using Informatica data source.
CIS-97624	Fix to not default the ClientSystemUserID to "SYSTEM".
CIS-97663	Fix for performance issues while using nested loops.
CIS-98157	Fix to support ISNUMERIC() function like the SQL Server implementation
CIS-98290	Fix for a data corruption issue when a correlated scalar subquery is within a CASE expression.

TDV and Business Directory 8.4 Fixed Issues

The table below lists the issues fixed in TDV 8.4 release.

8.4 Fixed Issue	Summary
CIS-72933	Fix to display a descriptive database error from the underlying TDV drivers to the end user.
CIS-88735	Fix to enable SSL Mutual authentication login.
CIS-90204	Support For DDL clauses for Vertica and Teradata
CIS-91980	Drill temp directory now shares TDV temp directory.
CIS-92135	Fix to enable creation of Column Based Security rules on a group containing users from two different domains (for example, Composite and LDAP).
CIS-92354	Documentation update for the "FORCE_ESTIMATION" option in Reference Guide > TDV Query Engine Options
CIS-92402	Fix for the alternateSecurityCredentials property map that is used to pass down the OAuthAccessTokenProperty to be processed accurately using the PowerBI data connector.
CIS-92597	Documentation update to the pkg_import command line utility specification about partially introspecting a view from a CAR file.
CIS-92732	Fix for Thai language supported fonts not displaying correctly in Studio. Follow these steps to add the selected fonts to the Studio properties: 1. Set the font to Tahoma or a Thai-language supported font in Studio > Edit > Options > Default Font

(Continued)

8.4 Fixed Issue	Summary
	<p>2. Set the font to Tahoma or a Thai-language supported font in Studio > Edit > Editors > Font</p> <p>3. Restart Studio.</p>
CIS-92783	Fix for the error encountered while running SOAP Transformation into Relational Data
CIS-92903	TDV pkg_import.sh when using options file throwing the error "Cannot set an attribute "path" on resource"
CIS-92905	Support for Boolean and BIT data types in CBS Policy assignments.
CIS-92959	Fix for Power BI driver failure for user with password that contains special characters
CIS-92992	Fix for the Odata \$expand function failure.
CIS-93006	Fix for issues encountered while importing external tables from Amazon Redshift into TDV.
CIS-93087	Fix for issues encountered when trying to make an OData call with one master entity to 2 child entities having the same column names.
CIS-93088	Fix for issues encountered in response data when we using \$expand=* for the entities that have 2 foreign keys.
CIS-93089	Fix for the Odata \$expand function incorrect behavior.
CIS-93098	Fix for error encountered when executing plan using Curl from Deployment Manager.
CIS-93173	Fix for issues encountered while rendering a multi-level expand containing a 1-to-many relationship.
CIS-93199	Fix for issues encountered with the OData expand functionality while using filters on nested/expanded entities, which causes invalid results.

(Continued)

8.4 Fixed Issue	Summary
CIS-93431	Fix for the error message "unknown operator: \$query" while fetching data from Azure CosmosDB 3.6 using MongoDB adapter in TDV.
CIS-93439	Documentation update for the missing content of the Advanced Tab field columns.
CIS-93496	Fix for issues encountered while generating alias in SQL Server query.
CIS-93556	Fix for issues encountered while connecting to TDV 8.3 ODBC using the unixODBC driver manager.
CIS-93893	Fix for issues encountered when importing CAR files containing columns with NULL/no names.
CIS-94103	Fix for issues seen in GoogleBigQuery Adapter returning NULL records with certain WHERE clauses or with force_parallel option when data is large.
CIS-94187	Fix for issues seen when using TDV SQL Reserved Keywords as column names in views published via OData.
CIS-94202	Implemented performance settings for certain frequently updated repository tables such as security_privileges and metadata_attributes tables.
CIS-94310	Power BI related performance improvements for a TDV published resource.
CIS-94508	Fix for the XML parser decrypting character code as character (_x003a_ to ":") in table name using updateSqlTable API
CIS-94580	In some situations, you may get an exception when using MAX/MIN/SUM(literal) aggregates. The exception may be similar to this: "The integer value 1,121 cannot be cast because it is outside the required range of 0 to 0"

(Continued)

8.4 Fixed Issue	Summary
	This issue has been fixed.
CIS-94588	In an XSLT Transformation, if the schema of the source contains a "choice" element, the XSL code for the XSLT resource may be incorrect, resulting in empty or missing elements in the result set. This has been fixed.
CIS-94765	Doc update: Transaction Isolation appears be incorrectly described as a proxy-based firewall setting
CIS-95031	Fix for exception handling while executing SQL Script procedures.
CIS-95095	Doc update: Column-Level restrictions set in TDV has the same behavior when a resource is accessed through a client interface, whether the selected resource is a table or a view.
CIS-95442	In TDV Server version 8.4, the monitor service process failed to start on non-English Windows Operating Systems. This has been fixed.
CIS-95846	In TDV Business Directory version 8.4, the monitor service process failed to start on non-English Windows Operating Systems. This has been fixed.
CIS-95899	The server_values.xml has incorrect path and causes the Business Directory 8.4 installation to fail. This has been fixed.

Spotfire® Advanced Data Services License Restrictions

If you are licensing TIBCO® Data Virtualization as Spotfire® Advanced Data Services (formerly known as TIBCO Spotfire® Advanced Data Services), you can publish views from all supported data sources to Spotfire® via JDBC, ODBC and ADO.NET except the following which are sold as separate license add-ons

- Oracle E-Business Suite
- Salesforce.com
- SAP Business Warehouse
- SAP ERP
- Siebel eBusiness Applications

A full TIBCO Data Virtualization license is also required for publishing views as web services or to clients that are not Spotfire® clients.

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If you are licensing TIBCO Data Virtualization as Jaspersoft Advanced Data Services (formerly known as TIBCO Jaspersoft® Advanced Data Services), you can publish views from all supported data sources to Jaspersoft via JDBC, ODBC and ADO.NET.

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If you want to upgrade from TIBCO Data Virtualization for TIBCO Cloud Metadata - Metadata Harvesting Limited Edition to a full TIBCO Data Virtualization license, you need to license TIBCO Data Virtualization for TIBCO Cloud Metadata - Upgrade to TIBCO Data Virtualization.

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TIBCO(R) Data Virtualization AWS Infrastructure License Restrictions

Following are the TDV offerings in the AWS Marketplace:

- TIBCO Data Virtualization for Windows (Hourly)
- TIBCO Data Virtualization for Windows (BYOL)
- TIBCO Data Virtualization for Red Hat Linux (BYOL)
- TIBCO Data Virtualization for Red Hat Linux (Hourly)

TIBCO Software provides 24x7, award-winning support services along with uninterrupted access to TIBCO Data Virtualization updates. This requires purchase of a support contract or a software subscription that includes support. Please refer to your maintenance terms for further details.

<https://www.cloud.com/content/dam/cloud/documents/legal/maintenance-terms.pdf>

AWS Infrastructure

AWS Support is a one-on-one support channel that is staffed 24x7x365 with experienced support engineers. AWS Support offers four support plans: Basic, Developer, Business, and Enterprise. The Basic plan is free of charge and offers support for account and billing questions and service limit increases. The other plans offer an unlimited number of technical support cases with pay-by-the-month pricing and no long term contracts, providing the level of support that meets your needs. [Learn more](#)

Refund Policy

Refunds are not provided, but you can cancel at any time by terminating your instance and canceling the subscription on the Marketplace Portal.

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 [Product Documentation website](#), mainly in HTML and PDF formats.

The [Product Documentation website](#) is updated frequently and is more current than any other documentation included with the product.

Product-Specific Documentation

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

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

Users

TDV Getting Started Guide

TDV User Guide

TDV Client Interfaces Guide

TDV Tutorial Guide

TDV Northbay Example

Administration

TDV Installation and Upgrade Guide

TDV Administration Guide

TDV Active Cluster Guide

TDV Security Features Guide

Data Sources

TDV Adapter Guides

TDV Data Source Toolkit Guide (Formerly Extensibility Guide)

References

TDV Reference Guide

TDV Application Programming Interface Guide

Other

TDV Business Directory Guide

TDV Discovery Guide

TIBCO TDV and Business Directory Release Notes - Read the release notes for a list of new and changed features. This document also contains lists of known issues and closed issues for this release.

Release Version Support

TDV 8.8 is designated as a Long Term Support (LTS) version. Some release versions of TIBCO Data Virtualization products are selected to be long-term support (LTS) versions. Defect corrections will typically be delivered in a new release version and as hotfixes or service packs to one or more LTS versions. See also [TIBCO Data Virtualization Long-Term Support \(LTS\) Releases](#).

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