TIBCO OpenSpirit®

TIBCO OpenSpirit® Data Connector for EPOS

Release Notes

Software Release 2.4.0

July 2017

TIBCO

Important Information

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Preface

TIBCO OpenSpirit Data Connectors provides the ability for applications to connect to diverse data store through a consistent programing interface. Applications may connect and use the OpenSpirit common data model and then be shielded from having to understand the differences between different vendors' data models and storage formats. Alternatively, for most data connectors, an application may choose to connect and access data through the full underlying native data model - still using a consistent programming interface.

The TIBCO OpenSpirit Data Connector for EPOS version 2.4.0 is designated with U.S. Department of Commerce Export Control Classification Number **EAR99**.

Typographical Conventions

The following typographical conventions are used in this manual.

Table 1 - General Typographical Conventions

Convention	Use
TIBCO_HOME *ENV_HOME* *OSP_ HOME*	Many TIBCO products must be installed within the same home directory. This directory is referenced in documentation as *TIBCO_HOME*. The default value of *TIBCO_HOME* depends on the operating system. For example, on Windows systems, the default value is `C:\tibco`. Other TIBCO products are installed into an *installation environment*. Incompatible products and multiple instances of the same product are installed into different installation environments. An environment home directory is referenced in documentation as *ENV_HOME*. The default value of *ENV_HOME* depends on the operating system. For example, on Windows systems the default value is `C:\tibco`. TIBCO < *ProductName* > installs into a directory referenced in documentation as *OSP_HOME*. The default value of *OSP_HOME* depends on the operating system. For example on Windows systems, the default value is `C:\Progam Files\OpenSpirit`.
`code font`	Code font identifies commands, code examples, filenames, pathnames, and output displayed in a command window. For example: Use `MyCommand` to start the foo process.
`bold code font`	Bold code font is used in the following ways: • In procedures, to indicate what a user types. For example: Type **`admin`**. • In large code samples, to indicate the parts of the sample that are of particular interest. • In command syntax, to indicate the default parameter for a command. For example, if no parameter is specified, `MyCommand` is enabled: `MyCommand [`**`enable`**` | disable]`

italic font	Italic font is used in the following ways: • To indicate a document title. For example: See *TIBCO ActiveMatrix BusinessWorks Concepts*. • To introduce new terms For example: A portal page may contain several portlets. *Portlets* are mini-applications that run in a portal. • To indicate a variable in a command or code syntax that you must replace. For example: `MyCommand` *PathName*
Key combinations	Key name separated by a plus sign indicate keys pressed simultaneously. For example: *Ctrl+C*. Key names separated by a comma and space indicate keys pressed one after the other. For example: *Esc*, *Ctrl+Q*.
	The note icon indicates information that is of special interest or importance, for example, an additional action required only in certain circumstances.
	The tip icon indicates an idea that could be useful, for example, a way to apply the information provided in the current section to achieve a specific result.
	The warning icon indicates the potential for a damaging situation, for example, data loss or corruption if certain steps are taken or not taken.

Connecting with TIBCO Resources

How to Join TIBCO Community

TIBCO Community is an online destination for TIBCO customers, partners, and resident experts, a place to share and access the collective experience of the TIBCO community. *TIBCO Community* offers forums, blogs, and access to a variety of resources. To register, go to *https://community.tibco.com* .

How to Access All TIBCO Documentation

After you join *TIBCO Community*, you can access the documentation for all supported product versions here:
https://docs.tibco.com

How to Contact TIBCO Support

For comments or problems with this manual or the software it addresses, please contact TIBCO Support as follows.

- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit this site:
  https://support.tibco.com.
  select About Support > Getting Started
- If you already have a valid maintenance or support contract, visit this site:
  https://support.tibco.com
  Entry to this site requires a user name and password. If you do not have a user name, you can request one.

Release Notes

Check the TIBCO Product Support web site at *https://support.tibco.com* for product information that was not available at release time. Entry to this site requires a username and password. If you do not have a username, you can request one. You must have a valid maintenance or support contract to use this site.

Topics

New Features

This section lists features added since the last major release of this product.

Release 2.4.0

The following are new features in this release.

- Added support for Paradigm 17 running on RHEL Server release 6 or later (64-bit only)

Release 2.3.0

The following are new features in this release.

- Added support for Paradigm 15.5 (EPOS 4.3.0) running on RHEL Server release 6 or later (64-bit only).

Release 2.2.0

The following are new features in this release.

- Added support for Paradigm 15 (EPOS 15) running on RHEL Server release 5 or 6 (64-bit only)

Release 2.1.0

The following are new features in this release.

- Added support for Paradigm 14.1 (EPOS 4.2.1) running on RHEL Server release 5 or 6 (64-bit only)

Release 2.0.0

The following are new features in this release.

- The new EPOS-4 server support for Paradigm 2011.3 (EPOS 4.1.3) running on RHEL Server release 5 or 6 (64-bit only).

Changes in Functionality

This section lists changes in functionality since the last major release of this product.

Release 2.4.0

There are no changes in functionality in this release.

Release 2.3.0

There are no changes in functionality in this release.

Release 2.2.0

There are no changes in functionality in this release.

Release 2.1.0

There are no changes in functionality in this release.

Release 2.0.0

The following are changes in functionality in this release.

- Supports write-back of seismic data types.
- Support delete of 2D lines, 2D datasets, and 3D volumes.
  Note: 2D/3D surveys must be deleted using Paradigm software.

Deprecated and Removed Features

This section describes deprecated features (if any), and lists features, if relevant, that may be useful alternatives to the deprecated features. Any use of a deprecated feature should be discontinued as it may be removed in a future release. You should avoid becoming dependent on deprecated features and become familiar with the suggested alternative features.

This section also lists features that are removed (if any).

Release 2.4.0

The following are deprecated or removed features in this release.

- Dropped support for
    - Paradigm 2011.x (EPOS 4.1.1, 4.1.2, 4.1.3)
    - Paradigm 14.1 (EPOS 4.2.1)
    - Paradigm 15 (EPOS 15)

Release 2.3.0

There are no deprecated and/or removed features this release.

Release 2.2.0

There are no deprecated and/or removed features this release.

Release 2.1.0

There are no deprecated and/or removed features this release.

Release 2.0.0

The following are deprecated or removed features in this release.

- Dropped support for EPOS 3.3 and Paradigm 2009 (4.0)

Migration and Compatibility

This section explains how to migrate from a previous release to this release and version compatibility.

Release 2.4.0

Migration

The OpenSpirit Data Connector for EPOS 2.4.0 is a full-installation of the data connector, decoupled from the OpenSpirit Runtime 4.2.0 release.


*Hotfix **Runtime-v4.2.0-HF04+** must be installed into the OpenSpirit Runtime 4.2.0 Master installation **prior** to installing the OpenSpirit Data Connector for EPOS 2.4.0.*

You can download Hotfixes from the TIBCO Support Customer Portal (https://support.tibco.com).
Log in using your username and password from the TIBCO Support Web page:

- *Select Download*
- *Select Hotfixes*
- *Select AvailableDownloads*
- *Select OpenSpirit*
- *Select Runtime*
- *Select 4.2.0*
- *Select HF04*

See the Installation & Configuration Guide for further details.

Compatibility

The OpenSpirit Data Connector for EPOS requires the following TIBCO OpenSpirit products to be previously installed and available:

- TIBCO OpenSpirit Runtime 4.2.0
- TIBCO OpenSpirit Runtime HotFix 04 (or higher)
- Paradigm / EPOS (see Certified Data Store below)

Certified Data Stores

- Paradigm 15.5 (EPOS 4.3.0) running on Linux RHEL Server release 6 or later (64-bit only).
- Paradigm 17 running on Linux RHEL Server release 6 or later (64-bit only).

Estimated hardware requirements

- See the TIBCO OpenSpirit Runtime 4.2.0 Release Notes.

Estimated disk requirements

- Binary installation 235 MB

Certified Operating Systems

- See the TIBCO OpenSpirit Runtime 4.2.0 Release Notes.

Release 2.3.0

Migration

The OpenSpirit Data Connector for EPOS 2.3.0 is a full-installation of the data connector, decoupled from the OpenSpirit Runtime release.

See the Installation Guide for further details.

Compatibility

The OpenSpirit Data Connector for EPOS requires the following TIBCO OpenSpirit products to be previously installed and available:

- TIBCO OpenSpirit Runtime 4.2.0
- Paradigm / EPOS (see Certified Data Store below)

Certified Data Stores

- Paradigm 2011.x (EPOS 4.1.1, 4.1.2, 4.1.3) running on Linux RHEL Server release 5 or 6 (64-bit only)
- Paradigm 14.1 (EPOS 4.2.1), running on Linux RHEL Server release 5 or 6 (64-bit only)
- Paradigm 15 (EPOS 15), running on Linux RHEL Server release 5 or 6 (64-bit only).
- Paradigm 15.5 (EPOS 4.3.0) running on Linux RHEL Server release 6 or later (64-bit only).

Estimated hardware requirements

- See the TIBCO OpenSpirit Runtime 4.2.0 Release Notes.

Estimated disk requirements

- Binary installation 235 MB

Certified Operating Systems

- See the TIBCO OpenSpirit Runtime 4.2.0 Release Notes.

Release 2.2.0

Migration

The OpenSpirit Data Connector for EPOS 2.2.0 is a full-installation of the data connector, decoupled from the OpenSpirit Runtime release.

See the Installation Guide for further details.

This version is included with the TIBCO OpenSpirit Runtime 4.2.0 release.

Compatibility

The OpenSpirit Data Connector for EPOS requires the following TIBCO OpenSpirit products to be previously installed and available:

- TIBCO OpenSpirit Runtime 4.2.0
- Paradigm / EPOS (see Certified Data Store below)

Certified Data Stores

- Paradigm 2011.x (EPOS 4.1.1, 4.1.2, 4.1.3) running on Linux RHEL Server release 5 or 6 (64-bit only)
- Paradigm 14.1 (EPOS 4.2.1), running on Linux RHEL Server release 5 or 6 (64-bit only)
- Paradigm 15 (EPOS 15), running on Linux RHEL Server release 5 or 6 (64-bit only).

Estimated hardware requirements

- See the TIBCO OpenSpirit Runtime 4.2.0 Release Notes.

Estimated disk requirements

- Binary installation 195 MB

Certified Operating Systems

- See the TIBCO OpenSpirit Runtime 4.2.0 Release Notes.

Release 2.1.0

Migration

The OpenSpirit Data Connector for EPOS v2.1.0 is a full-installation of the data connector, decoupled from the OpenSpirit Runtime release. This version can be installed into an OpenSpirit Runtime v4.1.0 (HF04) master installation using the OpenSpirit InstallConfig tool.

See the Installation Guide for further details.

Compatibility

The OpenSpirit Data Connector for EPOS requires the following TIBCO OpenSpirit products to be previously installed and available:

- TIBCO OpenSpirit Runtime 4.1.0
- TIBCO OpenSpirit Runtime 4.1.0 **HF04**

  ⚠ ***The Runtime hotfix TIBCO OpenSpirit Runtime 4.1.0 HF04 must be installed BEFORE installing the Data Connector for EPOS.***

Estimated hardware requirements

- See the TIBCO OpenSpirit Runtime v4.1.0 Release Notes.

Estimated disk requirements

- Binary installation 41 MB

Certified Operating Systems

- See the TIBCO OpenSpirit Runtime v4.1.0 Release Notes.

Certified Data Stores

EPOS

- Paradigm 2011.x (EPOS 4.1.1, 4.1.2, 4.1.3) running on Linux RHEL Server release 5 or 6 (64-bit only)
- Paradigm 14.1 (EPOS 4.2.1), running on Linux RHEL Server release 5 or 6 (64-bit only)

Release 2.0.0

Migration

The TIBCO OpenSpirit Data Connector for EPOS 2.0.0 is a full-installation of the data connector, decoupled from the TIBCO OpenSpirit Runtime release.

This version is included with the TIBCO OpenSpirit Runtime 4.1.0 release.

Compatibility

The OpenSpirit Data Connector for EPOS requires the following products to be previously installed and available:

- TIBCO OpenSpirit Runtime 4.1.0 – Master installation

Certified Operating Systems

- Linux
    - Red Hat Enterprise Linux Server release 5 (Tikanga)
    - Red Hat Enterprise Linux Server release 6.5 (Santiago)

Estimated Hardware Requirements

- Linux
    - At least 8 GB of RAM
    - 80 GB disk drive and
    - Standard graphics card for Windows PC

Estimated Disk Requirements

- Binary installation:
    - Linux: 41 Mb

Certified Data Stores

EPOS

- Paradigm 2011.x (EPOS 4.1.1, 4.1.2, 4.1.3) running on Linux RHEL Server release 5 or 6 (64-bit only)

Closed Issues

The table in this section list issues that were closed in the named releases.

Closed in Release	CR #	Summary
2.4.0	OSPEP-22	The Paradigm OpenGeo SDK has been fixed to allow the OpenSpirit EPOS Data Connector to write non-FLOAT slice volumes.
2.4.0	OSPEP-23	The EPOS data connector now saves the incoming OpenSpirit CRS with newly created 2D and 3D surveys. This allows us to provide CRS with returned spatial data even when we cannot determine the equivalent EPOS CRS to tag on the survey.
2.4.0	OSPEP-77	A dedicated EPOS data connector server will now be started when running copy jobs.
2.4.0	OSPEP-80	Now supporting reading/writing well surface and bottom locations with Geographic CRS (latitude/longitude coordinates).
2.4.0	OSPEP-81	The EPOS data connector now correctly sets the TraceFile symmetry flag; symmetry is assumed to be true for Amplitude seismic data. Frequency and Variance seismic data is generally asymmetric.
2.4.0	OSPEP-82	The EPOS data connector now supplies the IsHighestTraceVersion column for the EpiWell_WellLogTrace table with read-only access.
2.4.0	OSPEP-84	Fixed a problem where an EPOS data connector that could not connect to the survey/project would stay alive until it timed out. Now it reports an error and self-terminates.
2.4.0	OSPEP-95	Now supporting Paradigm 17 and 15.5 versions only. Dropped all previous release versions (2011.X, 14.1 and 15). Installing this EPOS package will disable usage of any of the dropped versions running data connectors or refreshing project lists in the configuration panel.
2.4.0	OSPEP-96	Added ability to insert/update/delete CwmConstant entities. They are insertable on CwaWell and CwaWellSet parents. Updating CwmConstants does not allow changing the value type of the constant. Added relationships to the owners for Data Selector view scoping.
2.4.0	OSPEP-99	Prevent EPOS Data Connector from hanging and consuming 100% CPU due to bug in ESRI engine for conversion of coordinates for an obscure Paris system (EPSG code 29701, documented in issue OSPRT-597).

Closed in Release	CR #	Summary
2.3.0	32481	It is now possible to support custom CRS defined at project or survey level with enhancement that populates the datum shift column of the configuration panel. If the EPOS CRS can be fully specified as OSP CRS (either with WGS84 datum or transforms defined), then the configuration panel will specify that custom CRS as the output CRS. If the custom CRS cannot be fully specified, then the user must select a CRS from the CRS selector to define a transform to WGS84. This selection list has been enhanced to offer as many coordinate systems as possible based on what the Paradigm version Coordinate System database has with defined EPSG alias.
2.3.0	36032	Fixed problem handling Picks when well names have "/" character
2.3.0	36057	Can now read & write EpiWell_WellLogTrace attributes "DataSource", "LogPass" and "RunNumber". Can now read & write native model CwaWellLog attributes "PropertyNames" and "PropertyValues".
2.3.0	36067	Allowed creating a new partial or decimated slice volume but still refuses to write decimated or partial slices on existing slice volumes.
2.3.0	36079	Fixed error when displaying PostStack2d Details if CDP/SP/XY are requested but MinTrace/MaxTrace are NOT requested.
2.3.0	36085	Adjust handling of 2D line SRD attribute; data model and API support this item but Paradigm applications do not use it. Instead use containing survey SRD when reading/writing 2D line SRD information.
2.3.0	36123	Enhanced the config panel "Refresh Project List" operation to populate the Datum Shift to WGS84 column if possible.
2.3.0	36135	Config panel NEVER activates the "Coordinate System Details" button
2.3.0	36145	Fixed specifying transforms to WGS84 when using CONUS grid shift file.
2.3.0	36148	Support Paradigm 15.5 version
2.3.0	36359	Now updating Status information section of EPOS config panel during Refresh Project List operation to indicate progress.
2.2.0	30994	Implement retrieval (via native model) TraceFile attribute FileRec$CreationDate.
2.2.0	33899	Fixed server crash when updating native CwaWellLog objects without using PrimaryKey$ constraint.
2.2.0	34631	Improve native well data model; use spatial attributes for surface/bottom locations.
2.2.0	34958	Fixed the problem where SOME dates retrieved from EPOS were one hour off due to DST start/end variations over the years.

Closed in Release	CR #	Summary
2.2.0	34977	Performance improvement - removed calculation of 2D line intersections for project when inserting 2D lines. This operation can be performed using the EPOS Project Manager application.
2.2.0	34985	Fixed problem inserting 2D line names with embedded spaces.
2.2.0	35074	Fixed reporting of Well & WellBore status attributes.
2.2.0	35446	Support Paradigm 15 (EPOS 15) version.
2.2.0	35700	If incoming well surface/bottom locations are specified in geographic CRS (lat/long), convert to project CRS. If convert fails, send input point as-is only if the CRS is NOT geographic, else issue warning and do not store.
2.1.0	33857	Added support for Paradigm 14.1 (EPOS 4.2.1).
2.1.0	34291	Fixed problems when trying to copy slice ordered 3D brick volumes.
2.1.0	34376	Fixed problem that did not allow directly accessed data paths to be the same for Seismic and Applications data types.
2.1.0	34884	Update the carto mappings based on Paradigm 14.1
2.1.0	34924	Fixed calculation of number of Z samples to read/write depth seismic data.
2.1.0	34943	Fixed logic for finding directional survey Azimuth and dip information for Well Bores.
2.1.0	34970	Paradigm 14.1 no longer writes new seismic data in 32-bit integer format. This data will be stored as 32-bit floating point format.
2.0.0	32256	A new v4.1.0 master installation will now allow EPOS project names longer than 64 characters.
2.0.0	29584, 30990, 32446	Updated the EPOS 4 data connector unit catalog, some units were missing and others had the wrong values. Cleaned up the EPOS unit catalog so that canonical units (EPOS primary unit name for given unit; e.g. "feet" or "ft") can be distinguished from unit aliases.
2.0.0	31020	The performance retrieving SLICE volume from EPOS has been improved.
2.0.0	33543	Added a new configuration option to allow skipping the Reference Value Service mapping of the EPOS WellStatus, FluidType, ShowType, and FlowDirection to the OpenSpirit BoreStatus, FluidType, ShowType, and FlowDirection attributes, respectively. If this option is checked, the EPOS data connector will return the WellStatus, FluidType, ShowType, and FlowDirection values from the database as is, without using the Reference Value Service, into the BoreStatus, FluidType, ShowType, and FlowDirection attributes.

Closed in Release	CR #	Summary
2.0.0	31090	Fixed bug that generated many CRS error messages during "Refresh Project List" operation on EPOS config panel.
2.0.0	31097	Ability to update comments on well logs fixed with Paradigm 2011.2 release.
2.0.0	31315	The EPOS data connector can now connect to Geolog well databases configured in SSH mode.
2.0.0	31321	The EPOS 4 Data Connector no longer crashes if the bulk request is asking for any data that is outside the actual data extent (for both major and minor axes).
2.0.0	31346	Corrected an issue discovered trying to import wells from EPOS 3 into Petrel. The previous implementation in OpenSpirit 4.1.0 did not honor the in the EPOS 3 data source panel asserted project coordinate system.
2.0.0	31482	The EPOS data connector no longer crashes if attempting to read a corrupt volume file. The volume will now be skipped.
2.0.0	31695	Performance improvements for workflows reading horizontal slices from vertical trace volumes.
2.0.0	31978	The EPOS 4 data connector now maps EpiWell_WellLogTrace CurveSet to CwaWellLog::WellSetName as a read-only attribute.
2.0.0	32708	Fixed to return ShotPoint value for every trace on 2D line.
2.0.0	33395	Improved the error handling when runnig the "Refresh Project List" operation from the EPOS config panel.
2.0.0	33577	Added ability to read CurveSet from the WellLogTrace table. This was also released as Runtime 4.0.3_HF10.
2.0.0	33617	Fixed problem refreshing the project list when there were thousands of EPOS studies (~3000) on a single PNS host.
2.0.0	33775	Filter out pre-stack gathers/volumes when generating list of 2D/3D seismic datasets.
2.0.0	33776	Fix model relationships so that user can request wellLogs scoped to a wellSet in native model requests.
2.0.0	31024, 32553, 33777	Improved CRS reporting and handling on well data by using OpenSpirit exchanger instead of EPOS exchanger which could not support compound transforms (added support for concatenated geographic transforms).

Known Issues

The following are the most significant issues known at the time of the release

Key	Summary/Workaround
OSPEP-25	Through in-house testing, it has been have found that EPOS can use a complicated datum transform to convert the data. In certain situations a compound concatenated geographic transform can be used to convert data from Datum A to Datum B and then to WGS84, where the compound fallback geographic transform is used to convert data from Datum A to Datum B. OpenSpirit handles this situation very well. However, other OpenSpirit applications, such as TOAP for Petrel and the Extension for ArcGIS, cannot convert such a CRS to a proper WKT string. The OpenSpirit ESRI WKT system exchanger was originally designed based on ESRI's ArcMap which was using the simple geographic transform or the compound transform to include only simple geographic transforms. ***Work-Around*** The work-around is to take full advantage of the EPOS configuration panel to specify the transform to be a simple geographic transform. If this is done, then OpenSpirit will use the EPOS engine to convert the data from project CRS to the CRS set at the configuration panel. The more complicated compound transform will be handled in a future OpenSpirit Runtime release.
OSPEP-65	When copying surveys to a copy project with incompatible CRS, there is a possibility that they will not be attached to the project after the data connector is restarted. Since we need the surveys connected to the project to load any subsequent data (volumes, 2D lines and 2D datasets), we will attach the surveys to the project regardless of CRS compatibility but we will NOT update the project boundaries when the surveys CRS are not compatible. The EPOS data connector will log a warning about the incompatible CRS when encountered