Enterprise View Driver 4 User's Guide

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Jace (driver JNI interface)
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Preface

The Enterprise View Driver provides third-party applications access to Enterprise View objects stored in the repository. This manual documents the installation and configuration on all supported platforms. The tasks associated with everyday use of the analytical facilities of PASW Collaboration and Deployment Services are documented in the Deployment Manager documentation.

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Enterprise View Driver

Overview

The Enterprise View drivers provide third-party applications access to Enterprise View objects stored in repository. The drivers operate similarly to conventional database drivers with the exception that they do not directly query a physical data source but rather reference a Enterprise View Data Provider Definition and Application View. An Application View provides a defined table and column structure; a Data Provider Definition maps the logical Application View tables and columns to those of a physical data source.

Refer to *Deployment Manager User's Guide* for information on working with Enterprise View objects.

Enterprise View provides drivers for JDBC and ODBC access.

Requirements

Windows

- Windows 2000 Professional SP4
- Windows XP Professional SP2
- Windows Server 2003 (32 and 64-bit)
- Windows Vista Business or Enterprise Edition

Linux

- Red Hat Enterprise Linux 4.0 (32 and 64-bit)

Sun Solaris

- Sun Solaris 9 (2.9) (32 and 64-bit SPARC)
- Sun Solaris 10 (32 and 64-bit SPARC)

HP-UX

- HP-UX 11 64-bit Itanium
- JVM 1.5 or greater must be installed prior to installing the driver.

IBM System i5 (PASE environment only)

- IBM System i5/OS V5R3 or V5R4
- JVM 1.5 or greater must be installed prior to installing the driver.

AIX

- AIX 5.1, 5.2, 5.3 (32 and 64-bit)
- JVM 1.5 or greater must be installed prior to installing the driver.

The driver requires approximately 100MB of available hard drive space, regardless of the operating system.

Installing the Windows Drivers

▶ Download and install the latest Windows Data Access Pack from *http://www.spss.com/drivers/client.htm*. For the purposes of examples, these instructions assume that the Data Access Pack is installed in the default installation directory `C:\Program Files\SPSSOEM`. Refer to the Data Access Pack documentation for installation information.

▶ Install the Enterprise View driver. To install from a PASW Collaboration and Deployment Services server, use the following URL: `http://<servername>:<port>/pevdriverinstall` where `servername` is the PASW Collaboration and Deployment Services server name and `port` is the PASW Collaboration and Deployment Services server port number.

Note: The client system must have Java Runtime Environment (JRE) 1.5 enabled to run the installation using a Web browser.

▶ Follow the installation wizard prompts to complete the driver installation.

Configuring the Driver with Microsoft ODBC Data Source Administrator

Note: Configuring the driver via the Microsoft ODBC Data Source Administrator is only required for applications that are not natively Enterprise View-aware (for example, you would not need to configure the driver via the ODBC Data Source Administrator when using PASW Modeler).

The following configuration settings apply to the Microsoft ODBC Data source Administrator Enterprise View driver implementation.

Data Source Name: Provide an appropriate data source name. An ODBC application will use the data source name when making connection requests to the data source. This is the name that will display in the ODBC Data Source Administrator User DSN section.

Description: Enter a data source description (optional).

Host: Enter either the name or IP address of the PASW Collaboration and Deployment Services server to which you want to connect.

Port: Enter the PASW Collaboration and Deployment Services server port number.

Connect to repository: Enable this option to specify a repository username and password and retrieve Enterprise View object information (accessible after clicking Next).

Username: Enter a repository username. The username must have read access to Enterprise View objects in the repository.

Password: Enter a password for the specified repository username.

▶ Click Next to select Enterprise View specific object information:

Application View: Select an appropriate Application View from the list of all views that currently exist in the repository. An Application View provides a means to constrain the information displayed to a user in a tool or application, and allows a system administrator or data expert to view the data from the perspective of an application.

Environment: The drop-down field lists all valid environments. The environment setting provides a means of identifying which particular columns should be associated with defined business segments. For example, when Analytic is selected, only those Application View columns defined as Analytic are returned. The setting also filters the Data Provider Definition options presented in the **Data Provider** field to only those supported in the selected environment.

Data Provider: Select the Data Provider Definition from the list of all currently in the repository. The Data Provider Definition manages the data at each stage by mapping logical column definitions in the Application View to physical table columns in the customer database. The Data Provider Definition also specifies the data source and credentials used to access data.

Label: The drop-down field lists all defined labels for the specified Data Provider Definition. Labels help identify specific Enterprise View object versions. For example, there may be two versions for a particular Enterprise View, Application View, and Data Provider Definition. By using labels, you could specify the label TEST for the version used in the development environment and the label PRODUCTION for the version used in the production environment. The specified label must exist for all Enterprise View objects.

Note: Refer to the Deployment Manager documentation for information on working with Enterprise View objects.

3rd Party Data Sources

When configuring 3rd party data sources (SQL Native Client for example), the following requirements should be followed in order to prevent potential problems with the Enterprise View driver.

■ For ODBC data sources, the referenced ODBC Data Source Names (DSN) must exist on the same system on which the Enterprise View driver is installed.

■ When configuring DSNs, regardless of type (Oracle, SQL Server, DB2, and so on), ensure the **quoted identifier** option is enabled (if available).

■ When configuring DSNs, regardless of type (Oracle, SQL Server, DB2, and so on), you must provide the appropriate default database information.

Uninstalling the Windows Drivers

To uninstall the Windows Enterprise View driver:

▶ From the Windows Control Panel, select Add or Remove Programs.

▶ Select the Enterprise View Driver entry and click Change/Remove.

▶ Click Uninstall from the wizard dialog to complete the uninstallation.

Installing the UNIX Drivers

The following steps explain the process of installing the Enterprise View driver in a UNIX environment.

▶ Download and install the latest UNIX Data Access Pack from *http://www.spss.com/drivers/client.htm*. You can also install the Data Access Pack from the installation CD. For the purposes of examples, these instructions assume that the Data Access Pack is installed in the default installation directory /opt/odbc/. Refer to the Data Access Pack documentation for installation information.

Note: You must have superuser authority to install drivers.

▶ Install the Enterprise View driver. To install from a PASW Collaboration and Deployment Services server, use the following URL: http://<servername>:<port>/pevdriverinstall where servername is the PASW Collaboration and Deployment Services server name and port is the PASW Collaboration and Deployment Services server port number.

▶ To install from the installation CD:

  ■ In a Linux environment enter: # mount -r -t iso9660 /dev/device /mnt/cdrom where device is the device name assigned to your CD-ROM drive.

  ■ In an HP-UX environment enter: # mount -f cdfs <device path> <mount point>

  ■ In an AIX environment enter: # mount -rv cdrfs <device path> <mount point>

  ■ Mount the appropriate CD-ROM drive in the IBM i5/OS Qshell environment.

  ■ Solaris will automatically mount the CD-ROM drive.

  After downloading the Enterprise View driver from the PASW Collaboration and Deployment Services server, you should verify that the driver file is executable.

  ■ Check the file's executable status via the user interface.
    or
  ■ Use the CHMOD command from the UNIX shell.

▶ The installer has two modes: GUI and console. The installer uses GUI mode by default, but you can install via the console by adding the -console parameter to the installer command line.

An example for .bin installers (Linux, Solaris):

./setupLinux32.bin -console

An example for .jar installers (HP-UX, AIX, i5/OS):

java -jar setupAIX64.jar -console

▶ Follow the installation wizard prompts to complete the driver installation.

By default, the Enterprise View driver installs into the directory /opt/SPSSInc/Enterprise View Driver/. It is recommended that you do not change the installation path. If you do change the default installation path, take note of the location as you will need to manually define the path while configuring the driver.

Note: If the installation path includes spaces (as the default path does) the spaces will either need to be escaped or the entire path quoted when it is used.

Configuring the UNIX ODBC Driver

Configuring the Enterprise View Driver

After the installation is complete, there are a few manual steps that are required to set the environment and register the Enterprise View driver with the driver manager.

► Setting the environment follows a similar process to that of the Data Access Pack configuration. This involves modifying the appropriate system or user profile to include a call to 'source' the pev setup script (located in the Enterprise View driver installation directory). Two setup scripts are provided:

 ■ pev.sh – sh, ash, bash, ksh, zsh (Bourne)
 ■ pev.csh – csh, tcsh (C shell)

Sourcing the pev.sh setup script is the same as sourcing the Data Access Pack's odbc.sh setup script (added during the installation of the Data Access Pack). Refer to the appropriate DataDirect[tm] documentation for more information (*http://www.spss.com/drivers/merant.htm*).

Note: If using sudo to start PASW Modeler, you must source the pev.sh script in your PASW Modeler startup script. The odbc.sh script must also be sourced, and may already exist in the PASW Modeler startup script. Add the call to source the pev.sh script after the call to source the odbc.sh script. Refer to the *PASW Modeler ODBC Installation Guide for UNIX* for more information.

 ■ To verify that pev.sh is sourced correctly, source the script from a new shell session and type set for Bourne shells or env for C shells. In the list of environment variables that appear, look for the one of the following variables.

 For Linux, Solaris and HP-UX: LD_LIBRARY_PATH

 For AIX and i5/OS: LIBPATH

 The value for this variable should include references to your Enterprise View driver installation directory. If it does not include a reference, you may need to edit the shell script to fit your particular configuration.

 The shell script attempts to locate an acceptable Java JNI environment. It searches the standard Java installation directories and configures the environment. The detection may be time consuming. To reduce the time needed to source the shell script, you can set the PEV_SHARED_LIBRARY_PATH variable in the script to bypass the search. It is strongly recommended you copy this value from a previous script run. In addition to the Enterprise

View installation directory, the script must include the Java library path necessary for performing JNI calls.

▶ Register the Enterprise View driver with the DataDirect driver manager by editing the odbcinst.ini file in an editor of your choice. By default the file is in the Data Access Pack base directory (/opt/odbc/). If the Data Access Pack was not installed to the default location, you can verify where the odbcinst.ini file is located by checking the ODBCINST environment variable.

■ Define where the new driver is installed by adding the following line to the odbcinst.ini file's [ODBC Drivers] section:

SPSS PEV Driver=Installed

■ Provide the driver manager with information regarding the Enterprise View driver. At the end of the odbcinst.ini file add the following section:

[SPSS PEV Driver]
APILevel=1
ConnectFunctions=YYY
Driver=libpev-driver.so
DriverODBCVer=3.52
FileUsage=0
SQLLevel=1

▶ Save your changes and exit the editor. At this point, the Enterprise View driver is fully installed and registered with the driver manager. You can verify the installation using the Data Direct utility located in the /opt/odbc/bin directory (ivtestlib on 32-bit installations, ddtestlib on 64-bit installations). From the command line, type /opt/odbc/bin/ivtestlib libpev-driver.so and press Enter. If this test fails, check that ODBC and Enterprise View scripts are 'sourced' correctly in your shell environment

Configuring Native Data Sources

Native data sources need to be created to use the Enterprise View driver. Data sources are added to the odbc.ini file located in the Data Access Pack base directory (/opt/odbc/). When the file is installed with the Data Access Pack, it is populated with example data sources for each of the available drivers. These are the templates that need to be followed when creating a new data source. For example, here is an entry for an MS SQL Server data source:

[ODBC Data Sources]
SQLServer Wire Protocol=SPSS 5.2 SQL Server Wire Protocol

[SQLServer Wire Protocol]
Driver=/opt/odbc/lib/MFmsss22.so
Description=SPSS 5.2 SQL Server Wire Protocol
Address=<SQLServer_host, SQLServer_server_port>
AlternateServers=
AnsiNPW=Yes
ConnectionRetryCount=0
ConnectionRetryDelay=3
Database=<database_name>

```
LoadBalancing=0
LogonID=
Password=
QuotedId=No
```

► There are two steps to defining a data source.

  ■ The first step is to define the name and description of the new data source. This is done at the top of the file under the heading [ODBC Data Sources]. Add the new data source in the form <DSN>=<description>. DSN is the name used by external applications to reference the data source. description can help you identify and differentiate between various data sources.

  ■ The second step is to configure the driver specific settings by adding a new section in the odbc.ini file. The section heading must match the data source name that you chose when defining the data source at the top of the file. The only system-required entry in the configuration section is the driver location. By convention this is the first entry in the section and is of the form Driver=<driver_location>. The remaining entries are driver specific and may, or may not, be required.

► Once all native data sources are defined, you are ready to use the Enterprise View driver.

Note: If the data source will be used with the Enterprise View driver, quoted identifiers must be enabled in the native driver. In the above example, the SQL Server driver includes the entry QuotedId=No (the default value). This entry must be changed to QuotedId=Yes. Verify your driver configuration options for this setting, keeping in mind that the entry name may differ depending on the driver type. The value of QEWSD parameter is generated by the system and must not be copied from an existing driver definition.

Uninstalling the UNIX Drivers

To uninstall the UNIX Enterprise View driver:

► Navigate to the _uninst directory located in the Enterprise Viewdriver's installation directory (/opt/SPSSInc/Enterprise View Driver/_uninst if you chose the default installation location).

► Run the executable uninstall.bin. To run the executable from the command line enter the following for Linux and Solaris installations:

./uninstall.bin -console

Enter the following for HP-UX, AIX, and i5/OS installations:

java -jar uninstall.jar -console

► After uninstalling the Enterprise View driver, you should manually remove the settings added in the Configuring the UNIX ODBC Driver section.

Enterprise View URL

Enterprise View connection URL parameters are as follows:

DSN (ODBC only)	Required	Identifies the Enterprise View as a system ODBC data source.
DRIVER (ODBC only)	Required	Driver name.
PEV.HOST (ODBC only)	Required	repository host.
PEV.PORT (ODBC only)	Required	The port number for accessing repository on the specified host.
UID	Optional	PASW Collaboration and Deployment Services user ID for data source connection. For JDBC, the user ID can also be passed in the driver's connection properties.
PWD	Optional	PASW Collaboration and Deployment Services user password. For JDBC, the user ID can also be passed in the driver's connection properties.
PEV.PROVIDER	Optional	The security provider used to authenticate the connection. If no provider or domain is specified, native PASW Collaboration and Deployment Services security is used.
PEV.SECURE	Optional	The flag must be set to true if a secure connection to the repository is required. Default is false.
PEV.DOMAIN	Optional	Active directory domain used for repository connection authentication.
PEV.DESC	Optional	The description of the Enterprise View data source.
PEV.DPD	Required	The repository path of the Enterprise View Data Provider Definition.
PEV.DPD.ID	Required	The repository ID of the Enterprise View Data Provider Definition.
PEV.LABEL	Required	The version label of the Enterprise View Data Provider Definition.
PEV.ENV	Optional	Specifies whether *analytic*, *operational*, or *reporting*Enterprise View environment is to be used. It is strongly recommended that the environment be specified because the default is value based on the selected DPD and cannot be validated by the driver.
PEV.AV	Optional	The repository path of the Enterprise View application view. It is strongly recommended that the application view be specified because the default is value based on the selected DPD and cannot be validated by the driver.
PEV.AV.ID	Optional	The repository ID of the Enterprise View application view.
PEV.LOG_FILE (JDBC only)	Optional	The log4j log file to be used.
PEV.LOG_LEVEL (JDBC only)	Optional	The log4j logging level.

Notes

▶ The DPD must be specified as the repository path or resource ID or both. The application view can also be specified either as the path or the ID. If the repository ID is used, the expected value is the alphanumeric part of the object URI, for example, `ac140f2817f156cd0000011580516f1c802e`.

Using repository resource ID preserves the connection in cases when the object repository path changes. When both the path and ID are passed to the driver, it attempts to use the ID and falls back to the path if unsuccessful.

▶ The user name passed to the driver should be a well formed PASW Collaboration and Deployment Services username. If no provider/domain is specified, the user will be authenticated by native PASW Collaboration and Deployment Services security. For other security providers, the user field should be in <security provider ID>/<security provider domain>/<user name> format; otherwise, individual *PEV.PROVIDER* and *PEV.DOMAIN* parameters can be specified.

The JDBC driver class name is *com.spss.pev.driver.jdbc.PEVDriver*. The JDBC URL format is as follows:

jdbc:pev://<pes server>:<pes port>;<parameters>

The following is an example of the Enterprise View JDBC URL:

jdbc:pev://PESServer:8080;PEV.ENV=analytic;PEV.LABEL=LATEST;PEV.DPD=/JONESCORP/DPD;PEV.AV=/JONESCORP/AV

Enterprise View ODBC connection requires that DSN or DRIVER or both be specified. If the ODBC connection is made using the DSN, all the necessary fields will be provided through the data source configuration. When using a driver specification (for example, when Enterprise View ODBC data source is not configured on the system), all the required fields be must be provided by the application in the driver connection string. The fields include:

- DRIVER
- UID
- PWD
- PEV.HOST
- PEV.PORT
- PEV.DPD and/or PEV.DPD.ID
- PEV.LABEL

Known Limitations

▶ On UNIX-based operating systems, BIGINT type is treated as *numeric(19,0)*, which may result in loss of precision.

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