EXTERNAL SYSTEM FEDERATION ADMINISTRATOR

OBJECTIVE

External System Federation Administrator provides documentation and examples for writing custom programs that use the Adaplet® libraries available in **Platform Contributor**. Adaplets enable implementers to virtually model and access any external data source and represent it in the **3D**EXPERIENCE® platform as if it is native ENOVIA® data.

OVERVIEW

Adaplets enable real-time interoperability between the **3D**EXPERIENCE platform and other systems, providing integrated information from multiple sources while causing no disruption and little burden to IT. When Adaplets are employed, users have access to the information stored in other systems as if it were actually part of the **3D**EXPERIENCE platform. The external information is indistinguishable from native **3D**EXPERIENCE platform data. Each adapted external data source is mapped as its own unique data vault. The same Application Programming Interfaces (APIs) and functions that are used to search and query the **3D**EXPERIENCE platform data can be used to query the adapted vaults. Edit operations on the adapted vaults can also be performed depending on the setup options.

Adaplets enable implementers to virtually model and access any external data source and make it part of the ENOVIA system. One or more enterprise systems may be adapted. Once Adaplets are in place, the **3D**EXPERIENCE platform applications may be used to access, create, modify, and manage files and data in both native and foreign systems.

Adaplets may operate in one of the following modes:

- "readonly" - No changes to foreign data are allowed. The **3D**EXPERIENCE platform can simply display the data from the foreign system.
- "readwrite" - Changes made to the data from **3D**EXPERIENCE platform are stored against the external data source. In this mode, either **3D**EXPERIENCE platform or the foreign system may change the foreign data.
- "extend" - Extends the definition of the foreign data in addition to the "readwrite" capability. In this mode, the **3D**EXPERIENCE platform system can update the foreign data, and extend its definition with services provided by the **3D**EXPERIENCE platform such as additional attributes, lifecycle, workflow, relationships, etc., not available in the foreign system. **3D**EXPERIENCE platform stores the extended data while the foreign system updates its data.
- "migrate" - This mode is ideal for situations that require legacy system replacement, but it is necessary to run the legacy system in parallel with **3D**EXPERIENCE platform. In 'migrate' mode, data is deleted individually from the foreign system and written to **3D**EXPERIENCE platform.

In addition, the Adaplet functionality can quickly load legacy data into the **3D**EXPERIENCE platform. When a "readonly" Adaplet is configured, the data can be retrieved from a foreign data source and written to a properly structured set of files that can be executed against the **3D**EXPERIENCE platform supported database, e.g. Oracle, DB2, etc., to load millions of objects very quickly.

Administrators can configure the Adaplet interface using two different architectures. When using a direct connection, the Adaplet interface is implemented and configured using a text-based mapping file. In addition, Adaplets can also be implemented using Java Web Services APIs.

HIGHLIGHTS

Key features and capabilities include:

Single Interface including Adapted Data

When deploying other enterprise solutions, Adaplet technology enables users to access all their data needs from a single interface rather than requiring users to retrieve data from multiple systems. Accessing foreign data from the **3D**EXPERIENCE platform interface is transparent and similar to accessing native data.

Bi-directional Integration

Adaplet technology integrates the **3D**EXPERIENCE platform system with other systems to provide aggregated information from multiple data sources. SQL-based databases can be adapted through direct connectivity using a mapping file that a C++ program interprets. The source code for this program is available to extend the mapping logic with additional processing details. A Java-based Web Services API can integrate the non-**3D**EXPERIENCE platform systems where direct connectivity is not preferred. A synchronous integration approach is possible by using "readwrite" Adaplets to exchange data with a foreign system.

Extending Foreign Data

Administrators can extend **3D**EXPERIENCE platform services to foreign data and use the Adaplets in extend mode, to expand the non-**3D**EXPERIENCE platform data with additional attributes and properties, files, relationships, and other business object services. Also, administrators can search and connect foreign data as reference material, just like any other native object.

Key Benefits:

- Access data from multiple systems through a single interface.
- Extend legacy systems with additional process and data management capabilities that are available in the 3DEXPERIENCE platform.
- Integrate to multiple systems by transferring 3DEXPERIENCE platform data based on triggers that are executed during business processes.
- Migrate legacy data very quickly and efficiently.

Data Migration

Shutting off a legacy system and making it completely obsolete is not possible always. Adaplets configured in "migrate" mode enable the gradual transfer of foreign data to the **3D**EXPERIENCE platform.

Data Bulk Loading

Adaplets provide an efficient mechanism to bulk load large amounts of data into the **3D**EXPERIENCE platform very quickly. All the supported **3D**EXPERIENCE platform databases provide SQL-based utilities for performing the import. With a properly configured Adaplet, administrators can extract the foreign data to ASCII files that can then be imported into the **3D**EXPERIENCE platform. Appropriate SQL-formatted files are automatically generated based on the foreign database to mass import the legacy data.

Our **3D**EXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3D**EXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit **www.3ds.com**.