Oracle Adapters for VSAM

ORACLE ADAPTERS

KEY FEATURES

- Multiple ways to access VSAM
    - Direct VSAM access
    - VSAM access through CICS
- Leverage and capitalize on existing legacy data
- Accelerate Mainframe integration projects
- Incorporate Mainframe into a service oriented architecture (SOA)
- Bi-directional integration with VSAM. Supports both Read and Write operations.
- SQL access to VSAM data sets
- Standards based support
    - JCA 1.5
    - XML
    - WSDL
    - WSIF

- Easy-to-use, Rich Design-Time
    - Browse and Import metadata contained in COBOL copy books.
    - Comprehensive COBOL copy book support
    - Generate XSD, WSDL schemas

- Easy to set-up, configure and administer

- Support for OS/390, Z/OS UNIX, HP NonStop, OpenVMS and AS/400 platforms.

- Robust Proven Technology
    - Guaranteed exactly once message delivery
    - Scalable and highly available
    - Sophisticated error management capabilities
    - Robust transaction management
    - Integration with mainframe security mechanisms

Analysts estimate that enterprises spend as much as 40% of their IT budgets annually on integration and, that as much as 80% of operational data resides in 'legacy' environments. While new web and composite applications are built to enhance customer service, streamline business operations and build competitive edge, the core IT value in many enterprises remains locked within these legacy systems. Leveraging the huge investments in capital, human resources and business knowledge put into these legacy systems, and integrating them with new technologies and business initiatives is the key for competitive advantage and successful eBusiness. Oracle Adapters provide an easy-to-use, scalable, flexible, standards based SOA platform to enable rapid and real-time access to mainframe applications.
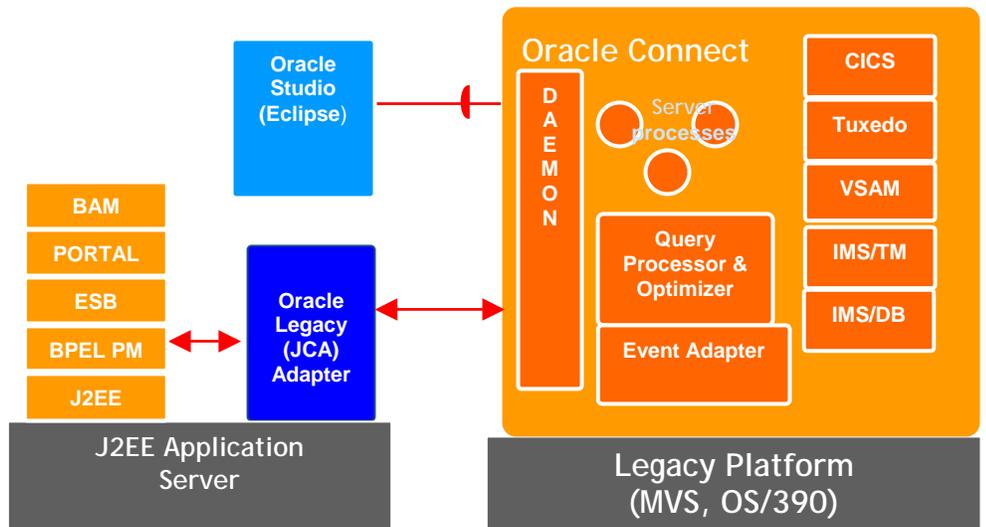

Figure 1: Mainframe Adapter Architecture Diagram

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KEY BENEFITS:

- Comprehensive VSAM connectivity
- Easy-to-use Eclipse based UI
- Rapid implementation and deployment
- Built on a standards based scalable, flexible and reusable architecture

RELATED PRODUCT AND SERVICES

The Adapter is part of the Oracle Fusion Middleware product family. Related products include:

- Oracle BPEL Process Manager
- Oracle Business Activity Monitoring (Oracle BAM)
- Oracle Portal

RELATED SERVICES

The following services are available from Oracle Support Services:

- Update Subscription Services
- Product Support Services
- OnlineDBA
- OnlineDBA for Applications

Comprehensive VSAM connectivity

The VSAM Adapter provides comprehensive connectivity to VSAM data sets and exposes the VSAM Read/Write operations as Web Services to other Oracle Fusion Middleware product components.

The Oracle Connect is the core component of the Adapter and resides natively on the legacy systems. It contains an embedded native VSAM Adapter for providing highly efficient access to VSAM. The VSAM Adapter supports accessing VSAM (Virtual Sequential Access Method) data sets directly and via CICS transactions. In the former case, the Oracle Connect exposes the underlying VSAM data source as a SQL interface. Oracle Connect supports the three access methods: Keyed Sequential Data Set (KSDS) – indexed file, Relative Record Data Set (RRDS) – relative file, and Entry Sequenced Data Set (ESDS) – sequential file.

Simple and Easy to use Design Time Graphical Interface

Oracle Studio is an easy-to-use graphical tool for configuration and monitoring of Oracle Connect.

The tool has built-in support for introspecting the metadata contained in COBOL copy books and automatically generates appropriate XSD and WSDL schemas for the same. This introspection is dynamic and does not require coding. In addition, Oracle Studio is capable of mapping the non-relational legacy data sources like VSAM to an enhanced relational data model.

Query Optimizer

Oracle Connect exposes non-relational legacy data sources as relational data model.

The Query Processor (QP) provides optimized query execution of SQL client requests against VSAM datasets. It provides the query processing services for non-relational data sources making them behave like relational data sources. The QP also guarantees data integrity with transaction management support.

Transaction Support

The Oracle Connect engine supports global transactions for VSAM applications.

For example: a VSAM table may need to be updated in the same transaction as an insert to an Oracle table. The Oracle Connect achieves the above by supporting standard transaction API (XA) and interfacing with IBM's Resource Recovery Service (RRS).

Real-time event capabilities

Oracle Connect is capable of publishing mainframe transaction events in real-time. It has an embedded Event Adapter for the above purpose. The Event Adapter is used by the legacy transactional application (CICS, IMS/TM) to

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generate an XML event and put it into a reliable and robust queue. The Event Adapter is called through a native client API that can be used from a CICS transaction. Oracle Connect supports Change Data Capture to trap VSAM events for data replication and synchronization.

Security

The Adapter supports mainframe security mechanisms like RACF, TopSecret and ACF-2.

Oracle Connect provides a robust security framework, supporting machine-level as well as data source/application-level authentication. Oracle integrates with any of the mainframe security mechanisms listed above. Oracle Connect also supports features such as impersonation, enabling credentials from the client application to pass so that the user will automatically get access rights on the mainframe.

Scalable and robust architecture

Oracle Connect provides a reliable and robust server that is proven to work under changing loads ranging from single user solutions to multi-user solutions supporting millions of requests a day.

The Oracle Connect employs a front-end process that manages client requests (daemon) and request-handlers that process them (called servers). The servers are set up to wait for incoming requests (hot servers), or are loaded upon request. Servers can also be defined to support multiple requests (reusable servers) to handle many incoming requests to handle different types of usage profiles. This flexible and robust server architecture supports changing activity patterns while using only the necessary system resources.

Fail-over and HA

Oracle Connect handles fail over by providing back-up daemons so that the system can always accept and handle client requests. If a client request fails, Oracle Connect guarantees the transaction by rolling back any changes that occurred and sending the client application an appropriate error message.

Summary

Oracle Adapter for Mainframes is the fastest and most productive way to connect legacy enterprise information in real-time for any new and future initiatives. Using the above Adapters, companies can quickly incorporate their mainframe systems into a service-oriented and event-driven architecture, increasing the total value of their existing IT investments.

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