

# Teradata and SAP NetWeaver Integration Options

Within today's multinational corporations, enterprise data warehouse environments are becoming extremely large and complex – while continuing to grow at amazing rates. Many companies rely on up to 1,000 terabytes (1 petabyte) of data for transac-



tional and operational business requirements. This data is often stored in hundreds of locations, throughout the world.

The capability to analyze this data, spread across an enterprise, turns information into actionable business intelligence, providing reduced total cost of ownership (TCO) and measurable competitive advantage. Integration between Teradata® – the best in class analytics platform, and SAP® – the world's foremost business software provider, is key to successfully enabling the benefits of the SAP Enterprise Services Architecture (ESA). Teradata Corporation and SAP have partnered to develop optimized integration capabilities, ensuring that Global 3000 companies

harness the full power of their SAP and Teradata investments.

By integrating Teradata and SAP, companies can quickly access detailed information to make optimized decisions, using the most powerful technology infrastructure that focuses on the analysis of business requirements. Companies seeking to maximize their business intelligence environment and capabilities are provided with the complementary power of Teradata and SAP.

## **Teradata Virtual Access solution for use with SAP Business Information Warehouse**

Integrating data from Teradata with SAP Business Intelligence opens vast new stores of data for SAP users, as well as improving query performance. Upon loading data from various sources, SAP® Business Information Warehouse (SAP BW) creates information cubes (InfoCubes) that end-users may query. The Teradata Virtual Access solution, for SAP automatically drills queries through to Teradata, which, in turn, sends the query results back to SAP BW. The Teradata Virtual Access solution uses virtual InfoCubes to provide this SAP BW view. The virtual InfoCube is a cube that is subsequently populated and is transparent to the end-user. This provides a single point of entry for all queries, regardless of the underlying repository. Users gain full access to granular data, stored in Teradata, via SAP Business Explorer (BEx) or other existing user tools.

There are two clear benefits provided by the Teradata Virtual Access, for SAP integration. First, with no additional training, end-users can continue to use SAP application data and access this information in Teradata, through the SAP Business Explorer Analyzer and web-based queries. This capability provides access into detailed and historical SAP data, in Teradata. The integration also allows our customers the ability to leverage one BI tool with their Teradata system, lowering TCO and reducing complexity, while capitalizing on their SAP investment, including SAP business content. Secondly, SAP end-users can also access non-SAP data, thus extending the value of enterprise business information.

## **Teradata Application-to-Application Integration for use with SAP NetWeaver Exchange Infrastructure**

SAP NetWeaver® Exchange Infrastructure (SAP NetWeaver XI) provides open integration technologies that support process-centric collaboration among SAP and non-SAP applications, both within and beyond enterprise boundaries.

The power of Teradata analytics can be used to support SAP-controlled business processes directly, via SAP NetWeaver XI. Processes are integrated using standards-based XML messaging, and all related information is modeled using web services standards. SAP NetWeaver XI provides the core data connectivity between Teradata and various SAP applications and components such as

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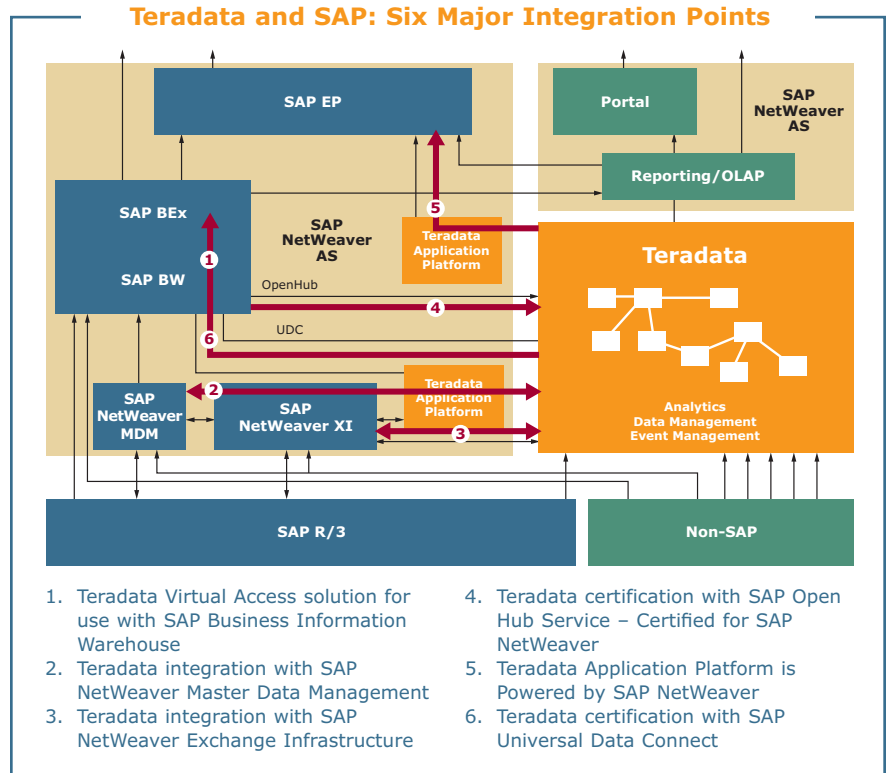
mySAP™ ERP, mySAP™ Supply Chain Management and mySAP™ Customer Relationship Management. As a result, users can access the Teradata system in near-time or real-time and get results from Teradata analytics for decision support to any role, in any SAP business process, at any time.

Users can also leverage enterprise-wide event management. With Teradata Event Management, business events on the Teradata Database are monitored and events are populated to enterprise subscribers via SAP NetWeaver XI.

## Teradata Application-to-Application Integration for use with SAP NetWeaver Master Data Management

SAP NetWeaver® Master Data Management is an enabling foundation for enterprise services and business process management – providing a single source of data for customer, product, employee, supplier, or user-defined data objects.

SAP NetWeaver Master Data Management (SAP NetWeaver MDM) consolidates and cleanses master data objects from multiple systems. After consolidation, it stores information from different systems in a centralized repository and enables consistent data maintenance and distribution, to ensure permanent harmonization of master data. Teradata integrates with SAP NetWeaver MDM via the MDM Connector. This connector is based on the SAP Connector Framework JCA J2EE Architecture.



Once the connection is established, Teradata can be utilized as a source system for master data and receive data distribution feeds.

## Teradata Certification with SAP Open Hub Service – Certified for SAP NetWeaver

The Teradata Extract and Load solution is certified for use with the SAP Open Hub Service, and is used to extract data from SAP BW. Following extraction, data is then loaded into Teradata. This solution leverages SAP BW’s Extraction, Transformation, and Load (ETL) capabilities for SAP applications such as mySAP ERP and mySAP Customer Relationship Manage-

ment. SAP Open Hub integration leverages the power of SAP business content, while storing detailed and historical data in Teradata. Choose to move data from SAP BW on an ongoing basis, or ad hoc – the choice is yours.

### Third-Party Tools

Third-party ETL tools merge, cleanse, and transform data from multiple sources and create a push/pull capability between Teradata and SAP BW. Using such tools, companies may create duplicate data copies in both warehouses. This allows SAP BW to serve as the “master copy” repository, while allowing Teradata

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utilization for certain classes of queries. It also allows the use of third-party online analytical processing (OLAP) in Teradata, for special projects that require historical and detailed data, such as predictive modeling.

## Teradata Metadata-to-Metadata Integration

Describing how, when and by whom a particular set of data was collected – and how the data is formatted – metadata is essential for understanding stored information. It is especially important as enterprises take advantage of Teradata's industry-specific Logical Data Models (LDMs), which speed and improve the effectiveness of analytical applications.

The Teradata and SAP integration maintains metadata that resides in both SAP BW and Teradata, as well as assuring that it is synchronized and up-to-date. In turn, SAP NetWeaver can document, access, and reuse metadata from both systems. ETL tools, such as IBM Information Integration Solutions (IIS) and Informatica, facilitate this integration. In fact, Teradata and Informatica have created a custom workbench for integration, specifically for mapping SAP sources to Teradata LDMs.

## Teradata Application-to-Data Integration: SAP NetWeaver Portal

SAP users often need access to small data sets that only reside in Teradata. To access this data, a JDBC call to Teradata can be initiated, using the SAP NetWeaver® Portal.

In this scenario, SAP BW and Teradata based reports are integrated in a BW view. The SAP NetWeaver Portal provides eventing and drag-and-relate capabilities. A database unifier or application delivers the database content, creating personalized content from multiple sources including Teradata, SAP, web, and other third-party sources.

Alternatively, a Teradata application may need to access SAP BW data. For example, SAP BW users, performing customer segmentation analysis with Teradata, can create JDBC calls against InfoCubes and receive all required information via SAP NetWeaver XI.

## Teradata Application Platform is Powered by SAP NetWeaver

Teradata Application Platform is powered by SAP NetWeaver, the open integration and application platform that enables true enterprise services architecture for both SAP and non-SAP applications. SAP NetWeaver® unifies integration technologies into a single platform and is pre-integrated with business applications, enabling change and reducing the need for custom integration.

Teradata Application Platform promotes application development and integration on Teradata by providing services for building applications from reusable analytic components. These reusable analytic components can be exposed in the SAP NetWeaver® Visual Composer tool for modeling composite applications with

SAP's composite application framework. Teradata Application Platform makes data seamlessly accessible in SAP, via iViews in the NetWeaver Portal. Teradata Application Platform provides an open environment, based on the J2EE standard, and is deployed on the SAP NetWeaver Application Server. The Teradata Application Platform monitors and captures key business events, using SAP NetWeaver XI. By quickly accessing those events – such as calculations used for customer profitability reports – users can build new applications from reusable components, write or re-use web services, or invoke applications running on Teradata Application Platform. It is also possible to leverage Teradata analytics to support SAP-controlled business processes – directly.

Teradata Application Platform and SAP NetWeaver XI provide an integrated, consolidated view of master data on an enterprise level, allowing master data management (MDM) applications to function optimally and reducing the cost of maintaining master data synchronization in the enterprise.

## Teradata Certification with SAP Universal Data Connect for SAP Business Information Warehouse – Certified for SAP NetWeaver

Customers using SAP BW with Teradata require interoperability between these two environments in a seamless, easy to implement fashion. The Teradata Virtual

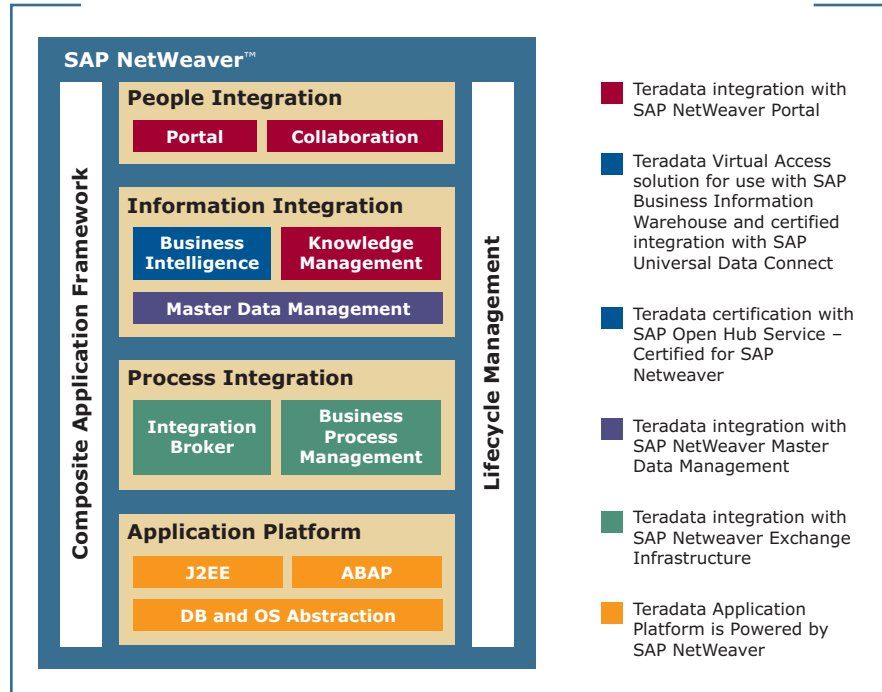
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Access solution enables pre-SAP BW 3.5 landscapes to take advantage of this interoperability. Introduced with SAP BW 3.5, an additional connectivity option was created by SAP – Universal Data Connect (UD Connect or UDC). This solution is architecturally similar to the Teradata Virtual Access solution. A key difference between the two solutions is that in the UD Connect scenario, metadata object mapping and SQL generation for UDC are handled by SAP delivered components, which are written for generic data access.

The BI Java Connector (part of Universal Data Connect) is a resource adapter compliant with the J2EE Connector Architecture (JCA) and is deployed into SAP NetWeaver's J2EE Application Server. After configuring a JDBC Data Source and Connector on the J2EE Visual Administrator, it is then possible to access data from Teradata to: load master data directly, extract data to build a basic InfoCube, or to query Teradata through queries written against a remote InfoCube.

## Summary

Teradata complements SAP with certified and integrated solutions, providing greater data access and advanced analytics – based on customer needs. Teradata and SAP have partnered to offer a range of integration options that can be tailored to meet the



specific needs of your business – and offer unprecedented business value. These benefits include:

- > No limit to data size or complexity
- > Leverages Teradata's strengths in scalability, performance, and flexibility
- > Provides the lowest total cost of ownership (TCO) for BI solutions
- > Teradata consolidates both SAP and non-SAP data sources and more efficiently stores data, reducing both processing and database administration costs

- > Thousands of users can access all of the detailed data – in real-time
- > Query both detailed and summary level data, enabling richer and deeper business analysis on SAP and Teradata
- > Information views through existing end-user BI tools and SAP

## For More Information

To learn more about Teradata and SAP NetWeaver Integration Options, contact your Teradata representative or visit [Teradata.com](http://Teradata.com).

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