

**The next phase of federation  
technology: IBM WebSphere  
Federation Server V9.1.**

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**Introduction**

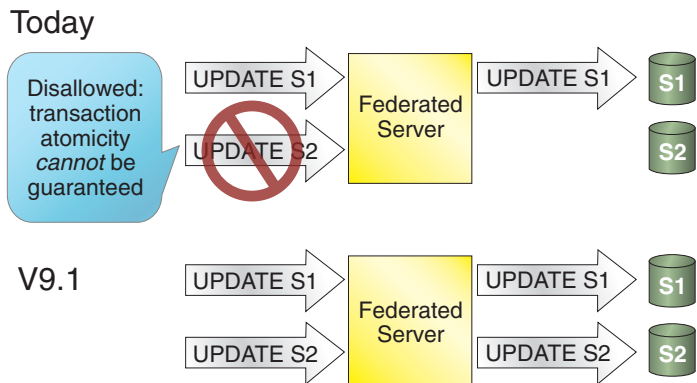
WebSphere® Federation Server supports the growing industry category called Enterprise Information Integration (EII). It enables applications to access and integrate diverse data and content sources as if they were a single resource - regardless of where the information resides - while retaining the autonomy and integrity of the data and content sources. WebSphere Federation Server offers integrated views of a wide range of heterogeneous data and content sources. Applications use a standard SQL interface or standard APIs to query data and content sources. WebSphere Federation Server fits neatly and transparently behind common analytical and reporting tools; development environments; portals; and other standard IT infrastructure components. For instance, business applications access integrated views of existing and new information through an abstraction layer that insulates them from changes in the source material they are viewing.

WebSphere Federation Server provides virtualized access to enterprise information as if from a single source, while maintaining source integrity. Version 9.1 enhances previously available federation offerings with such valuable features as federated two-phase commit, support for remote stored procedures, and expanded platform support. Two-phase commit adds the ability to update multiple data sources simultaneously within a distributed system. Remote stored procedures allow users to leverage existing investments in procedures for disparate data sources.

Version 9.1 represents a major milestone for IBM Information Integration Solutions. This release enhances the WebSphere Federation Server to address a broader range of data integration requirements. The following sections summarize key new capabilities in this release.

**Here are just a few of the new features**

**Federated Two-Phase Commit** - Multi-site update functionality for federated transactions via the industry standard X/Open XA protocol is provided. Federated two-phase commit processing for DRDA, MS SQL Server, Informix, Oracle, and Sybase CTLIB data sources in a serial environment through trusted wrappers is supported.



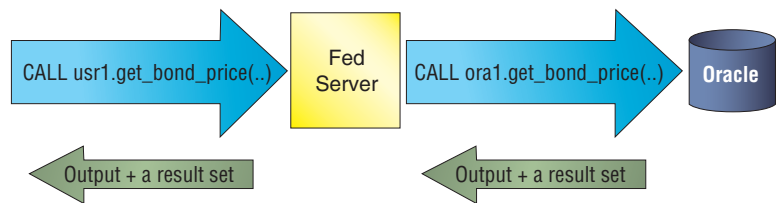
- **Location transparency: no need to track # update sites**
- **Transaction atomicity: all succeed or all fail**

*Customer Benefit* - There are many business events within an enterprise that require updates to multiple data sources to be synchronized and changes must be applied together across the data sources or not at all. For example:

- Financial Services - Transferring money for a customer from one product line to another.
- Supply chain management - Transferring goods from one location to another where inventory tracking is done by multiple systems.

In these scenarios the business situation demands that updates to two or more data sources must be transactionally consistent. Federated Two Phase commit enables the data in multiple data sources to be updated in a single command without any additional middleware or complex coding.

**Federated stored procedures** - This feature allows the federated system to access stored procedures at remote data sources. Stored procedures with zero or a single result set from Oracle and Sybase are supported.



*Customer Benefit* - A stored procedure is a program which is physically stored within a database. A common use is the encapsulation of commonly used tasks that might involve complex SQL queries. Using Federated stored procedures allows any stored procedure already developed to be part of a query. This saves the customer a lot of work because they reuse procedures already stored in the system. This is commonly used by Sybase and Oracle users and therefore this feature is now offered for these customers.

**Error tolerant nested table expression** - The user will be allowed to specify certain SQL errors to be tolerated. When one of the errors is encountered within an SQL query, instead of terminating the whole query, the error is tolerated and the rest of the query continues so that partial or empty results can be returned. Tolerating remote connection, authorization and authentication errors in the federated systems will be the focus for this release.

*Customer Benefit* - In some environments successfully combining data from multiple data centers can be a hit or miss situation. For example, imagine a global enterprise that created a query that spans several countries gathering data from multiple subsidiaries. What are the chances one location will have an unavailable system? Error tolerant nested table expressions allows the user to execute a query against multiple databases and gather data from the databases which are available rather than aborting due to network or authentication errors.

**Alternate repository for user mappings** - A customer may provide their own executable using the Java plug-in framework architecture that interfaces with the desired repository for user mappings. A sample plug-in for accessing user mappings stored in LDAP will be provided.

*Customer Benefit* - This allows a customer to leverage their investment in their existing security infrastructure. Users with specific access rights can be mapped to database user ids with the appropriate rights. This eliminates the need to setup redundant user information in the Federation Server and gives them a single place to go to for user authentication changes.

**Support for DB2 9.1 XML** - Federation supports key capabilities in DB2 V9.1 such as native XML Support. Federation can access native DB2 XML data types and combine them with data from other sources.

*Customer Benefit* - Transparent integration of XML data with SQL data from many data sources will allow users to create a simpler view of their information infrastructure reducing programming costs and enabling quicker delivery of needed business information.

### **Customer Success**

While the industry category of Enterprise Information Integration continues to emerge, IBM has been delivering federation technology for over 10 years now. What is new however, are the ways in which customers are now taking advantage of federation to address data integration challenges in their own organizations.

Here are just a few examples of how customers are benefiting from WebSphere Federation technology:

*Taikang Life Insurance, China*

In order to capitalize on new business and growth opportunities with an up-to-the minute view of the organization, Taikang implemented a single data architecture providing a unified, federated view of corporate data, from sources including DB2, Informix, Oracle, SQL Server, XML, e-mail, CRM and portal applications. ***One person, rather than a staff of ten, can produce a real-time business report.*** Taikang is now expanding their federated solution with intelligent data transformation and data quality capabilities, a first of its kind in the insurance industry.

*Minnesota Department of Agriculture (MDA)*

MDA is using IBM Information Integration technology in its Emergency Response System application. MDA uses federation technology to join information regarding employee skills from one system with employee contact information from another, in real-time. The federated view is presented to emergency personnel through a portal. ***MDA has been able to eliminate storage of redundant and fluctuating contact information while simplifying maintenance.***

*Higo Bank, Japan*

Higo Bank needed to implement a customer-focused financial services infrastructure that would meet customer needs while achieving goals for business efficiency and profitability. The bank leveraged data grid technology to integrate its financial systems and provide information on demand, ***accelerating growth by more than 20% while increasing IT availability from 99.5% to 99.9%.***

*Kawasaki Motors Corporation, North America*

Kawasaki needed to provide a consistent view of orders from its parts and accessories application system. Using federation technology to join data from mainframe sources with Microsoft SQL Server data, ***Kawasaki has saved one full year of development time while providing a real-time view of information in its supply chain warehouse.***

*Banque Populaire, France*

The sixth largest banking group in France wanted one solution which would encompass all of the new regulations for Basel II compliance, not just a few areas. And this solution needed to access information in 23 different retail systems from over 2500 branch offices. ***They implemented a solution using federation which improved risk management and increased efficiency of data collection for Basel II-required data without disrupting existing banking processes.***

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08-06  
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