

JUNIPER NETWORKS AND ORACLE SIMPLIFY DATA INTEGRATION COMPLEXITY

Delivering Lower Cost of Operations for Complex Data Warehousing and Business Intelligence

Challenge

- Quickly integrate vast amounts of data from disparate systems while reducing costs and improving efficiencies
- Cost-effectively deploy and manage complex data warehouses
- Accelerate data migration and bulk data movement

Solution

The combination of Juniper Networks WXC Series Application Acceleration Platforms with the ODI Suite allows enterprises to cost-effectively deploy and manage complex data warehouses and accelerate the data migration and bulk data movement in a timely and consistent manner.

Benefits

- Reduce data management complexity
- Reduce batch window times
- Improve user productivity
- Lower total cost of ownership (TCO)

Globalization is transforming entire industries and forcing organizations to rethink the business models and corporate strategies that have sustained them for decades. Organizations that thrive in this new environment share several key characteristics. They've simplified, standardized, and automated their business processes. They're providing real-time information across their enterprises.

The other major trends shaping the industry are server centralization and data center consolidation. Not only do these two trends reduce overhead costs, they also simplify upgrades, maintenance and management and enable more effective regulatory compliance. This of course puts a greater reliance on both the local and wide-area networks, as they must be able to provide the same level of response-time, throughput, and availability as before. The combination of Juniper Networks® WXC Series Application Acceleration Platform and Oracle's Data Integration Suite (ODI) allows enterprises to meet these challenges in a cost-effective way.

The Challenge

Every enterprise experiences data integration and data quality challenges. However, resolving these challenges requires manual effort because of disparate and diverse platforms. With built-in connectivity to all major databases, data warehouses, business intelligence and service-oriented architecture platforms, ODI offers an extensible architecture, meeting your present and future integration needs, with high productivity and lowest total cost of ownership. The ODI Suite is the first comprehensive data integration platform that combines best-in-class data delivery services—such as process orchestration, enterprise service bus, data virtualization, and bulk data services— with full-featured high-performance Extract, Load, Transform (E-LT), data quality, and master data management services. The ODI Suite is the solution for any data integration-centric business problem, including modern regulatory compliance (Sarbanes-Oxley, USA Patriot Act, and Basel III), business concerns, legacy migration (mainframe to ERP), large-scale data warehousing, business intelligence programs, and platform-enabled master data management systems.

In addition, today's businesses are consolidating their data centers to reduce the number of sites and the amount of equipment they must support. Although these efforts have contributed greatly to overall cost reduction, they do not address the issue of implementing cost-effective data integration. The amount of data once distributed among smaller data centers has now increased exponentially— increasing the load on

data warehousing, business intelligence, and other strategic applications that require bulk data migration, as well as keeping various data sources accurate and consistent and doing so in a timely manner. Data integration developers accustomed to immediate response times afforded by local servers and smaller data sets now must access huge centralized data warehouses over fixed-capacity WANs. Performance plummets due to latency and bandwidth contention, leaving users frustrated and corporations open to potential data corruption and regulatory compliance issues. Adding more bandwidth provides temporary relief, but it's not a long-term scalable solution because it imposes additional ongoing capital costs and doesn't address latency problems.

WXC Series – Oracle Data Integration Solution

Combining Juniper Networks WXC Series Application Acceleration Platforms with the ODI Suite provides a comprehensive solution for building, deploying, and managing complex data warehouses in a distributed environment. This joint solution can help accelerate and dramatically reduce the cost of data migration and bulk data movement while ensuring that information is timely, accurate, and consistent across complex systems.

ODI has at its very core, the most powerful and lightweight data integration solution in the industry. ODI supplies a groundbreaking 100 percent Java-based E-LT engine that meets all the most crucial data integration requirements—from high-volume, high-performance batches, to event-driven, trickle-feed integration processes and service-oriented architecture-enabled data services. The ODI Suite's

E-LT architecture leverages disparate relational database management systems (RDBMS) engines to process and transform the data. This approach optimizes performance and scalability, simplifies the data center architecture, and lowers solution and maintenance costs. The ODI Suite streamlines the movement and transformation of data between systems in batch, real-time, synchronous, and asynchronous modes. Its modular design and built-in connectivity to all major databases, data warehouse appliances, and analytic applications significantly enhance user productivity.

The WXC Series optimizes WAN resources to accelerate and prioritize the ODI Suite over an existing WAN infrastructure. Based on the Juniper Networks WX Series Framework, which integrates an interdependent set of technologies to accelerate application performance over wide-area links, the Juniper Networks WX Series Application Acceleration Platforms and WXC Series platforms deliver the ideal solution for streamlining mission-critical functions, such as E-LT and data management.

Features and Benefits

Joint testing of the WXC Series – ODI Solution at Oracle's offices in Redwood Shores, CA has shown that when the WXC Series platform is inserted in-line between the servers or client-server, all ODI functionality is maintained and end-to-end performance is dramatically improved. WXC Series provides significant performance improvements for the data load functions within ODI E-LT, including:

- **JDBC API:** The Java Database Connectivity API is used to provide connectivity between Java applications and databases. It is also used to move data between SQL Server and ODI.
- **SQL*Loader:** This bulk-loading utility is used for moving data from external files into an Oracle database.
- **Oracle Database Link:** A database link is an object in one database that enables users to access objects on another database.

The WXC Series platform provides:

- Robust compression of any IP traffic, reducing payload and improving response time
- Comprehensive TCP acceleration with Packet Flow Acceleration technology, overcoming the TCP/IP limitations and packet loss across medium- to high-latency WAN links
- Best-in-class quality of service (QoS), allowing prioritization and bandwidth allocation for mission-critical ODI traffic over non-business critical traffic

Key Test Results and Benefits

- Reduce ODI Batch Windows for Extract and Load functions by up to 3.3 times!
 - Improve user productivity for overall data integration
- Reduce ODI's WAN capacity requirements from 67 percent to over 86 percent!
 - Reduce cost by eliminating costly bandwidth upgrades
 - Free up bandwidth capacity for other key applications
- Reduce overall TCO for data integration environments

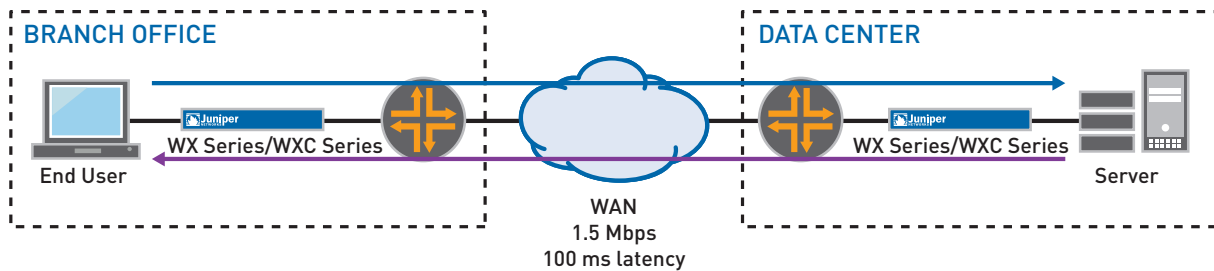


Figure 1: ODI – WXC Series Test Environment

Solution Components

- Oracle Data Integration Suite, v10.1.3.5
- Windows XP, dual-core Intel Centrino at 1.83 GHz with 2 Gbps of RAM (server in most cases)
- Windows XP, single-core Intel Centrino at 1.10 GHz with 512 Mb of RAM (client in most cases)
- Two Juniper Networks WXC1800 Application Acceleration Platforms, with WX Operating System v5.6.3
- One WAN simulator to simulate a T1 link (1.5 Mbps) with 100 millisecond latency

Figure 1 illustrates the ODI – WXC Series test environment.

Summary

Businesses can now lower their TCO and reduce data integration complexity using Juniper Networks WXC Series Application Acceleration Platforms and Oracle's ODI Suite. Enterprises continue to seek ways to solve data integration platform challenges across the distributed enterprise, including cost-effectively deploying and managing complex data warehouses. When coupled with the trend of data center consolidation, automating much larger data migrations and bulk data movements in a timely and accurate manner requires innovative solutions. The combination of the WXC Series with the ODI Suite allows enterprises to cost-effectively address these new requirements associated with the complex data integration in today's distributed environments.

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About Juniper Networks

Juniper Networks, Inc. is the leader in high-performance networking. Juniper offers a high-performance network infrastructure that creates a responsive and trusted environment for accelerating the deployment of services and applications over a single network. This fuels high-performance businesses. Additional information can be found at www.juniper.net.

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