Cisco Data Management Solutions for Big Data

With worldwide data sources now doubling every two years and an ever-increasing number of sources of big data information, companies need to find a cost-effective way to store, secure, and access all their data.

Product Overview

In today's business environment, accurate and trusted data is essential to success. But how can companies achieve this while addressing exponentially proliferating data sources and rising costs for managing all this data? Companies now are beginning to look past traditional, static data warehouses to find solutions that not only meet today's requirements, but that also will work in tomorrow's world of ever-proliferating big data. Cisco® Data Management Solutions for Big Data provide an effective approach to these challenges using Hadoop to reduce data warehouse management costs while enhancing analytics for improved business outcomes.

Data Warehouse Optimization

Cisco Data Management Solutions for Big Data include data warehouse optimization (DWO), an effective tool for chief information officers (CIOs) seeking to reduce growing warehouse management costs by offloading extract, transform, and load (ETL) workloads and infrequently used data to low-cost big data stores (Figure 1).

DWO includes hardware optimized for big data stores, software for migrating data, software for federating multiple data sources, and a comprehensive services methodology to implement and operate an optimized logically expanded data warehouse. As a result, ETL jobs are completed more quickly, and data is more economically distributed and stored, increasing its value to the business. Analytics results are enriched because more data is retained and all data remains accessible. Additionally, companies not only reduce their risk by using proven software, network, and computing infrastructure for big data and logical data warehousing—they also gain competitive advantage by transforming their data assets into clean, connected, and trusted information.
DWO benefits include the capability to:

- **Enhance analytics:** Analyze all data, including extended historical data, which typically is inaccessible.
- **Reduce risk:** Use proven software, computing, and network infrastructure from the most trusted IT vendors to help increase success.
- **Improve analytics and data warehouse performance:** Get unified computing and network infrastructure uniquely bundled for the job.
- **Gain agility and competitive edge:** Transform more of your data assets into clean, connected, and trusted information.
- **Significantly lower costs:** Offload data and processing to optimize technology investments and make operations more efficient.

*Figure 1* Cisco Data Warehouse Optimization Architecture
Bridge Hadoop with Other Critical-Business Data

In addition to optimizing the data warehouse, Cisco Data Management Solutions for Big Data offer Hadoop-to-enterprise integration and Hadoop-to-Hadoop integration: two agile and cost-effective ways to combine Hadoop with traditional enterprise data sources such as enterprise resource planning (ERP), customer relationship management (CRM), and other business applications, as well as with additional Hadoop instances within an organization. Cisco Information Server, part of the Cisco Data Management Solutions for Big Data, federates both Hadoop clusters and traditional enterprise data sources (Figure 2) and multiple Hadoop clusters across single or diverse distributions of Hadoop (Figure 3). Analytics and business intelligence reports are enriched because they now have access to all data across the enterprise.

Figure 2 Hadoop-to-Enterprise Integration: Federates Hadoop and Traditional Enterprise Data Sources

Cisco Hadoop-to-enterprise and Hadoop-to-Hadoop data integration enable organizations to:

- Use all available data by integrating your Hadoop clusters and enterprise data
- Establish a stable data layer to significantly reduce the effort and cost of managing constantly changing applications and data sources
- Use proven software, computing, and network infrastructure from the most trusted IT vendors to help increase success
- Make decisions and take action more quickly with more timely and complete analytics
- Reduce infrastructure and project costs through the use of virtualization
Cisco Unified Computing System Common Platform Architecture

To help organizations implement Cisco Data Management Solutions for Big Data, including DWO, Hadoop-to-enterprise integration, and Hadoop-to-Hadoop integration, Cisco offers a comprehensive hardware stack. Cisco Unified Computing System™ (Cisco UCS®) Common Platform architecture (CPA) for Big Data includes computing, storage, connectivity, and unified management capabilities (Figure 4). This architecture uniquely provides transparent, simplified data and management integration with an enterprise application ecosystem and is optimized for big data deployments (Table 1).

Figure 4 Only Cisco Offers a Complete Solution

Table 1. Cisco UCS Servers Are Optimized for Big Data Deployments

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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<tbody>
<tr>
<td>High performance and scalability</td>
<td>The Cisco UCS C240 M3 Rack Server is well suited for big data deployments.</td>
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<tr>
<td>Ease of deployment</td>
<td>Service profiles enable rapid deployment of servers.</td>
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<tr>
<td>Comprehensive manageability</td>
<td>Organizations can easily manage and maintain the entire cluster.</td>
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<tr>
<td>Coexistence with enterprise applications</td>
<td>The architecture enables transparent, simplified management and data integration.</td>
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<tr>
<td>Enterprise-class service and support</td>
<td>Organizations gain access to leading industry support from Cisco and our partners.</td>
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For More Information