

Cisco Big Data Warehouse Expansion Solution



Driven by ever-growing enterprise data, companies are facing huge expenses to add capacity to existing data warehouses. To decrease this spend, companies need a lower-cost alternative that preserves existing reporting and analytics.

Cisco Big Data Warehouse Expansion (BDWE) reduces warehouse management costs by offloading infrequently used data to low-cost big data stores. The solution optimizes hardware for running Hadoop and other big data stores, software for federating multiple data sources, and a comprehensive services methodology for assessing, migrating, virtualizing, and operating a logically expanded warehouse. It uniquely blends best-in-class data, computing, and network infrastructure that reduces risk and delivers an accelerated performance and scalability.

BDWE benefits include:

- **Enhance Analytics** - Access not just current and recent history but extended historical data that is typically archived and not easily accessible.
- **Control Costs** - Economically locate hot/cold data in its proper place to fully take advantage of technology investments.
- **Improve Performance** - Optimized computing and network infrastructures uniquely bundled for the job.
- **Gain Competitive Advantage** - Utilize all of your company's data assets with enhanced analytics for higher productivity that address business change.
- **Reduce Risk** - Use proven software, network and computing infrastructure to adopt big data and logical data warehousing.

Implementation Methodology

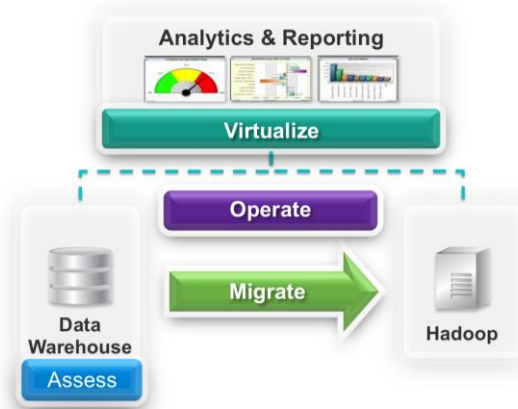
The implementation methodology is the foundation of the solution and consists of four major phases: **Assess**, **Virtualize**, **Migrate** and **Operate**. It provides:

- **Proven Formula for Success** - Confidently achieve your goal, while saving time and money, using documented best practices.
- **World-class Experts and Technology** - Experienced consultants working with best-of-class technology deliver great results.
- **Reduce Risk While Advancing Your Data Strategy** - With an end-to-end solution from a trusted vendor, you achieve your data and business goals at minimal risk.

Table 1. BDWE Services Methodology Four Phases

Feature	Description
Assess	Collect data usage statistics, analyze data, prepare ROI statement, and propose recommendations.
Virtualize	Review existing usage profiles, determine sources to be migrated, connect and virtualize data warehouse data, test and tune applications.
Migrate	Determine data migration approach, migrate identified data warehouse data to Hadoop target, connect and virtualize Hadoop data, test and tune applications.
Operate	Manage and optimize queries, periodically assess data warehouse data load.

Figure 1. BDWE Reference Architecture



Data Virtualization

After selected warehouse data has been offloaded to Hadoop, the Cisco Information Server is used to federate both data sources and offer a “single view” of data. Analytic and business intelligence (BI) reports are enriched because they now have access to *more* data, from the warehouse as well as the Hadoop big data store.

Table 2. Data Virtualization Logically Makes All Data Accessible

Feature	Description
Data Access	Connect and expose data from diverse sources.
Data Federation	Execute and optimize queries across the data warehouse, Hadoop big data stores, and more. Optimized algorithms speed queries across disparate data sources.
Data Delivery	Deliver data to diverse consuming applications including analytics and BI tools.

Figure 2. Data Virtualization: Logically Access Data Warehouse with Offloaded Data and More



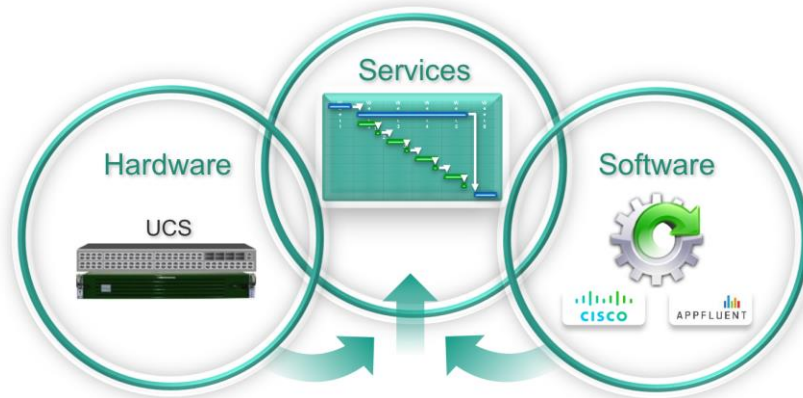
Unified Computing System (UCS)

For implementing the Hadoop big data cluster, Cisco offers a comprehensive solution stack. The Cisco UCS Common Platform Architecture (CPA) for big data includes computing, storage, connectivity, and unified management capabilities. Unique to this architecture are transparent, simplified data and management integration with an enterprise application ecosystem.

Table 3. UCS Servers are Optimized for Hadoop Deployments

Feature	Description
High performance and scaling	UCS C240 M3 ideal for big data deployments.
Ease of deployment	Rapid deployment of server using "service profiles."
Comprehensive manageability	Easy to manage and maintain entire cluster.
Coexistence with enterprise applications	Transparent, simplified management and data integration.
Enterprise-class service and support	Leading industry support from Cisco and its partners.

Figure 3. Only Cisco Delivers a Complete Solution



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