

# BROCADE AND IBM BIG DATA ANALYTICS SOLUTIONS



## DATA CENTER

## Performance and Scalability to Power Big Data Analytics

### HIGHLIGHTS

- Delivers deep analytics to tackle the ever-increasing volume, velocity, and variety of data
- Provides a robust, high-performance network fabric to support large-scale Hadoop deployments
- Leverages Brocade VCS Fabric technology to deliver industry-leading price/performance value and a highly scalable, redundant network architecture based on industry standards
- Provides a high throughput, low-latency, cut-through network architecture with the industry's lowest power consumption and cooling requirements
- Simplifies network management and rack additions by eliminating the need for manual network reconfiguration
- Features world-class support through robust partnerships with IBM and Zettaset

Today's organizations are generating vast quantities of data that are growing at a rate of 60 percent per year. For most, managing and analyzing this data presents both a challenge and an opportunity. Organizations that can effectively mine their fast-growing stores of data stand to gain a competitive edge. However, the enormous volume, velocity, and variety of such data—known as Big Data—often make it difficult to extract timely insight and context-based results from all data sources.

A new breed of solutions can help organizations overcome this challenge. By combining powerful analytics software with a robust, scalable networking infrastructure, these solutions offer a cost-effective way to unlock value from this data deluge. As a result, organizations can gain greater business insight and meaningful information to help them make proactive business decisions and validate existing business strategies.

### THE BROCADE AND IBM BIG DATA SOLUTION

IBM InfoSphere BigInsights enables organizations to analyze the volume, variety, and velocity of their data by applying complex yet flexible analytics. Based on the Hadoop model of MapReduce, this software allows organizations to analyze large data sets for data-at-rest in multiple forms.

For organizations using IBM InfoSphere BigInsights, a key challenge is finding the right mix of tested infrastructure components that can address the scale and complexity of their environment, yet also provide a framework for future growth.

Brocade® solutions offer a robust networking infrastructure capable of supporting large, scalable, high-performance deployments of IBM InfoSphere BigInsights. As the MapReduce jobs in the framework are distributed among the data copies on different nodes, network

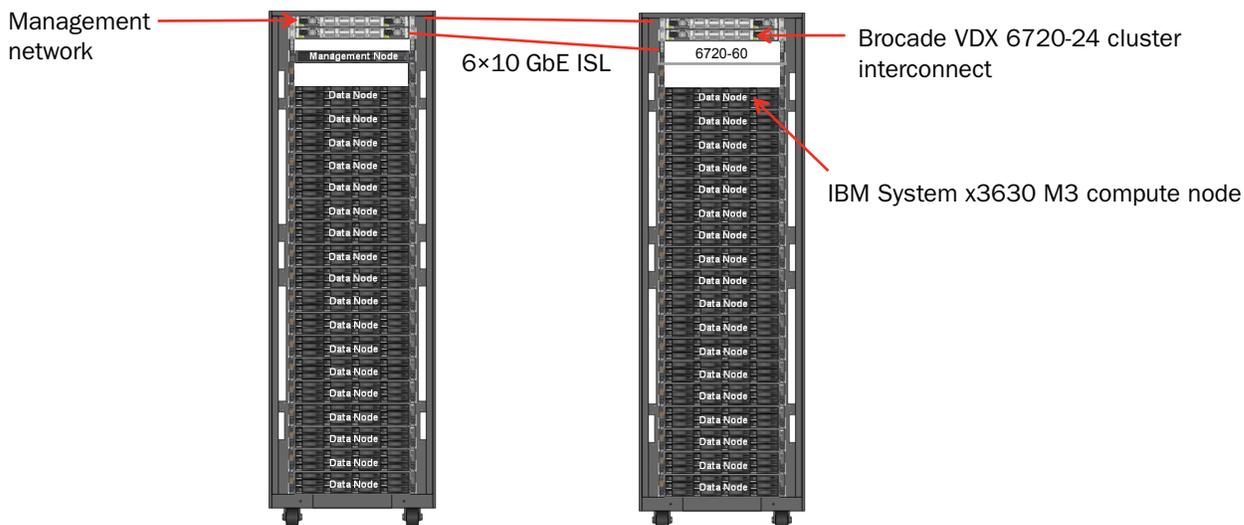
latency can affect performance. Brocade VDX® switches help mitigate network bottlenecks and enable optimal distribution of service requests. These switches provide a high-throughput, low-latency network solution that leverages 10 Gigabit Ethernet (GbE) ports and features a cut-through, fabric-based architecture. The result is a redundant, scalable, highly available IBM InfoSphere BigInsights configuration that can tolerate failures with minimal impact and little or no manual reconfiguration (see Figure 1).

### INCREASED NETWORK RESILIENCY, OPTIMIZED THROUGHPUT, SIMPLIFIED MANAGEMENT

Brocade VDX switches leverage Brocade VCS® Fabric technology, which provides self-healing and auto-configuration features that increase network resiliency while simplifying switch deployment and management. Nodes or racks can be added to the IBM InfoSphere BigInsights solution as needed to provide modular, elastic, and highly automated turnkey configurations.

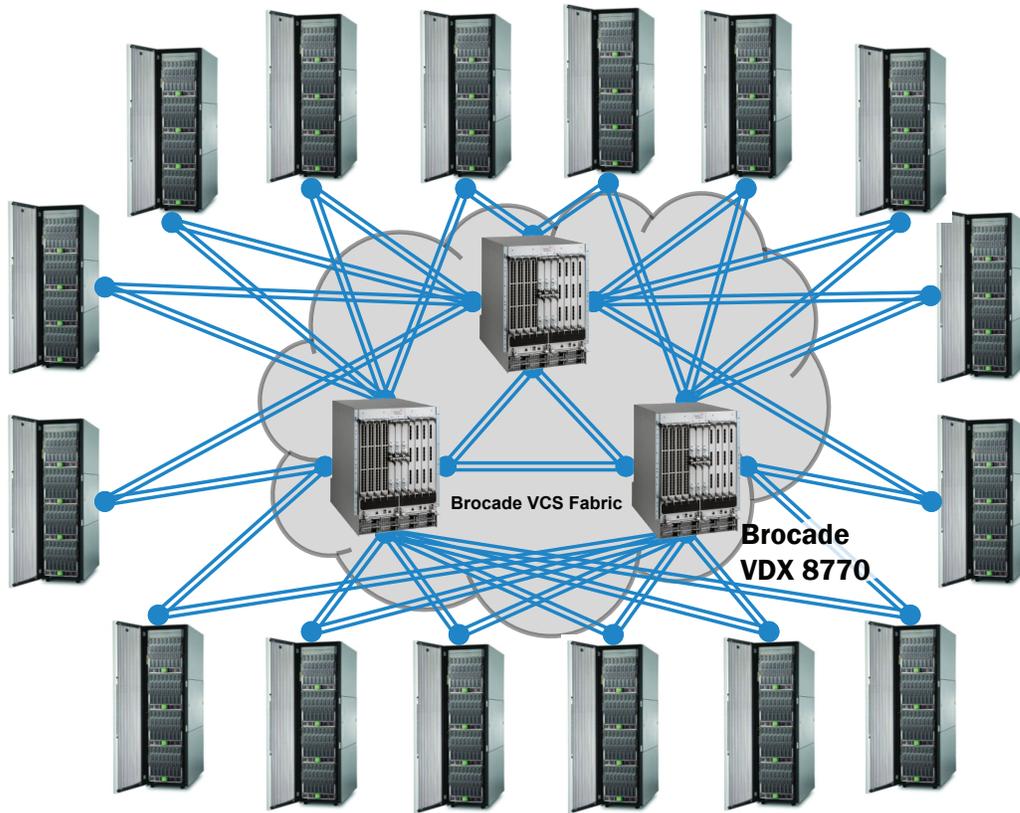
Utilizing pre-tested, validated, and proven enterprise-class configurations from Brocade and IBM, organizations have the peace of mind that they can future-proof their architecture—either by provisioning a solution upfront or growing it as their business needs evolve (see Figure 2). Based on industry-standard technology, Brocade VDX switches offer leading price/performance value, high port density, and low power and cooling requirements—making them a cost-efficient way to handle the unique requirements of Big Data. In addition, industry-leading hardware and software support contribute to make this a truly world-class solution.

**Figure 1.**  
Brocade reference architecture  
for IBM InfoSphere BigInsights.



**Figure 2.**

Building a scalable Big Data cluster with Brocade VDX switches.



Working in tandem with Brocade VDX switches, high-performance Brocade 1860 Fabric Adapters optimize network throughput for Big Data traffic. Leading-edge buffering capabilities control the flow of traffic as needed. The Brocade 1860 can handle the sustained or bursty patterns of demanding workload traffic prevalent during the data ingest or computation phases of IBM InfoSphere BigInsights.

In addition, automated management further reduces the Total Cost of Ownership (TCO) without adding to the complexity of the environment. Using Zettaset Orchestrator, organizations can create, provision, automate, and secure an IBM InfoSphere BigInsights deployment to make Big Data easily accessible and manageable. In this way, managing the network of an IBM InfoSphere BigInsights configuration is no different than managing any other mission-critical application.

**LEARN MORE**

Brocade delivers innovative solutions that help organizations maximize the value of their most critical information. To learn more, visit [www.brocade.com](http://www.brocade.com).

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