Cisco UCS Director Express for Big Data

Single-Touch Deployment and Unified Management for Hadoop Infrastructure
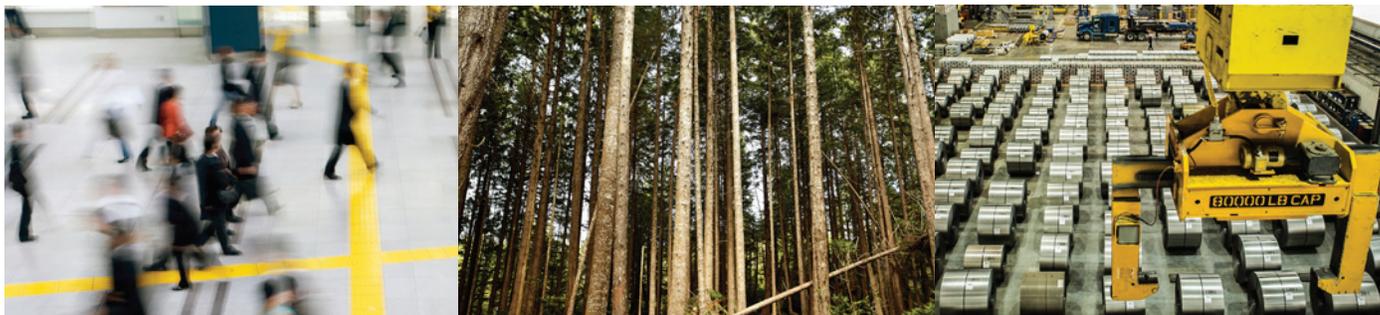
Highlights

Faster and Easier Big Data Infrastructure Deployment

- Cisco UCS® Director Express for Big Data extends the Cisco UCS Common Platform Architecture (CPA) for Big Data with one-click provisioning, installation, and configuration, delivering a consistent, repeatable, flexible, and reliable end-to-end Hadoop deployment..

Massive Scalability and Performance

- Cisco's unique approach provides appliance-like capabilities for Hadoop with flexibility that helps ensure that resources are deployed right the first time and can scale without arbitrary limitations.

Centralized Visibility

- Cisco UCS Director Express for Big Data provides centralized visibility into the complete infrastructure to identify potential failures and latent threats before they affect application and business performance.

Open and Powerful

- An open interface allows further integration into third-party tools and services while allowing flexibility for your own add-on services.

We help you deploy, adapt, and scale Hadoop big data infrastructure from a single management pane.

As you consider Hadoop to meet your growing data and business needs, operational challenges often emerge. Despite its compelling advantages, Hadoop clusters can be difficult, complex, and time consuming to deploy. Moreover, with so much data increasing so quickly, you need to find ways to consistently deploy Hadoop clusters and manage them efficiently.

Cisco UCS® Director Express for Big Data provides a single-touch solution that automates deployment of Hadoop on leading Cisco UCS Common Platform Architecture (CPA) for Big Data infrastructure. It also provides a single management pane across both physical infrastructure and Hadoop software. All elements of the infrastructure are handled automatically with little need for user input. Through this approach, configuration of physical computing, internal storage, and networking infrastructure is integrated with the deployment of operating systems, Java packages, and Hadoop along with the provisioning of Hadoop services. Cisco UCS Director Express for Big Data is integrated with major Hadoop distributions from Cloudera, MapR, and Hortonworks[1], providing single-pane management across the entire infrastructure. It complements and communicates with Hadoop managers, providing a systemwide perspective and enabling administrators to correlate Hadoop activity with network and computing activity on individual Hadoop nodes.

Simplicity and Agility

The Cisco Unified Computing System™ (Cisco UCS) has redefined data center infrastructure by introducing the concept of stateless resource abstraction with Cisco UCS service profiles. Now Cisco UCS Director Express for Big Data extends the service profile concept into the Hadoop application space by creating a cluster

1. Support for each distribution may vary.

deployment profile that combines Cisco UCS service profiles with Hadoop profiles. This innovation provides a reliable and consistent mechanism to not only define big data infrastructure but also the Hadoop services running on the cluster.

High Performance and Scalability Out of the Box

Cisco UCS CPA for Big Data is an industry-leading architecture conceived to address a variety of big data workloads. Designed to meet the need for massive scalability demanded by big data applications, the environment can scale up to 160 nodes in a single management domain and up to 10,000 nodes by interconnecting domains. Cisco UCS CPA for Big Data was designed, through extensive testing, to provide a high-performance and scalable architecture for Hadoop, and best practices are captured in a Cisco® Validated Design. These best practices are now integrated into Cisco UCS Director Express for Big Data, helping ensure that you get the best performance out of the box, without the need for any additional fine-tuning (Figure 1).

Extensible and Programmable Management

Customization is often a critical requirement in large organizations.
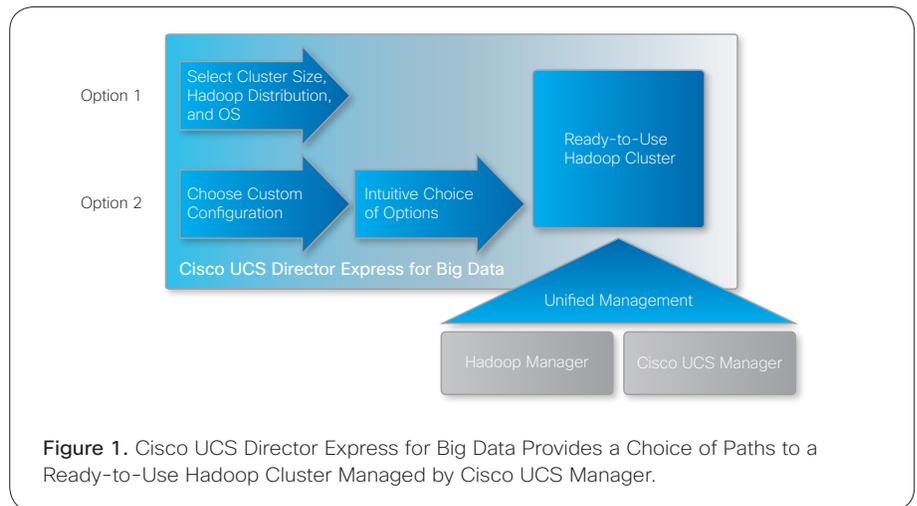
Figure 1. Cisco UCS Director Express for Big Data Provides a Choice of Paths to a Ready-to-Use Hadoop Cluster Managed by Cisco UCS Manager.

Cisco UCS Director Express for Big Data provides an extensible and programmable infrastructure management platform. An open northbound Representation State Transfer (REST) API allows additional customization and provides additional services. The API offers integration with third-party applications and provides a platform for building add-on services for both cloud and on-premises deployments.

Conclusion

Deploying and managing Hadoop clusters should not require a trade-off between quality and deployment speed. Cisco UCS Director Express for Big Data addresses myriad deployment and management challenges with single-touch automation for Hadoop clusters. Centralized management visibility across both hardware and software drastically reduces complexity and improves response times, making Hadoop fast and easy to deploy and manage.

For More Information

· For more information about Cisco UCS and big data, please visit: http://www.cisco.com/go/bigdata.

· For more information about Cisco UCS CPA for Big Data, please visit: http://blogs.cisco.com/datacenter/cpav2.