

Third Generation of Cisco UCS Common Platform Architecture for Big Data

Highlights

Optimized for Enterprise Big Data Deployments

- Cisco UCS® Integrated Infrastructure for Big Data offers a balance of compute power, I/O bandwidth, and storage capacity. Use the solution as is or customize it to meet your specific needs.
- The modular framework can scale from small to very large as needs change.

Built on Cisco UCS Advantages

- The solution offers unified fabric, unified management, and advanced monitoring capabilities.
- Consistent and rapid deployment using Cisco UCS service profiles delivers out-of-the-box performance.

Simplified and Policy-Based Management

- Solution features include global inventory view, one-click system software management, and one-click configuration changes.

Reduced Risk

- Prevalidation, tighter integration, and performance optimization reduce integration and deployment risk.
- Extensive testing and validation of software distributions allow you to deploy the solution with confidence.

Broad Partner Ecosystem

- The solution is supported by industry-leading solutions for big data software including Actian, Cloudera, DataStax, Elastic Search, HortonWorks, MapR, MarkLogic, Microsoft, MongoDB, Pivotal, Platfora, SAP, SAS, and Splunk.

Complete Solutions from Cisco

- Hadoop distributions from Cloudera, HortonWorks and MapR and RedHat Enterprise Linux from Cisco offer a complete software stack.
- Cisco UCS Director Express for Big Data offers end-to-end provisioning and deployments of Hadoop clusters

Our industry-leading solutions help you quickly achieve the potential of big data while scaling from small to large deployments as your business needs grow.

Cisco UCS® Integrated Infrastructure for Big Data offers comprehensive infrastructure and management that extends the Cisco UCS Common Platform Architecture (CPA) for Big Data. The solution has been widely adopted for agriculture, education, finance, healthcare, service provider, entertainment, insurance, and public-sector environments. The Cisco UCS Integrated Infrastructure solution improves performance and capacity. It also offers additional complete solutions with industry-leading partnerships.

With complete, easy-to-order packages that include compute, storage, connectivity, and unified management features, Cisco UCS Integrated Infrastructure for Big Data accelerates deployment, delivers predictable performance, and reduces total cost of ownership (TCO). Our newest offering is powered by the Intel® Xeon® E5-2600 v3 product family.

Five Optimized Configurations

Five configurations have been optimized and tested with the leading big data software distributions to balance performance, density, and storage capacity differently for specific applications. Start with any configuration and scale as your workload demands, including scaling to hundreds of servers through the use of Cisco Nexus® 7000 and 9000 Series Switches. These configurations vary in disk capacity, bandwidth, and price and performance characteristics.

Easy Ordering

Cisco UCS CPA Version 3 for Big Data is available through Cisco UCS Solution Accelerator Paks, listed in Table 1. The program helps you quickly and easily deploy a powerful, secure big data environment in your enterprise without the expense entailed in designing and building your own custom solution. You scale the solution by adding servers as needed, and they are integrated into the existing cluster in minutes.

For More Information

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

For more information about Cisco UCS Integrated Infrastructure for Big Data, please visit <http://blogs.cisco.com/datacenter/cpav3>.

Table 1. Cisco UCS Solution Accelerator Paks for Big Data

Solution	Starter (UCS-SL-CPA3-S)	High Performance (UCS-SL-CPA3-H)	Performance Optimized (UCS-SL-CPA3-P)	Capacity Optimized (UCS-SL-CPA3-C)	Storage Dense (UCS-SL-CPA3-D)
Designed For	Performance and density for analytics engines, NoSQL databases, and entry-level Hadoop deployments	Extreme performance and density for analytics engines	Balance of compute and storage for scale-out applications including Hadoop, NoSQL, and massively parallel processing (MPP) databases	Storage-intensive Hadoop and scale-out storage deployments	High storage capacity and storage density with low cost per terabyte
Applications Include	Action Matrix, DataStax Enterprise, Elastic Search, MongoDB, Oracle NoSQL Database, Pivotal Greenplum DB, Platfora, SAS Analytics, Splunk, and Hadoop deployments	Action Matrix, DataStax Enterprise, Elastic Search, MongoDB, Oracle NoSQL Database, Platfora, SAS Analytics, Splunk, and high-performance Hadoop deployments	Action Matrix, Cloudera, HortonWorks, MapR, MarkLogic, Greenplum DB, Pivotal HD, SAS Analytics, and Splunk	Action Matrix, Cloudera, HortonWorks, MapR, MarkLogic, Pivotal HD, SAS Analytics, and Splunk	Snapshots, active archiving, compliance, media storage, and distributed file systems for scenarios in which high storage capacity is important
Connectivity	• 2 Cisco UCS 6248UP 48-Port Fabric Interconnects	• 2 Cisco UCS 6248UP 48-Port Fabric Interconnects	• 2 Cisco UCS 6296UP 96-Port Fabric Interconnects	• 2 Cisco UCS 6296UP 96-Port Fabric Interconnects	• Integrates into existing Cisco UCS and Cisco Nexus infrastructure
Servers	8 Cisco UCS C220 M4 Rack Servers, each with: • 2 Intel Xeon processor E5-2620 v3 CPUs • 256 GB of memory • Cisco 12-Gbps SAS Modular RAID Controller with 2-GB flash-based write cache (FBWC) • 8 1.2-terabyte (TB) 10K-rpm Small Form Factor (SFF) SAS drives • Cisco UCS Virtual Interface Card (VIC) 1227 (with 2 10 GE Enhanced Small Form-Factor Pluggable [SFP+] ports)	• 8 Cisco UCS C220 M4 Rack Servers, each with: • 2 Intel Xeon processor E5-2680 v3 CPUs • 256 GB of memory • Cisco 12-Gbps SAS Modular RAID Controller with 2-GB FBWC cache • 2 1.2-TB 10K-rpm SFF SAS drives • 6 400-GB SSDs • Cisco UCS VIC 1227 (with 2 10 GE SFP+ ports)	16 Cisco UCS C240 M4 Rack Servers, each with: • 2 Intel Xeon processor E5-2680 v3 CPUs • 256 GB of memory • Cisco 12-Gbps SAS Modular Raid Controller with 2-GB FBWC cache • 2 120-GB 6-Gbps 2.5-inch Enterprise Value SATA SSDs • 24 1.2-TB 10K SFF SAS drives • Cisco UCS VIC 1227 (with 2 10 GE SFP+ports)	16 Cisco UCS C240 M4 Rack Servers, each with: • 2 Intel Xeon processor E5-2620 v3 CPUs • 128 GB of memory • Cisco 12-Gbps SAS Modular Raid Controller with 2-GB FBWC cache • 2 120-GB 6-Gbps 2.5-inch Enterprise Value SATA SSDs • 12 4-TB 7.2K Large Form Factor (LFF) SAS drives • Cisco UCS VIC 1227 (with 2 10 GE SFP+ports)	2 Cisco UCS C3160 M4 Rack Servers, each with: • 2 Intel Xeon processor E5-2695 v2 CPUs • 256 GB of memory • Cisco 12-Gbps SAS Modular Raid Controller with 4-GB FBWC cache • 2 120-GB 6-Gbps 2.5-inch Enterprise Value SATA SSDs • 60 4-TB 7.2K-rpm LFF SAS drives • 2 Cisco UCS VIC1227 (each with 2 10 GE SFP+ ports) • 2 built-in 10 GE LOM ports
Rack Space	• 10 rack units (RU)	• 10RU	• 36RU	• 36RU	• 8RU
Storage	• 77 TB with 7 GBps of bandwidth	• 19.2 TB with 19 TB of flash storage	• 460 TB with 42 GBps of bandwidth	• 768 TB with 16 GBps of bandwidth	• 480 TB
Scaling	• Up to 32 servers with no additional switching infrastructure	• Up to 32 servers with no additional switching infrastructure	• Up to 160 servers per domain • Up to 160 servers per domain with Cisco Nexus 2232PP 10GE Fabric Extenders • Scalability to thousands of servers with Cisco Nexus 7000 or 9000 Series Switches	• Up to 10 servers per rack • Scalability to thousands of servers with Cisco Nexus 7000 or 9000 Series Switches	
Optional Software from Cisco	• Red Hat Enterprise Linux • Suse Linux Enterprise	• Red Hat Enterprise Linux • Suse Linux Enterprise	• Red Hat Enterprise Linux • Suse Linux Enterprise • Cloudera, MapR, or HortonWorks • Cisco UCS Director Express for Big Data	• Red Hat Enterprise Linux • Suse Linux Enterprise	



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