Our industry-leading solutions are designed to deliver out-of-the-box performance while scaling from small to very large as your business needs grow.

Cisco UCS® Integrated Infrastructure for Big Data and Analytics offers a comprehensive solution for enterprise-class deployments. This fourth-generation solution builds upon the previous generation and has been widely adopted for agriculture, education, entertainment, finance, healthcare, industrial, insurance, public-sector, and service provider environments. The Cisco UCS Integrated Infrastructure solution offers complete solutions with industry-leading partnerships.

With complete, easy-to-order packages that include computing, storage, connectivity, and unified management features, Cisco UCS Integrated Infrastructure for Big Data and Analytics accelerates deployment, delivers predictable performance, and reduces total cost of ownership (TCO). Our newest offering is powered by the Intel® Xeon® processor E5-2600 v4 product family.

**Seven Reference Architectures**

Our reference architectures are carefully designed, optimized, and tested with the leading big data software distributions to achieve a balance of performance and capacity to address specific application requirements. You can deploy these configurations as is or use them as templates for building custom configurations. You can scale your solution as your workloads demand, including expansion to thousands of servers through the use of Cisco Nexus® 7000 and 9000 Series Switches. The configurations vary in disk capacity, bandwidth, and price and performance characteristics. Base configurations for each solution are listed in Table 1.

**For More Information**

- Visit the Cisco® big data design zone at [http://www.cisco.com/go/bigdata_design](http://www.cisco.com/go/bigdata_design).

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**Highlights**

**Optimized for Enterprise Big Data and Analytics Deployments**
- Cisco UCS® Integrated Infrastructure for Big Data and Analytics is a platform for emerging solutions, including the edge, streaming, and data center core analytics applications.
- It is based on a fully redundant, high-performance fabric-based architecture with high computing power, I/O bandwidth, and storage capacity. Use the solution as is, or customize or scale it to meet your specific needs.
- Cisco UCS Director Express for Big Data offers end-to-end provisioning and deployment of Hadoop clusters.

**Built on Cisco UCS Advantages**
- The solution includes Cisco® unified fabric, unified management, and advanced monitoring capabilities.
- Consistent and rapid deployment using Cisco UCS service profiles delivers consistency and out-of-the-box performance.
- The solution offers a global inventory view, one-click system software management, and one-click configuration changes.

**A Solution with Less Risk**
- Engineering innovations, prevalidation, and tighter integration of software stacks reduce integration and deployment risk.
- Extensive testing and validation of software distributions allow you to deploy the solution with confidence.
# Cisco UCS Integrated Infrastructure for Big Data and Analytics

## Table 1. Cisco UCS Solution Accelerator Paks for Big Data

<table>
<thead>
<tr>
<th>Solution</th>
<th>Starter</th>
<th>High Performance</th>
<th>Performance Optimized</th>
<th>Performance Optimized</th>
<th>Performance Optimized</th>
<th>Capacity Optimized</th>
<th>Capacity Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution SKU</td>
<td>UCS-SL-CPA4-S</td>
<td>UCS-SL-CPA4-H</td>
<td>UCS-SPBD-C220M4-P1</td>
<td>UCS-SPBD-C240M4-P1</td>
<td>UCS-SPBD-C240M4-P2</td>
<td>UCS-SPBD-C240M4-P3</td>
<td>UCS-SPBD-C240M4-P4</td>
</tr>
<tr>
<td>Server SKU</td>
<td>UCS-SPBD-C220M4-S1</td>
<td>UCS-SPBD-C220M4-H1</td>
<td>UCS-SPBD-C240M4-P1</td>
<td>UCS-SPBD-C240M4-P2</td>
<td>UCS-SPBD-C240M4-P3</td>
<td>UCS-SPBD-C240M4-P4</td>
<td>UCS-SPBD-C240M4-P5</td>
</tr>
</tbody>
</table>

### Supported platforms
- Actian Matrix, DataStax Enterprise (with high performance solution), ElasticSearch, Hortonworks, IBM BigInsights, MapR, MongoDB, Oracle NoSQL Database, Pivotal Greenplum DB, Pivotal HD, SAS Analytics, Splunk Enterprise, and Splunk Enterprise.
- Actian Matrix, Cloudera, Hortonworks, IBM BigInsights, MapR, MarkLogic, Pivotal HD, and Splunk Enterprise.

### Connectivity
- 2 Cisco UCS 6248UP 48-Port Fabric Interconnects
- 2 Cisco UCS 6332 Fabric Interconnects
- 2 Cisco UCS 6296UP 96-Port Fabric Interconnects
- 2 Cisco UCS 6332 Fabric Interconnects
- 2 Cisco UCS 6296UP 96-Port Fabric Interconnects
- 2 Cisco UCS 6332 Fabric Interconnects
- 2 Cisco UCS 6296UP 96-Port Fabric Interconnects
- 2 Cisco UCS 6332 Fabric Interconnects

### Servers
- 8 Cisco UCS C220 M4 Rack Servers, each with:
  - 2 Intel Xeon processor E5-2620 v4 CPUs (8 cores)
  - 128 GB of memory
  - 8 x 1.2-TB 10K SFF SAS drives
  - Total of 10 TB of storage capacity and 1.4 GBps of I/O bandwidth
  - Cisco UCS VIC 1227
- 8 Cisco UCS C220 M4 Rack Servers, each with:
  - 2 Intel Xeon processor E5-2680 v4 CPUs (14 cores; 224 cores for solution)
  - 256 GB of memory
  - 8 x 960-GB SFF SSDs
  - Total of 7.5 TB of flash storage and 4 GBps of I/O bandwidth
  - Cisco UCS VIC 1387

### Storage controller
- Cisco 12-Gbps SAS Modular RAID Controller with 2-GB flash-based write cache (FBWC)

### Rack space
- 10RU
- 36RU
- 34RU
- 36RU
- 36RU

### Scaling
- Up to 32 servers per domain with no additional switching infrastructure
- Up to 24 servers per domain with no oversubscription
- Up to 80 servers per domain with no oversubscription
- Up to 24 servers per domain with no oversubscription
- Up to 80 servers per domain with no oversubscription
- Up to 80 servers per domain with no oversubscription

### Key to abbreviations:
- 10,000-rpm (10K); 7200-rpm (7.2K) large form factor (LFF); rack units (RU); small form factor (SFF); terabyte (TB); and virtual interface card (VIC)