

Tuning Cisco UCS and Cisco Nexus for Big Data



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Combining data center and network technologies, the new Cisco UCS Common Platform Architecture for Big Data is built for demanding tasks.

As organizations race to unearth value within big data, many are finding traditional server environments are not up to the task.

“Big data requires a fundamentally different architecture,” says Raghunath Nambiar, distinguished engineer and chief architect of big data solutions at Cisco, who was recently elected by the Transaction Processing Performance Council (TPC) to lead the development of Big Data benchmark standards. “To get the most out of big data, companies need an infrastructure that is tuned for big data workloads, with better performance and scalability than traditional environments.”

To meet these requirements, Cisco designed a comprehensive solution: Cisco® Common Platform Architecture (CPA) for Big Data. The architecture takes advantage of the Cisco Unified Computing System™ (Cisco UCS®), which utilizes Intel® Xeon® processors, and Cisco Nexus® switches. The comprehensive stack is designed specifically for big data, and includes compute, storage, connectivity, and unified management:

- Cisco UCS 6200 Series Fabric Interconnects, which provide high-speed, low-latency connectivity for servers and integrated, unified management for all connected devices.
- Cisco UCS 2200 Series Fabric Extenders, which provide highly scalable and extremely cost-effective connectivity for a large number of nodes.
- Cisco UCS C240 M3 Rack Servers, which are two-rack-unit (2RU) servers designed for a wide range of compute, I/O, and storage capacity demands.
- Cisco Nexus switches, the foundation of Cisco Unified Fabric, delivering exceptional availability and outstanding scalability to meet the requirements of mission-critical data centers.

“Our core strength in networking technologies combined with Cisco UCS enables us to offer big data clusters with hundreds of servers and petabytes of storage,” says Nambiar. “And all of it can be managed from a single pane using Cisco UCS Manager and Cisco UCS Central, either in a data center or distributed globally.”

Sometimes forgotten in big data discussions and decisions is the network, which plays a crucial role within the cluster and between the cluster and data sources. By combining compute and networking technologies, Cisco CPA offers predictable performance and network programmability to meet big data requirements. It also seamlessly integrates with Oracle databases, SAP HANA, and other workloads in the data center on a common fabric and management platform to simplify the infrastructure and minimize cost.

“If interest and adoption are any indication, Cisco CPA for Big Data is very much needed in the marketplace,” says Nambiar. “Within a few months after it became available, it was already being deployed in a range of industries, including finance, retail, service provider, content management, and government.”

Get the solution briefs

For Cisco UCS and Cisco Nexus solution briefs, highlighting big data optimization and software integration, visit the Cisco UCS Common Platform Architecture section at www.UnleashingIT.com/BigData/Resources/.

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