

INSIGHT

Cisco Continues to Expand Data Center 3.0 Portfolio

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IDC OPINION

On April 6, 2010, Cisco introduced continued innovations that deliver on its Data Center 3.0 road map. The main components of the announcement are the expansion of its Unified Computing System (UCS) portfolio and its datacenter network architecture Fabric Extenders (FEX)-link. It has been a little over a year since Cisco introduced these solutions targeted at addressing the major challenges that customers are currently facing in very large datacenter environments. The new additions continue on Cisco's goal of easing the increasing complexities of the future datacenter. Cisco's expanded UCS portfolio targets many of the critical pain points facing customers today. Highlights of our analysis are as follows:

- ☒ IDC believes that organizations with high rates of virtualization coupled with high rates of business change remain the most likely candidates for a unified fabric-based IT infrastructure. The ultimate goal is to offer application performance gains that offer compelling business impacts to enterprise customers.
- ☒ Server virtualization is driving demand for more I/O capacity, flexibility, and scale. Cisco's datacenter network portfolio is addressing this demand through its FEX-link architecture and Nexus portfolio. Cisco has demonstrated success by shipping over 1 million FEX-link ports in the last nine months.
- ☒ Cisco is executing on UCS sales in named accounts in hosting, healthcare, and education to demonstrate growth in the market.

IN THIS INSIGHT

This IDC Insight analyzes Cisco's April 6, 2010, Data Center 3.0 portfolio announcements.

SITUATION OVERVIEW

On April 6, 2010, Cisco announced additions to its Data Center 3.0 portfolio. The goals of the portfolio are to reduce IT infrastructure cost and complexity, provide better support for datacenter virtualization, and improve business agility. Specifically, Cisco announced the following:

- ☒ The Unified Computing System M2 B-Series and C-Series two-socket servers are based on the new Intel Xeon 5600 processor series. The new servers have been shipping since late March.
- ☒ The Unified Computing System B-Series and C-Series four-socket servers incorporate the new Intel Xeon 7500 processor series. The new servers are positioned as an alternative to RISC-based systems; they will ship in 3Q10.
- ☒ Continued enhancements to the Cisco FEX-link architecture, incorporated into both Cisco Nexus and Cisco Unified Computing System Fabric Extenders, provide an open, flexible server access layer that supports any fabric, with 100Mb, 1Gb, and 10Gb Ethernet and native Fibre Channel as well as Fibre Channel over Ethernet (FCoE), InfiniBand over Ethernet, iSCSI, and NAS. Cisco FEX-link simplifies management and is currently supported on the Cisco Unified Computing System and the Cisco Nexus 5000 Series, with availability soon on the Nexus 7000 Series switches. In addition, the FEX-link architecture will enable the Cisco Unified Computing System to offer up to 160Gb of bandwidth per blade in the coming year.
- ☒ The Nexus 2248 and Nexus 2232 Fabric Extenders provide a server access layer that supports any fabric, with 100Mb, 1Gb, and 10Gb Ethernet and native Fibre Channel as well as Fibre Channel over Ethernet, InfiniBand over Ethernet, iSCSI, and NAS.
- ☒ UCS Manager enhancements help customers intelligently bind power and cooling policies to UCS service profiles.
- ☒ The Nexus 1010 Virtual Services Appliance enables customers to utilize Cisco CLIs and increase the performance and scale of the Nexus virtual switch.
- ☒ The Cisco MDS 9148 Multilayer Fabric Switch, with 48 8Gb Fibre Channel ports per rack unit, offers flexibility for virtual server environments, security, and availability as well as scaling from 16 to 48 ports, with on-demand eight-port upgrade licenses.
- ☒ 8Gb Fibre Channel uplinks for server access have also been added to the Nexus 5000 Series and UCS 6100 Series interconnects.
- ☒ With the enhancements to virtual private LAN service (VPLS), Cisco offers reduced configuration and operational complexity, load balancing, and subsecond failover — these enhancements are called advanced VPLS (A-VPLS). VPLS is a way to provide Ethernet-based multipoint-to-multipoint communication over IP/MPLS networks.
- ☒ Cisco Services' updated portfolio of virtualization services helps companies adopt and integrate Cisco datacenter solutions, including the Cisco Unified Computing System.
- ☒ Cisco expanded the Cisco Developer Network to include support for companies that are developing to the UCS Manager XML Application Programming Interface (API). Developers now have access to online self-help tools, training videos,

sample code, developer community forums, and Unified Computing System labs for development and testing.

FUTURE OUTLOOK

Cisco's datacenter vision remains closely aligned with what IDC sees occurring in the market today. For example, IDC maintains that many enterprises and service providers are undergoing a fairly extensive evolutionary transformation of their IT infrastructure, which includes continued focus on consolidation, virtualization, and automation, with the goal of reducing both operational and capital costs in the datacenter. Furthermore, innovation in the IT layer is being leveraged to support rapid changes in the business. In fact, IDC believes that organizations with high rates of virtualization coupled with high rates of business change remain the most likely candidates for a unified fabric-based IT infrastructure. The ultimate goal is to offer application performance gains that offer compelling business impacts to enterprise customers. Cisco's expanded UCS portfolio targets many of the critical pain points facing customers today.

Changes in the Server Market

On the server side, Cisco's announcement of its second-generation UCS offering builds upon Intel's recent announcement of its Westmere-EP (Xeon 5600 processor family) and Nehalem-EX (Xeon 7500 processor family) (see *Intel Announces Nehalem-EX, Moving x86 Servers Deeper into Mission-Critical Workloads*, IDC #cUS22280510, April 2010) server platforms, which in and of themselves offer a number of compute performance, memory density, and energy-efficiency improvements. Additionally, Nehalem-EX incorporates a number of reliability, availability, and serviceability (RAS) features previously available in non-x86 server platforms. As virtualization and workload consolidation usage continue to grow, the need for more scalable, mission-critical x86 server platforms is becoming increasingly important to the market. Systems offering significant performance gains in two- and four-socket form factors could, over time, shift the "mix" of the enterprise systems in the datacenter from Unix and mainframes to x86 systems, and IDC believes another wave of platform migration is beginning to build as x86-led infrastructure refresh initiatives continue to take hold in the market.

In total, the UCS server portfolio now includes three blade and four rack-optimized offerings. IDC estimates that Cisco is now capable of addressing about two-thirds of all 2010 server deployments (4.7 million server shipments) and 44% of all server spending in 2010 with its expanded UCS portfolio. IDC notes that UCS isn't for every IT environment or workload and remains most attractive to very large enterprise organizations and service providers that are relatively far along on their journey to a private cloud. Still, Cisco's broadening array of industry partners supports a very large application portfolio of more than 15,000 applications at the very time customers are increasingly focused on consolidation, virtualization, migration, and application modernization efforts. In total, by broadening the physical and virtual workloads that they are targeting and by growing the number of products in the server portfolio, IDC estimates that the total addressable server market for Cisco's UCS platform has increased to \$21.8 billion in 2010. For competing server OEMs, as Cisco's reach

continues to get broader, its influence inside the datacenter continues to grow, creating the need for further innovation and differentiation. However, for enterprise IT customers around the world, any additional innovation and choice will be seen as important and invaluable.

Channel

These announcements will go a long way toward helping Cisco to establish the UCS product suite in the VAR channel. Cisco has a large and well-established partner channel for its networking product lines and is working diligently to leverage that channel to ramp the UCS server opportunity. Recent research from IDC's Infrastructure Channels and Alliances team indicates that Cisco is beginning to make headway in this arena. In fact, IDC introduced Cisco as a server platform option in its quarterly U.S. partner product, IDC's Channel Panel. In CY 1Q10, 15% of the partners stated they were selling Cisco servers. IDC will continue to monitor this to further assess and measure Cisco's progress in this area. In addition to providing sources of new revenue for Cisco's existing channel partners, the expansion of the UCS server product line will provide Cisco another opportunity to approach the greater population of channel partners from a recruitment perspective. IDC believes that with each successive release of new UCS server platforms, Cisco will gain greater presence in and acknowledgement from the VAR and solution provider community for its UCS datacenter initiative, something its competitors should be monitoring closely and planning countermeasures for.

Network

Cisco is the leading datacenter network equipment supplier, with half (49.5%) of the revenue share in the \$6.3 billion market. This announcement signifies Cisco's continued innovation and investment in delivering a network architecture that can meet the new demands of a virtualized, consolidated datacenter. The network architecture is very hierarchical, and static workload to network configurations are the norm. Specifically, Cisco's newest expansion of the Nexus 2000 Fabric Extenders portfolio addresses how the network or IT administrator can more easily architect the datacenter network for scale and flexibility based on business priorities. Cisco's Nexus Fabric Extender architecture, along with the Nexus 5000, provides a single management domain from top-of-rack to end-of-row switches, 100/1,000/10GbE, and storage (iSCSI, FCoE, and NAS). Cisco has shipped over 1 million ports of Nexus 2000 in less than a year.

In addition to the FEX-link announcements, the addition of 8Gb Fibre Channel across the Nexus 5000, UCS, and MDS portfolio is meant to assure customers that they can continue to invest with Cisco to increase the performance and throughput of their datacenter networks to support increasingly complex workloads and deployments. The Nexus 1010 is an optional hardware appliance in addition to the Cisco Nexus 1000V Virtual Switch Software and VMware vSphere deployments. The Cisco Nexus 1010 VSA allows administrators to offload the management functions handled by the Cisco Nexus 1000V Virtual Supervisor Module (VSM). It brings virtual switch support for larger, more complex environments; resiliency with active/standby support; and

Cisco CLI experience for the network manager. IDC expects that Cisco will incorporate this functionality into the larger networking portfolio.

The potentially most compelling part of the announcement both hints at features to come and delivers on the Catalyst 6500. Cisco expanded the DCI portfolio by adding advanced VPLS options to link datacenters. Cisco is enabling ease of use, load balancing, and fast failovers across datacenters. In the era of cloud computing, all datacenters need to be interconnected, with the end user achieving seamless application support across geographically distributed datacenters. VPLS is a technology that has traditionally been too complex for the average enterprise customer to master. Cisco is adding innovations with A-VPLS on the Catalyst 6500 platform, tying it with virtual switching system (VSS) technology to achieve resilient Layer 2 loop-free extension deployments with simplified operations. It will enable customers to more easily handle active/active configurations to link datacenters.

Cisco's complete Data Center 3.0 portfolio is gaining acceptance in enterprise and service provider accounts, both with direct touch sales and through the channel. The company has timed its datacenter technology introductions appropriately. Customers are interested in the integration of traditionally separate hardware functionality to gain simplified management and cost reductions. The announcement is meaningful in that it signifies continued investments and an ongoing intent by Cisco to incorporate the appropriate channel, services, and communities necessary to deliver on unified computing. Cisco is also showing that it will create value in unified systems while at the same time remaining competitive in broader datacenter networking sales. IDC believes Cisco is building on its datacenter network dominance to address customer demand for a high-performance, resilient, and virtual machine-aware network that enables dynamic communications between datacenters.

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