IBM BladeCenter Foundation for Cloud

Comprehensive virtualization with converged networking and easy-to-manage scaling to cloud

Highlights

- Comprehensive virtualization platform with converged networking, servers, storage and management

- High return on Investment platform, large virtual machine capacity in a simple-to-manage package

- Fast and easy to order and deploy with tested configurations

- Reduce complexity and risk with best practices high availability designed in

- Energizes new performance and technology into existing datacenters and opens easy pathway to cloud

Fast and reliable path to virtualization

Virtualizing your data center offers many potential benefits including reduced upfront capital and operating costs. Yet the challenges of installing and configuring a virtual environment can sometimes be overwhelming. Reduce complexity and risk with IBM BladeCenter® Foundation for Cloud. It provides the flexibility needed to make this easy with preintegrated systems and a preloaded management system. Comprehensively designed with everything needed to deploy a high-performance, reliable and scalable fully virtualized data center, it comes with, converged networking, virtualized servers, storage and available start-up services to help you take the guesswork out of establishing a virtualized data center environment. BladeCenter Foundation for Cloud can help you get up and running in days, not weeks. This solution is built by combining the strength of the IBM System x® platform and the advantages of the latest BladeCenter capabilities in the virtualized environment—including great performance, unmatched reliability, rapid scaling, high resiliency and leading network bandwidth capacity as well as industry-leading virtualization technology from VMware. BladeCenter Foundation for Cloud is available in multiple configuration sizes to meet your organization's specific needs.

Maximize capital usage for greater savings

Virtualized data centers built upon the BladeCenter Foundation for Cloud can help drive down your total cost of ownership by enabling you to more effectively manage and leverage your capital investments in IT assets. Based on BladeCenter systems, it provides a large network bandwidth capacity that exceeds competitor offerings and enables the rapid movement of virtual machine images, combined with a reduced

cost of connectivity by up to 44 percent compared to traditional rack servers.[1] Energy-smart design and integrated power management capabilities help drive optimal utilization of valuable power and cooling resources. With greater visibility into key energy metrics across your IT assets, you can identify areas where energy consumption can be reduced. Built-in virtualization helps create a simplified, flexible IT environment that can save up to half of your valuable data center space while allowing you to more effectively use fewer resources. Storage virtualization is supported via the optional addition of IBM System Storage® SAN Volume Controller, which also helps to increase management efficiency and resource utilization of heterogeneous storage assets.

Improve business resiliency

BladeCenter Foundation for Cloud offers a highly resilient environment with no single point of failure and advanced virtualization capabilities designed to simplify management with a combination of IBM Systems Director and VMware vCenter server. It includes IBM BladeCenter Open Fabric Manager, which automates network and storage address virtualization for faster failover recovery and easier expansion. Best-in-class systems management tools like predictive failure analysis and light path diagnostics can minimize downtime, while remote access capabilities let you control both physical and virtual IT resources through a single interface. Integration with VMware vCenter lets you easily move virtual machines between servers to help decrease downtime and protect against unplanned outages.

Reduce complexity

In addition to improving business resiliency, the BladeCenter Foundation for Cloud environment can reduce complexity and risk by offering configurations that have been through rigorous design, performance analysis and support for architectures based on leading technologies such as convergence and management centralization. The solution comes from the IBM or from certified business partners, with all the parts fully integrated, including racks, servers, storage, networking,

software, PDUs, KVM, cables, SFPs, etc. This helps reduce the common errors that can occur with onsite integration and configuration.

Scale easily to cloud

The BladeCenter Foundation for Cloud offers a high degree of flexibility, enabling you to deploy now and scale as your business requirements change. Standard configurations offer the ability to scale up to 2,000 virtual machines, and additional server blades can be added as needed. In addition, the systems can be scaled by adding more memory. The BladeCenter Foundation for Cloud can easily extend to a cloud environment with the addition of software functionality, such as SmartCloud Entry, IBM Service Delivery Manager or similar offerings, and it can be done without having to rip-and-replace the installed infrastructure. Whether to match growing business needs or to add the latest in features in Cloud technology, BladeCenter Foundation for Cloud enables easy scalability.

IBM BladeCenter Foundation for Cloud at a glance

Systems

Virtualization management and compute nodes	IBM BladeCenter H chassis • HS23 blades with dual-socket Intel Xeon E5-2620 6C 2.0 GHz processors, 128 GB memory or Intel Xeon E5-2650 8C 2.0 GHz processors • HS22V* blades with dual socket Intel Xeon E5659 6C 2.53 GHz processors, 96 GB memory • HS22 blades with dual-socket Intel Xeon E5645 6C 2.4 GHz processors, 48 GB memory • HX5 blades with dual-socket Intel Xeon E7-2830 8C 2.13 GHz processors, 128 GB memory • HX5 + MAX5 blades with dual-socket Intel Xeon E7-8867L 10C 2.13 GHz processors, 320 GB memory

Interconnects

Ethernet switch options	• IBM Virtual Fabric 10 Gb Switch Module* with QLogic Virtual Fabric Extension Module* • Brocade FCoE Switch Module • Cisco Nexus 4001i FCoE Switch Module
Converged network adapter options	• HS23 only: Onboard 10 Gigabit Ethernet with Emulex BE3 controller; IBM Virtual Fabric Advanced Software Upgrade (LOM) providing support for FCoE • Emulex Virtual Fabric Adapter II with FCoE* • QLogic 2-port CNA

External storage

Storage servers	IBM System Storage DS3524* or IBM Storwize® v7000
Storage expansion	EXP3000 storage expansion units or IBM Storwize v7000 expansion units

Software

Blade operating system	VMware vSphere ESXi 5.0 or 4.1*
Server management node	IBM System x3550 M3
Server management node software	Microsoft Windows 2008 R2 Standard Edition 64-bit; IBM Systems Director including Active Energy Manager; BladeCenter Open Fabric Manager†
Virtualization management software	VMware vCenter Server

Scalability

	Examples of predefined configurations
Small	4 compute blade servers
Medium	14 compute blade servers
Large	28 compute blade servers
Expansion nodes	Additional compute blade servers or chassis with converged networking can be added after installation
Services	Additional optional setup and other services from IBM Lab Services or Business Partner provide the initial setup in customer environment and provide on-site training
Warranty	3-year parts, customer replaceable unit or onsite labor, limited warranty with individual nodes retaining the warranty and service upgrade offerings for that IBM machine type; optional warranty service upgrades

Why IBM?

Built on technologies deployed at thousands of customer sites across the globe, the BladeCenter Foundation for Cloud can help you simplify and accelerate your virtualized data center acquisition and deployment. Time-tested virtualization implementation methods and best practices gained from IBM's own experiences have already helped clients plan, develop, test and optimize their IT environments for successful virtualized computing deployments. We offer multiple, scalable configurations to meet specific business and IT requirements.

For more information

To learn more about BladeCenter Foundation for Cloud, visit:
ibm.com/systems/bladecenter/solutions/infrastructure/virtualization/integratedcloudplatform/index.html,
or contact your IBM representative or IBM Business Partner.

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