



Highlights

- Accelerate implementation of your virtualized data center: using a preintegrated system or with channel-enabled platforms that include software, servers, storage, networking and services from IBM and certified IBM Business Partners
 - Lower operating costs through quicker, more agile workload deployment and decrease capital expenses by matching your IT assets to changing needs
 - Improve uptime by deploying an infrastructure designed for reliability
 - Simplified management with a system tailored for ease of use
 - Adapt to changing requirements with the ability to scale and extend to a cloud environment without requiring rip-and-replace of the existing infrastructure
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IBM BladeCenter Foundation for Cloud

Highly efficient virtualized server platform: simplified management, rapidly deployable and Cloud-ready

Fast and reliable path to virtualization

Virtualizing your data center offers many potential benefits including reduced capital and operating costs. Yet the challenges of installing and configuring a virtual environment can be overwhelming. The IBM BladeCenter® Foundation for Cloud provides a preintegrated and preloaded system with software, server, storage, networking and start-up services to help you take the guesswork out of establishing a virtualized data center environment. A fast, easy way to install, deploy and start realizing the benefits of virtualization, 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 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 An 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 to the enterprise

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 be extended to a cloud environment with the addition of software functionality, such as IBM Service Delivery Manager or similar offerings, and it can be done without having to rip-and-replace the installed infrastructure.

IBM BladeCenter Foundation for Cloud at a glance

Systems

Virtualization management and compute nodes	IBM BladeCenter H and HS22V blades with dual-socket Intel Xeon 5660 2.8 GHz 6-core processors, 72 GB memory (IBM integrated)
	Intel Xeon 5659 2.53 GHz 6-core processors, 96 GB memory (Business Partner integrated)
Server management node	IBM System x3550 M3 with dual-socket Intel Xeon 5620 2.4 GHz 4-core processors

Interconnects

Ethernet switches	10 Gb Ethernet switch for normal operations and 1 Gb Ethernet switches, for out-of-band management: – BNT Virtual Fabric 10 Gb Switch Module
Ethernet adapter	Dual 10 Gb Ethernet ports included on each blade
Fibre Channel SAN switch	8 Gb SAN switches (IBM integrated)
	Converged BNT switch (Business Partner integrated) QLogic Virtual Fabric Extension Module
Fibre Channel adapters	Dual 8 Gb Fibre Channel adapters on each blade server

External storage

Storage servers	IBM System Storage DS3524
Storage expansion	EXP3000 storage expansion units

Software

Blade operating system	VMware vSphere 4.1 Enterprise Edition
Server management node software	Microsoft Windows 2008 R2 Standard Edition 64-bit; IBM Systems Director including Active Energy Manager; BladeCenter Open Fabric Manager ²
Virtualization management node software	VMware vCenter Server 4.1

Rack cabinets

e1350 42U Rack Cabinet	79.5 in. H x 25.5 in. W x 43.5 in. D (2020 mm x 648 mm x 1105 mm)
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Scalability

	Examples of predefined configurations
Small	1 virtualization management blade, 3 compute blades, 7.2 TB storage (IBM integrated)
Medium	1 virtualization management blade, 4 HS22V blades, 7.2 TB storage (Business Partner integrated)
Medium	1 virtualization management blade, 4 - 13 compute blades, up to 29 TB storage (IBM integrated)
Extra-Large	1 virtualization management blade, 14 HS22V compute blades, up to 29 TB storage (Business Partner integrated)
Expansion nodes	Additional compute nodes (blades) can be added after installation

Services

	Hardware and software are preintegrated in the factory or from IBM Business Partners. 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 Optionally, IBM System Storage SAN Volume Controller implementation provided as a an onsite service
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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
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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.

Solutions come in a number of standard configurations and are available, for instance, in small (four blade servers) to extra-large (56 blade servers), with the capability to create even larger custom configurations.

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 marketing representative or IBM Business Partner.



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¹ Based on IBM comparisons of 14-server connectivity costs of IBM BladeCenter servers to 14-server connectivity costs of Hewlett-Packard rack servers from price information available on ibm.com and hp.com as of February 1, 2011.

² BladeCenter Open Fabric Manager runs in the BladeCenter Advanced Management Module



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