



IBM zEnterprise BladeCenter Extension support for select IBM BladeCenter HX5 blades

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At a glance

The zEnterprise™ BladeCenter® Extension (zBX) infrastructure can now host select IBM® BladeCenter HX5 blades.

The zEnterprise System (zEnterprise) with its zBX infrastructure offers the possibility of running an application that spans z/OS®, z/VM®, Linux® on System z®, AIX® on POWER7®, and Linux on System x®, yet have it under a single management umbrella.

As with the POWER7 blade support, the following support will be provided for IBM BladeCenter HX5 blades:

- Trained IBM service technicians will perform maintenance actions from the supporting System z processor Support Elements.
- Firmware upgrades will be downloaded and applied from the Unified Resource Manager through the Support Elements.
- Failures will be reported to IBM and the IBM support structure engaged using the host RETAIN® connection (24x7).
- Operators will be able to monitor and control all the zBX blades from the Unified Resource Manager panels using the Hardware Management Console (HMC).

Overview

The announcement of the IBM zEnterprise System was a perfect fit for a planet that needs smarter computing - computing designed for data, tuned to the task, and managed in a cloud. The zEnterprise gives you the freedom to bring mainframe and distributed technologies together in a system that can start to replace individual islands of computing, and bring applications closer to the data they need. It can help you reduce complexity and improve security. The zEnterprise includes a central processing complex (CPC), either the zEnterprise 196 (z196) or the new IBM zEnterprise 114 (z114), the zEnterprise BladeCenter Extension (zBX) with its integrated optimizers and/or select IBM blades, and the zEnterprise Unified Resource Manager (Unified Resource Manager).

As part of IBM's previously stated plans for the zBX, IBM is introducing support of running Linux on System x on select IBM BladeCenter HX5 blades. These blades can be installed in the zBX and will allow the zEnterprise access to a wide breadth of applications that run on Linux on System x. The zBX will continue to be managed by the Unified Resource Manager, which can help to deliver and facilitate end-to-end virtualization and policy-based workload monitoring. These abilities enable the zBX to optimize resource deployment according to individual workload requirements.

Key prerequisites

Refer to the [Hardware requirements](#) and [Software requirements](#) sections of this announcement.

Planned availability date

- September 26, 2011
 - IBM zEnterprise BladeCenter Extension support for select IBM BladeCenter HX5 blades

The planned availability date for the zBX 2458 Model 002 has moved to August 15, 2011, for Belarus.

Description

The world today is changing and becoming smarter and more tech savvy. Every aspect of life is benefiting from the interconnection of systems and the infusion of intelligence into those systems. Nothing is changing more than information technology, and the opportunities for innovation and smarter computing models have never been greater. To take advantage of these opportunities, new systems will need to talk together, share data better, be easier to manage, and be more cost effective.

The IBM zEnterprise System (zEnterprise) is a perfect fit in this world of smarter computing, being both the next step in the evolution of System z leadership and a premier solution for centrally managed enterprise cloud environments. It is a true hybrid computing system comprised of virtualized heterogeneous resources that are integrated, managed as a single system, and optimized to your business objectives. The zEnterprise includes a central processing complex (CPC), either the zEnterprise 196 (z196) or the new IBM zEnterprise 114 (z114), the zEnterprise BladeCenter Extension (zBX) with its integrated optimizers and/or select IBM blades, and the management fabric that ties it all together, the zEnterprise Unified Resource Manager (Unified Resource Manager).

Today IBM partially fulfills the Statement of Direction for the zBX and introduces support for Linux on IBM System x blades as described in [Hardware Announcement ZG11-0127](#), dated April 12, 2011.

2458 Model 002 System x configuration

- The supported blade type is System x Machine Type 7873 (HX5).
- POWER7, DataPower®, and System x blades can be in the same BladeCenter chassis.
- BladeCenter HX5 7873 blades are customer acquired through existing channels or through IBM.
- The operating systems supported are listed in

http://www.ibm.com/common/ssi/cgi-bin/ssialias?infotype=SA&subtype=WH&appname=STGE_ZS_ZS_USEN&htmlfid=ZSL03128USEN&attachment=ZSL03128US

Configurations supported

The configurations supported are listed in

http://www.ibm.com/common/ssi/cgi-bin/ssialias?infotype=SA&subtype=WH&appname=STGE_ZS_ZS_USEN&htmlfid=ZSL03128USEN&attachment=ZSL03128USEN

For more information on the IBM System x blades, refer to [Hardware Announcement ZG11-0078](#), dated April 06, 2011, "IBM BladeCenter HX5 is a scalable blade

server designed to provide new levels of utilization, performance, and reliability for compute- and memory-intensive workloads." For more information on the IBM System z BladeCenter Extension (zBX), refer to Hardware Announcement [ZG10-0263](#), dated July 22, 2010, "IBM zEnterprise BladeCenter Extension (zBX)."

Availability and service

Review the [Warranty period](#) section of this announcement for further information about the increased support provided.

Accessibility by people with disabilities

A US Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

http://www.ibm.com/able/product_accessibility/index.html

Product positioning

The IBM zEnterprise System and its components, including the zEnterprise BladeCenter Extension (zBX), were introduced in July of 2010. The introduction of the zEnterprise offered the freedom to support smarter computing with a heterogeneous platform innovation unmatched in the industry.

The zBX can host and integrate special purpose workload optimizers like the IBM Smart Analytics Optimizer for DB2® for z/OS, V1.1 and WebSphere® DataPower Integration Appliance XI50 for zEnterprise (DataPower XI50z), and select general purpose blades including POWER7 and IBM System x blades. Managing everything is the zEnterprise Unified Resource Manager. It can help to deliver and facilitate end-to-end virtualization and workload management providing the ability to optimize resource deployment according to individual workload requirements.

Today's announcement strengthens the zEnterprise offering by allowing a broader set of applications to run on the zEnterprise. Front end applications that need access to centralized data serving would be a good fit for running on the System x blades, as well as applications that are a front end to core CICS® or IMS™ transaction processing such as IBM WebSphere. In addition, applications and workloads can be managed under a single umbrella.

Statement of general direction

Application Program Interfaces (APIs) to Unified Resource Manager

IBM intends to offer Application Program Interfaces (APIs) to Unified Resource Manager. These APIs provide access to the same underlying functions that support the Unified Resource Manager user interface and can be exploited to enable Discovery, Monitoring, and Provisioning use cases.

IBM intends to extend the Tivoli® Integrated Service Management for System portfolio to take advantage of the zEnterprise ensemble monitoring and management capabilities provided by the Unified Resource Manager APIs.

Dynamic discovery of storage resources by Unified Resource Manager

IBM intends to offer dynamic discovery of storage resources by Unified Resource Manager. A server administrator will be able to trigger discovery of additional storage resources through the User Interface of Unified Resource Manager.

IBM's statements regarding its plans, directions, and intent are subject to change or withdrawal without notice at IBM's sole discretion. Information regarding potential future products is intended to outline our general product direction and it should not be relied on in making a purchasing decision. The information mentioned regarding

potential future products is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. Information about potential future products may not be incorporated into any contract. The development, release, and timing of any future features or functionality described for our products remains at our sole discretion.

Product number

Description	Machine		Feature
	type	Model	
IBM zEnterprise BladeCenter Extension	2458	002	
IBM System x Blade Enablement Qty Indicator			0613
Countable Member Indicator			0664
			0665

Description	Machine		Feature
	type	Model	
IBM WebSphere DataPower Integration Appliance XI50 for zEnterprise	2462	4BX	
Qty Indicator			0664
Countable Member Indicator			0665

Model conversions

Refer to the section of this announcement for details on the upgrade paths.

Education support

Visit the following website for additional information

<http://www.ibm.com/training/us>

Contact your IBM representative for course information.

Publications

The following publications are available now in the *Library* section of Resource Link®:

Title	Order number
zEnterprise BladeCenter Extension Installation Manual - Physical Planning 2458-002	GC27-2611
zEnterprise 196 System Overview	SA22-1086
zEnterprise 114 System Overview	SA22-1087
System z Functional Matrix	ZSW0-1335

The following publications are shipped with the product and available in the *Library* section of Resource Link:

Title	Order number
zEnterprise BladeCenter Extension Model 002 Installation Manual	GC27-2610
zEnterprise BladeCenter Extension Service Guide	GC28-6884

The following publications will be available at planned availability in the *Library* section of Resource Link:

Title	Order number
zEnterprise System Ensemble Performance Management Guide	GC27-2607
zEnterprise System Ensemble Planning and Configuring Guide	GC27-2608
zEnterprise System Introduction to Ensembles	GC27-2609
zEnterprise System Hardware Management Console Operations Guide for Ensembles	SC27-2615

Publications for zBX can be obtained at Resource Link by accessing the following website

<http://www.ibm.com/servers/resourcelink>

Using the instructions on the Resource Link panels, obtain a user ID and password. Resource Link has been designed for easy access and navigation.

The following Redpaper publication will provide additional information, once it becomes available:

Title	Order number
Using IBM System z as the foundation for your information management architecture	REDP4606

For other IBM Redbooks® publications, refer to

<http://www.redbooks.ibm.com/>

Services

Global Technology Services

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an on-demand business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and many non-IBM offerings. IBM is your one-stop shop for IT support needs.

For details on available services, contact your IBM representative or visit

<http://www.ibm.com/services/>

For details on available IBM Business Continuity and Recovery Services, contact your IBM representative or visit

<http://www.ibm.com/services/continuity>

For details on education offerings related to specific products, visit

<http://www.ibm.com/services/learning/index.html>

Select your country, and then select the product as the category.

Technical information

Specified operating environment

Physical specifications

Dimensions - BladeCenter HX5

	Depth	Width	Height
- Inches	17.6	2.28	9.7
- Millimeters	446.0	58.0	245.0

The maximum number of System x blades per zBX is 28.

Approximate weight per blade

Maximum weight per blade
depends on the configuration
when options are added

- kg 9.5
- lb 20.9

Electrical

- BladeCenter chassis: 200 to 240 (nominal) V ac; 50 Hz or 60 Hz
- BladeCenter HX5: 12.2 (nominal) V dc

Note: All weights and measurements are approximate.

Operating environment

- Temperature:
 - 10° to 35.0°C (50° to 95°F) at 0 to 914 m (0 to 3,000 ft)
 - 10° to 32.0°C (50° to 90°F) at 914 to 2,133 m (3,000 to 7,000 ft)
- Relative humidity: 8% to 80%
- Maximum altitude: 2,133 m (7,000 ft)

Hardware requirements

You should review the PSP buckets for minimum Machine Change Levels (MCLs) and software PTF levels before installing the blades. To support new functions and features, MCLs and PTFs are required.

Descriptions of the MCLs and PTFs relating to the Unified Resource Manager are available now through Resource Link.

Access Resource Link at

<http://www.ibm.com/servers/resourcelink>

Select:

- Fixes, Hardware, Exception Letters
- Click on zEnterprise 196
- Click on Driver xx Customer Exception Letter

The most recent driver information is at the top of the list.

Peripheral hardware and device attachments

The IBM zEnterprise BladeCenter Extension supports the use of the same set of external devices as the IBM BladeCenter HX5. More information on the HX5

can be found in Hardware Announcement [ZG11-0078](#), dated April 06, 2011, "IBM BladeCenter HX5 is a scalable blade server designed to provide new levels of utilization, performance, and reliability for compute- and memory-intensive workloads."

Software requirements

Note: Refer to the z/OS, z/VM, z/VSE™ subsets of the xxxxDEVICE Preventive Service Planning (PSP) bucket prior to installing a 2458.

The System x support for zBX does not require any additional software support on the zEnterprise beyond what is necessary to support the zBX.

A listing of operating systems supported on the System x can be found at

http://www.ibm.com/common/ssi/cgi-bin/ssialias?infotype=SA&subtype=WH&appname=STGE_ZS_ZS_USEN&htmlfid=ZSL03128USEN&attachment=ZSL03128USEN

Further details on z/VM requirements can be found at

<http://www.vm.ibm.com/service/vmrequrem.html>

Planning information

Customer responsibilities

Information on customer responsibilities for site preparation can be found in the Library section of Resource Link at

<http://www.ibm.com/servers/resourcelink>

Cable orders

Cabling responsibilities

Fiber optic cables, cable planning, labeling, and placement are all customer responsibilities for new installations and upgrades. Fiber optic conversion kits and Mode Conditioning Patch (MCP) cables are not orderable as features on an IBM zEnterprise BladeCenter Extension. Installation Planning Representatives (IPRs) and System Service Representatives (SSRs) will not perform the fiber optic cabling tasks without a services contract.

The following tasks are required to be performed by the customer prior to machine installation:

- All fiber optic cable planning.
- All purchasing of correct fiber optic cables.
- All installation of any required Mode Conditioning Patch (MCP) cables.
- All installation of any required Conversion Kits.
- All routing of fiber optic cables to correct floor cutouts for proper installation to server.

Additional service charges may be incurred during the server installation if the above cabling tasks are not accomplished as required.

For further details also refer to the *Installation Manual for Physical Planning (IMPP)*, available on Resource Link.

Note: IBM Site and Facilities Services can satisfy your fiber optic as well as your copper cabling requirements.

Installability

The average installation time for an IBM zEnterprise BladeCenter Extension is approximately 13 installer hours. This does not include planning hours. This assumes the Pre-Installation Configuration Service, a full System Assurance Product

Review, and implementation of the cable services have been performed. See your IBM representative for details on these services.

Security, auditability, and control

The IBM zEnterprise BladeCenter Extension uses the security and auditability features and functions of host hardware, host software, and application software.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Global Technology Services

Contact your IBM representative for the list of selected services available in your country, either as standard or customized offerings, for the efficient installation, implementation, and/or integration of this product.

IBM Electronic Services

IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent for problem reporting enables IBM to provide better support and service for your IBM server.

To learn how Electronic Services can work for you, visit

<http://www.ibm.com/support/electronic>

Terms and conditions

Warranty period

This feature assumes the same warranty or maintenance terms as the machine in which it is installed for the remainder of the warranty or maintenance period for such machine.

zBX provides increased service over normal blades with the following characteristics:

- IBM intends to deliver the enhanced System z model of service and support for all IBM blade products that are supported for use in the zBX. The enhanced service and support for System x blades is intended to be available when the blades are installed in a zBX and activated via their unique System z enablement

feature code. This service model includes 24x7 on-site support, including FRU replacement by the client's local Service Support Representative (SSR), during the zBX's warranty period. As such, a customer who installs supported IBM blades and acquires the requisite feature code on the zBX will receive the benefits of the zBX warranty service. This practice will not apply if the blade has been removed from the zBX when a warranty service claim is submitted.

- Warranty service upgrades and post-warranty IBM maintenance contracts should not be purchased by customers when ordering an IBM blade for installation in a zBX since System z is providing the higher level of service for blades while they are installed in a zBX.

Pricing

For all local charges, contact your IBM representative.

Announcement countries

All European, Middle Eastern, and African countries.

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