IBM WebSphere DataPower appliances optimize the delivery of security, integration, and business-to-business workloads

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At a glance

The next generation of WebSphere® DataPower® appliances are specialized, high-performance hardware appliances that can empower you to:

- Improve competitiveness by helping to strengthen business connectivity with partners and customers, and between internal organizations
- Add specialized connectivity, integration, and security processing to your application infrastructure
- Streamline seemingly complex but highly valuable service-oriented architecture (SOA), XML, business-to-business (B2B), and Web 2.0 applications with specialized, low-total-cost-of-ownership, drop-in appliances
- Load balance service requests across your existing application infrastructure
- Leverage IBM® z/OS® infrastructure as part of your SOA and Web 2.0 enterprise
- Shorten deployment times when using DataPower configuration-driven simplicity
- Accelerate protocol mediation, message distribution, and web services processing with dedicated, high-performance capabilities
- Assist in governing ever-valuable application infrastructure by adopting standardized runtime control and enforcement points through DataPower

WebSphere DataPower B2B Appliance XB62 helps empower you to:

- Provide unparalleled performance for B2B transactions
- Reduce IT costs with simplified deployment, configuration, and maintenance
- Connect quickly to your trading partners
- Support B2B governance and security in the DMZ
- Combine B2B gateway, transformation, and connectivity functions in a single device
- Enhance XML-level protection and web service access control
- Accelerate EDI, XML, and web services processing and expedite B2B deployments
- Eliminate overhead and disruption to existing IT infrastructure

Overview

WebSphere DataPower appliances help simplify, govern, and optimize the delivery of services and applications by providing security, connectivity, gateway, data transformation, protocol bridging, and intelligent load distribution functions. By
offering an innovative, pragmatic approach to security, integration, and intelligent application delivery as purpose-built, easy-to-consume, and easy-to-use products, WebSphere DataPower appliances can help you leverage the value of your existing infrastructure investments and help reduce the total cost of ownership for security, integration, Web 2.0, and web services projects.

WebSphere DataPower Appliances deliver common message transformation, integration, and routing functions in a network device, helping to cut operational costs, reduce complexity, and improve performance. By making on demand data integration part of the shared application infrastructure, DataPower appliances are designed to be a game-changing approach for application integration and security. This latest generation of purpose-built hardware appliances includes increased capacity, flexibility, performance, and serviceability as compared to its predecessors.

The newest additions to the WebSphere DataPower appliance family include:

- IBM WebSphere DataPower Integration Appliance XI52
- IBM WebSphere DataPower B2B Appliance XB62

Features and capabilities include:

**New hardware form-factor**

- 2U high-density rackmount design
- Two network I/O modules for increased flexibility and serviceability (eight 1 Gb and two 10 Gb ports)
- Latest-generation hardware technology that can increase performance and capacity
- Increased serviceability with multiple field-replaceable parts
- Customized intrusion detection handling
- Enhanced LEDs for different hardware components, which provide user feedback
- New hardware diagnostic tool to help identify hardware problems

**Multiple security mechanisms**

Supports multiple authentication and authorization mechanisms

- WS-Security, WS-Security Policy, and Extensible Access Control Markup Language (XACML)
- SAML 1.0, 1.1, and 2.0
- XML digital signature and encryption
- Integration with Tivoli® Access Manager (requires Option for Tivoli Access Manager)
- Full support for WS-Proxy validation of Message Transmission Optimization Mechanism (MTOM)-based SOAP messages
- Increased WS-Security interoperability with WebSphere Application Server and Microsoft® WCF framework

**Data transformation and validation**

- Native XML Schema and WSDL validation
- XSLT-based transformations
- Any-to-any transformations (requires WebSphere Transformation Extender Design Studio)

**Interoperability**

- Flexible subscription support for service metadata stored in external repositories such as WebSphere Service Registry and Repository (WSRR)
- Support for WS-Policy attachments authored within WSRR
- Local mode support when integrating with Tivoli Access Manager
• Full support for WS-Proxy validation of MTOM-based SOAP messages
• Increased WS-Security interoperability with WebSphere Application Server
• Integration with WebSphere Integration Developer for the development and deployment of XSLT transformations
• Improved integration with WebSphere Transformation Extender
• Integration with WebSphere Application Accelerator for Public Networks for optimal delivery of web and Web 2.0 applications across the public Internet

Broad connectivity
• HTTP / HTTPS support (including SSL termination)
• Supports WebSphere MQ 7 software-based high availability
• Supports WebSphere MQ Channel exits for increased security
• Secure File Transfer Protocol (SFTP) client and polling support
• Improved transactional integrity with IMS™ Connect
• FTP and FTPS support
• Database connectivity (required Option for Database Connectivity)
• WebSphere Java™ Messaging Service
• Tibco Enterprise Message Service (requires Option for Tibco Enterprise Message Service)

Business to business (XB62 only)
• Support for AS1, AS2, AS3, and ebMS
• Trading partner management
• Support for HL7 (requires WebSphere Transformation Extender Pack for HL7)

Enhanced manageability
• Simplified backup and restore process
• Java-based appliance management API with support for Jython

Enhanced intelligent load distribution (requires Option for Application Optimization)
• Ability to distribute load across multiple appliances without the need for an external load balancer.
• Ability to intelligently load balance to back-end servers based on metadata from application servers.
• Integration with IBM z/OS Communications Server Sysplex Distributor, which can balance workload to DataPower appliances.
• Support for interruption-free back-end application upgrades through support for application edition management. New editions of an application can be rolled out using either group or atomic updates.

Key prerequisites
• Network interface and network cable
• Network information (IP address, DNS, and Gateway)
• Computer and console with serial port, keyboard, and mouse
• Power requirements per country specifications

Planned availability date

June 10, 2011
WebSphere DataPower Integration Appliance XI52
WebSphere DataPower B2B Appliance XB62

Availability of programs with an encryption algorithm in France is subject to French government approval.

Description

The next generation of WebSphere DataPower Appliances is available:

- WebSphere DataPower Integration Appliance XI52
- WebSphere DataPower B2B Appliance XB62

**WebSphere DataPower Integration Appliance XI52 highlights**

- Any-to-any data transformation between a wide range of data formats, including wire-speed XML transformation, text, binary, COBOL copybooks, industry standards, and custom formats
- Sophisticated multistage pipeline processing and content-based message routing
- Optimized bridging between wire-line messaging protocols, including MQ, WebSphere JMS, third-party JMS, FTP, and HTTP
- Data validation, field-level security, web services management, and access control
- Direct-to-database access, including DB2®, Oracle, and Sybase

WebSphere DataPower Integration Appliance XI52 can connect natively to a DB2 V9 database, running on a range of platforms including z/OS. WebSphere DataPower Integration Appliance XI52 can use the XML capabilities built into DB2 V9 to:

- Insert XML text directly into the database
- Modify XML text stored in the database
- Query XML data using XQuery and SQL
- Retrieve XML data

WebSphere DataPower Integration Appliance XI52 is a complete, purpose-built hardware platform for delivering highly manageable, security-enhanced, and scalable SOA solutions. As specialized SOA hardware, the XI52 provides, in a single hardened device, many core functions to applications, deployments such as service level management, routing, data and policy transformations, policy enforcement, and access control. Additional advantages of a hardware appliance in the network layer include the ability to perform more security and structural checks without performance degradation.

There are numerous opportunities to take advantage of the XI52 Enterprise Service Bus (ESB) capabilities, legacy enablement, and integration features, and the capacity to improve web services management and governance. Some sample use cases for the XI52 include:

- Drop-in integration for heterogeneous environments: As a core offering in the IBM ESB product portfolio, the XI52 is a purpose-built hardware ESB for simplified deployment and hardened security with the ability to quickly transform data between a wide variety of formats, including XML, legacy, industry standards, and custom formats. The XI52 provides core ESB functionality, including routing, bridging, transformation, and event handling. The XI52 provides a reliable, performance-oriented solution to many integration challenges. Because it is not limited to handling just XML, the XI52 resonates with IT organizations that need to benefit from the connectivity of SOA deployments but must also deal with their current reality of managing multiple proprietary, industry, company-specific, or legacy data formats. The XI52 is a true drop-in integration point for such environments, helping to reduce the time and cost of integrations, and speed the time-to-market for services.
• Innovative XML and web services enablement of legacy infrastructure: For accelerated, security-rich integration capabilities, the XI52 provides transport mediation, routing, and transformations among binary, text, and XML message formats. Visual tools can be used to describe data formats, create mappings between different formats, and define message flows. With native connectivity to IBM DB2 and IBM System z®, the XI52 offers an innovative solution for security-rich XML enablement of legacy systems, as well as mainframe connectivity.

• Policy-driven approach to web services management and governance: By centralizing web services management tasks and policy enforcement and decoupling them from applications, your SOA infrastructure increases in flexibility and scalability while simultaneously offering you improved insight, visibility, and control. Moving functions such as access control, web services management, security, and policy enforcement onto the XI52 means that IT architects, operations, security, and business personnel can decouple these functions from the core business applications, simplifying development, deployment, and manageability.

• Integration with registry and repository, security, identity, and service management software: The XI52 integrates with a variety of registry and repository, security, identity, and service management software applications. Coupled with access control software such as IBM Tivoli Access Manager, the XI52 enforces fine-grained access controls. Working with the IBM Tivoli Federated Identity Manager, the XI52 provides federated Web services identity, and policy management between organizations and enterprises. Integrated with IBM Tivoli Composite Application Manager for SOA, the XI52 monitors web service and SOA traffic flows for end-to-end service management and dashboard monitoring. Using a registry and repository such as WebSphere Registry and Repository can help you discover and reuse services and configure new services for DataPower policy and security enforcement. The combination of these applications and the robust XI52 security features provides the comprehensive capabilities for SOA security and web services management that enterprises increasingly require.

• Advanced web services standards support and interoperability: IBM recognizes that SOA must address integration of heterogeneous environments within and outside enterprises. The WebSphere DataPower Appliance portfolio has a long-standing history of support for key and advanced standards, including WS-Security, WS-Policy, WS-ReliableMessaging, Simple Object Access Protocol (SOAP), Web Services Distributed Management (WSDM), WS-I Profiles, WS-Addressing, eXtensible Access Control Markup Language (XACML), Security Assertion Markup Language (SAML), Secure Sockets Layer (SSL), and proprietary single sign-on (SSO) tokens. Additional third-party interoperability capabilities include Universal Description, Discovery, and Integration (UDDI) registries, and such databases as Oracle and Sybase.

• Integration across the IBM SOA Foundation for Smart SOA deployments: The XI52 has broad and deep integration across the IBM SOA foundation. Integration with popular integrated development environments such as the IBM Rational® portfolio helps reduce the time you spend in development and debugging. In addition to interoperability, the XI50 also features deep integration with products such as WebSphere MQ, WebSphere Enterprise Service Bus, WebSphere Message Broker, and DB2 to help process SOA transactions in a faster, more secure, and simplified way. Additionally, the XI52 enables you to take advantage of the IBM autonomic computing self-management capabilities, creating infrastructures that require minimal intervention, which helps lower cost of ownership and improves service availability.

The **WebSphere DataPower B2B Appliance XB62** builds upon the functionality in the XI52 to extend application integration beyond the enterprise by supporting the following B2B functionality:

• EDIINT AS1, AS2, AS3, and ebMS v2.0
• EDI, XML, and Binary Payload routing and transformation
• Partner Profile Management
• Plain text email support
• Encrypted B2B payload persistence
• Hard Drive Archive/Purge policy
• Certificate Management (S/MIME Security)
• Multi-step processing policy
• Transaction viewing and event and acknowledgement correlation
• Transaction resend/replay capabilities

The WebSphere DataPower B2B Appliance XB62 is a purpose-built, easy-to-use appliance designed for simplified deployment, exceptional performance, and hardened security at the edge of the enterprise. The XB62 incorporates and builds upon the DataPower Integration Appliance, adding B2B functions that can extend integration beyond the enterprise. This appliance is built to provide a high-performance and security-enhanced B2B gateway for virtually all trading partner connections and to use trading partner configuration and document policy processing in the DMZ to provide secure B2B transaction handling at the edge of the network, protecting your private network from unreliable data.

Some sample use cases for the XB62 include:

• Rapidly connect to trading partner for exchanging B2B documents:
  IBM understands mission-critical information can be difficult to share across internal or external boundaries in a secure manner with trading partners. The WebSphere DataPower B2B Appliance XB62 combines the drop-in convenience of standards-based B2B, with the DMZ-grade hardware security and extreme performance needed to securely extend your business to customers and partners. The XB62 centralized, consolidated, and secure B2B trading partner and transaction management capabilities result in fast and reliable on-boarding of new partners and customers.

  Many B2B messaging standards available provide nonrepudiation of origin and receipt and data security for the exchange of data over a public network. The XB62 supports a wide variety of standards, including EDIINT AS1, AS2, AS3, and ebMS, that can be used in the B2B Gateway Service to support your most demanding B2B integration requirements. As more industries increasingly require AS2 for their partner communications, the XB62’s Drummond AS2 certification ensures maximum interoperability for exchanging AS2 data. The XB62 also provides very robust protocol-bridging capabilities that allow you to quickly and seamlessly bridge B2B messaging protocols to standard application layer protocols like HTTP(S), FTP(S), SFTP, MQ, and NFS.

• Bridge the gap between internal integration and external integration: IBM recognizes the convergence between B2B Integration (external integration) and Application Integration (internal integration) and understands that some integration functions are needed at the edge of the network to support complex B2B flows and to provide greater flexibility for file processing and routing. The XB62 provides the same integration capabilities as our integration appliance, allowing you to easily and seamlessly bridge external integration and internal integration flows between the DMZ and the protected network. A typical deployment pattern consists of an XB62 in the DMZ handling connectivity to trading partners and B2B integration passing data to an XI52 in the protected network handling all internal ESB functions.

Optional features

Option for Tivoli Access Manager (XI52 and XB62) enables IBM WebSphere DataPower XML Security Gateway XS40 and Integration Appliance XI50 to leverage access control policies stored in Tivoli Access Manager.

Option for TIBCO EMS (XI52 and XB62) lets you extend IBM WebSphere DataPower Integration Appliance XI52 and XB62 so you can send and receive messages from TIBCO Enterprise Message Service (EMS).

Option for Database Connectivity (XI52) lets you extend the WebSphere DataPower Integration Appliance XI52 to read and write data from relational databases such as IBM DB2, Oracle, Sybase, and Microsoft SQL Server.
Option for Application Optimization (XI52) lets you extend the WebSphere DataPower Integration Appliance XI52 with application load balancing capabilities.

Statement of general direction

IBM plans to keep introducing WebSphere DataPower appliances in form factors similar to those currently in the market, including a 1U form factor.

IBM statements regarding plans, directions, and intent are subject to change or withdrawal without notice at IBM discretion. Information regarding potential future products is intended to outline our general product direction and it should not be relied on in making purchasing decisions. 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

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<tr>
<th>Description</th>
<th>Machine type</th>
<th>Model</th>
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<tr>
<td>IBM WebSphere DataPower Integration Appliance XI52</td>
<td>7199</td>
<td>42X</td>
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<td>IBM WebSphere DataPower B2B Appliance XB62</td>
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Features

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<td>Cryptographic Accelerator card</td>
<td>7199</td>
<td>42X, 62X</td>
<td>7312</td>
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<tr>
<td>Ethernet Module - 8 ports</td>
<td>7199</td>
<td>42X, 62X</td>
<td>7108</td>
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<td>1 Gigabit/second UTP</td>
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<td>42X, 62X</td>
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<tr>
<td>Ethernet Module - 2 ports</td>
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<td>WebSphere DataPower Option for Application Optimization</td>
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Specify features

Two power cords are shipped with each machine because the IBM DataPower 7199 contains two power supplies. These features are available for the new 7199 models 42X and 62X.

<table>
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Education support

Contact your IBM representative for course information.

Publications

Documentation for WebSphere DataPower Appliances is available at the product documentation site


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


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

**Technical information**

**Specified operating environment**

**Physical specifications**
- Height: 8.89 cm (3.5 in)
- Width: 43.8 cm (17.25 in)
- Depth: 58.4 cm (23 in)
- Weight: 21 kg (46.2 lb)

The IBM 7199 WebSphere DataPower Appliances must be installed in an EIA-310-D 48.3 cm (19-in) rack with at least 71.1 cm (28 in) of depth (from rail flange to flange).

To assure installability and serviceability in non-IBM industry-standard racks, review the installation planning information for any product-specific installation requirements.

**Standards**
- Russia/GOST ME01, IEC-60950-1, GOST R 51318.22-99, GOST R 51318.24-99, GOST R 51317.3.2-2006, GOST R 51317.3.3-99
- IEC 60950-1 (CB Certificate and CB Test Report)
- CE Mark (EN55022:1998 Class A, EN60950-1, EN55024, EN61000-3-2, and EN61000-3-3)
- CISPR 22, Class A
- TUV-GS (EN60950-1, IEC60950-1, EK1-ITB2000)

**Operating environment**
- Temperature
  - 10° to 35° C (50° to 95° F) at 0 to 914 m (0 to 3,000 ft)
  - 10° to 32° C (50° to 90° F) at 914 to 2,133 m (3,000 to 7,000 ft)
- Powered off: 10° to 43° C (50° to 109.4° F), maximum altitude: 2,133.6 m (7,000 ft)
- Relative humidity: 8% to 80%
Shipping environment

- Temperature: -40° to 60° C (-40° to 140° F)
- Relative humidity: 8% to 80%

Electrical power

100 to 127 or 200 to 240 V ac at 50 Hz or 60 Hz

Power usage:
- 10 A for 120 V ac
- 5 A for 220 V ac

The 7199 appliance contains two 720-watt power modules that operate at 100 to 127 V ac or 200 to 240 V ac at 50 or 60 Hz. Both power supply modules must be connected to the same power source to prevent ground voltage potential difference between the two power modules.

Planning information

Customer responsibilities

This product is designated for customer setup. Customer setup instructions are shipped with the product.

Cable orders

Each 7199 appliance contains one 2x10 GbE and one 8x1 GbE connection. The RJ-45 connectors provide a 10/100/1000 Base-T interface (either at half-duplex or full-duplex) for connecting twisted-pair cable to the Ethernet network. Cabling is not included with the appliance.

To connect the Ethernet interface to a repeater or switch, use an unshielded twisted pair (UTP) cable with RJ-45 connectors at both ends.

- For 100 Mbps or higher operation, Category 5 cabling must be used.
- For 10 Mbps operation, Category 3, or better cabling, must be used.

The provided SFP+ connectors allow for three options:

- 10GBASE-SR transceivers (for 300 m multimode fiber)
- 10GBASE-LR transceivers (for 10 km singlemode fiber)
- 10GBASE-Cu direct attach twinaxial cables, up to 10 m

Each 7199 appliance contains a single RS-232c serial port connection. The RJ45 connector provides a 9600 baud asynchronous serial interface for connecting a serial cable to a console terminal (typically a terminal emulator running on an IBM PC). A 6-foot-long "NULL modem" cable, with one RJ45 connector and one female DB-9 connector, is provided with the appliance for this purpose. The terminal serial parameters should be set to 9600 baud, no parity, 1 stop bit, XON/XOFF handshaking.

Installability

Each 7199 series appliance requires approximately 30 minutes for installation. Installation includes unpacking, rack-mounting, connecting network and console cables, and powering on the system. Additional time is required to configure the software.

Packaging

The WebSphere DataPower Appliance is shipped in a single package.

- Single pack dimensions: 89 x 63 x 28 cm (35 x 24.8 x 11 in)
• Single pack weight: 26 kg (57.2 lb)

The 7199 series appliance carton contains:

• 7199 series appliance (model specific)
• Two power cords
• Installation Guide
• Quick Start Guide
• Safety Pointer sheet
• Doc Browser CD-ROM
• Resource CD (model specific)
• Warranty flyer
• Console serial cable
• Rack-mount kit, including two rack power cords

Security, auditability, and control

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, or integration of this product.

Terms and conditions

Warranty period

WebSphere DataPower Appliances - One year.

An IBM part or feature installed during the initial installation of an IBM machine is subject to a full warranty effective on the date of installation of the machine. An IBM part or feature that replaces a previously installed part or feature assumes the remainder of the warranty period for the replaced part or feature. An IBM part or feature added to a machine without replacing a previously installed part or feature is subject to a full warranty effective on its date of installation. Unless specified otherwise, the warranty period, type of warranty service, and service level of a part or feature is the same as the machine in which it is installed.

Warranty service

If required, IBM provides repair or exchange service depending on the types of warranty service specified for the machine. IBM will attempt to resolve your problem over the telephone, or electronically via an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines on-site service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts. If applicable to your product, parts considered Customer Replaceable Units (CRUs) will be provided as part of the machine’s standard warranty service.

Service levels are response-time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations. Additional charges may apply outside the normal IBM service area. Contact your local IBM representative or your reseller for country- and location-specific information.
**CRU Service**

IBM provides replacement CRUs to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM upon your request. CRUs are designated as being either a Tier 1 (mandatory) or a Tier 2 (optional) CRU.

**Tier 1 (mandatory) CRU**

Installation of Tier 1 CRUs, as specified in this announcement, is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation.

**Tier 2 (optional) CRU**

You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge.

Based upon availability, CRUs will be shipped for next-business-day (NBD) delivery. IBM specifies, in the materials shipped with a replacement CRU, whether a defective CRU must be returned to IBM. When return is required, return instructions and a container are shipped with the replacement CRU. You may be charged for the replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

The following parts have been designated as Tier 1 CRUs:

- Hard disk drive
- Fan
- Ethernet modules
- Power cord
- Power supply
- Network modules
- Rack mounting kit

**CRU and On-site Service**

At IBM's discretion, you will receive specified CRU service, or IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose.

Service level is:

- Nine hours per day, Monday through Friday, excluding public or national holidays, next-business-day (NBD) response. Calls must be received by 15:00 local time in order to qualify for next-business-day response.
- Twenty-four hours per day, 7 days a week, 6-hour average, same-day response. Same-day service level includes the installation of Tier 1 CRUs at no additional charge.

**CRU and Courier or Depot Service**

At IBM's discretion, you will receive specified CRU service, or you will disconnect the failing machine for collection arranged by IBM. IBM will provide you with a shipping container for you to return your machine to a designated service center. A courier will pick up your machine and deliver it to the designated service center. Following its repair or exchange, IBM will arrange the return delivery of the machine to your location. You are responsible for its installation and verification.

Service level is Courier Repair, fourth business day turnaround time, 9 hours per day, Monday through Friday, excluding public or national holidays.
**CRU and Customer Carry-In or Mail-In Service**

At IBM's discretion, you will receive specified CRU service, or you will deliver or mail, as IBM specifies (prepaid unless IBM specifies otherwise), the failing machine suitably packaged to a location IBM designates. After IBM has repaired or exchanged the machine, IBM will make it available for your collection or, for mail-in service, IBM will return it to you at IBM's expense, unless IBM specifies otherwise. You are responsible for the subsequent installation and verification of the machine.

The service level is:

- **Customer Carry-in Repair**, fourth business day turnaround time, 9 hours per day, Monday through Friday, excluding public or national holidays
- **Courier Exchange**, NBD response time, latest call registration 15:00, 9 hours per day, Monday through Friday, excluding public or national holidays
  or
- **Customer Exchange**, NBD parts arrival time, call registration 15:00, 9 hours per day, Monday through Friday, excluding public or national holidays

**Additional reference for Europe**

For additional info, refer to the *European HW Operations Guide and Service Level Description Table* available at

http://www.ibm.com/services/europe/maintenance/

**CRU and Machine Exchange Service**

At IBM's discretion, you will receive specified CRU service, or IBM will initiate shipment of a replacement machine to your location. You are responsible for its installation and verification of operation. You must pack the failed machine into the shipping container that contained the replacement machine and return the failed machine to IBM. Transportation charges, both ways, are paid by IBM. You may be charged for the replacement machine if IBM does not receive the failed machine within 15 days of your receipt of the replacement.

**Non-IBM parts service**

**Warranty service**

IBM is now shipping machines with selected non-IBM parts that contain an IBM field-replaceable unit (FRU) part number label. These parts are to be serviced during the IBM machine warranty period. IBM is covering the service on these selected non-IBM parts as an accommodation to their customers, and normal warranty service procedures for the IBM machine apply.

**Warranty service upgrades**

During the warranty period, warranty service upgrades provide an enhanced level of On-site Service for an additional charge. Service levels are response-time objectives and are not guaranteed. See the Warranty service section for additional details.

IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines on-site service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts.
Maintenance service options

**CRU and On-site Service**

At IBM's discretion, you will receive CRU service or IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose. The following on-site response-time objectives are available as warranty service upgrades for your machine. Available offerings are:

- Nine hours per day, Monday through Friday, excluding public or national holidays, same-business-day response. Calls must be received by noon local time in order to qualify for same-business-day response.
- Eighteen hours per day, Monday through Saturday, excluding public or national holidays, same-business-day response. Calls must be received by 18:00 local time in order to qualify for same-business-day response.
- Twenty-four hours per day, 7 days a week, 6-hour average, same-day response.

ESA and SSU customers: 2-hour coverage extension at no additional charge, 9 hours per day, Monday through Friday, excluding holidays, same-business-day response. Calls must be received by noon local time in order to qualify for same-business-day response.

Customer Replaceable Units (CRUs) may be provided as part of the machine's standard warranty CRU Service except that you may install a CRU yourself or request IBM installation, at no additional charge, under the CRU and On-site Service level specified above. For additional information on the CRU Service, see the warranty information.

**Maintenance services**

If required, IBM provides repair or exchange service depending on the types of maintenance service specified for the machine. IBM will attempt to resolve your problem over the telephone or electronically, via an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines on-site service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts.

Service levels are response-time objectives and are not guaranteed. The specified level of maintenance service may not be available in all worldwide locations. Additional charges may apply outside the normal IBM service area. Contact your local IBM representative or your reseller for country- and location-specific information. The following service selections are available as maintenance options for your machine type.

**On-site Service**

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose.

Service levels are:

- Nine hours per day, Monday through Friday, excluding public or national holidays, NBD response. Calls must be received by 15:00 local time in order to qualify for NBD response.
- Nine hours per day, Monday through Friday, excluding public or national holidays, same-business-day response. Calls must be received by noon local time in order to qualify for same-business-day response.
- Eighteen hours per day, Monday through Saturday, excluding public or national holidays, same-business-day response. Calls must be received by 18:00 local time in order to qualify for same-business-day response.
• Twenty-four hours per day, 7 days a week, 6-hour average, same-day response.
• ESA and SSU customers: 2-hour coverage extension at no additional charge, 9 hours per day, Monday through Friday, excluding holidays, next-business-day response. Calls must be received by 15:00 local time in order to qualify for next-business-day response.

**Customer Replaceable Unit (CRU) Service**

If your problem can be resolved with a CRU (for example, keyboard, mouse, speaker, memory, or hard disk drive), and depending upon the maintenance service offerings in your geography, IBM will ship the replacement CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM upon your request.

Based upon availability, CRUs will be shipped for NBD delivery. IBM specifies, in the materials shipped with a replacement CRU, whether a defective CRU must be returned to IBM. When return is required, 1) return instructions and a container are shipped with the replacement CRU, and 2) you may be charged for the replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

CRUs are designated as being either a Tier 1 (mandatory) or a Tier 2 (optional) CRU.

Tier 1 (mandatory) CRUs: Installation of Tier 1 CRUs, as specified in this announcement, is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation.

For machines with On-site Same-day Response Service, IBM will replace a Tier 1 CRU part at your request, at no additional charge.

Tier 2 (optional) CRUs: You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge.

The following parts and features have been designated as Tier 1 CRUs:

- Hard disk drive
- Fan
- Ethernet modules
- Power cord
- Network modules
- Power supply
- Rack mounting kit

**CRU and Courier or Depot Service**

At IBM's discretion you will receive CRU service or you must disconnect the failing machine for collection arranged by IBM. IBM will provide you with a shipping container for you to return your machine to a designated service center. A courier will pick up your machine and deliver it to the designated service center. Following its repair or exchange, IBM will arrange the return delivery of the machine to your location. You are responsible for its installation and verification.

Service level is Courier Repair, fourth business day turnaround time, 9 hours per day, Monday through Friday, excluding public or national holidays.

**CRU and Customer Carry-In or Mail-In Service**

At IBM's discretion, you will receive CRU service or you will deliver or mail, as IBM specifies (prepaid, unless IBM specifies otherwise) the failing machine suitably packaged to a location IBM designates. After IBM has repaired or exchanged the machine, IBM will make it available for your collection or, for mail-in service, IBM will return it to you at IBM's expense, unless IBM specifies otherwise. You are responsible for the subsequent installation and verification of the machine.
Service levels are:

- Customer Carry-in Repair, fourth business day turnaround time, 9 hours per day, Monday through Friday, excluding public or national holidays
- Courier Exchange, NBD response time, latest call registration 15:00, 9 hours per day, Monday through Friday, excluding public or national holidays
- Customer Exchange, NBD parts arrival time, call registration 15:00, 9 hours per day, Monday through Friday, excluding public or national holidays

**Committed Services (CS) for Europe**

For service options with a committed level of service or any other special service option, contact your local business representative.

**Additional reference for Europe**

Refer to the following European documents:

- European Announcement Letter ZS03-0150 for IBM Customer Agreement (ICA)
- European Announcement Letter ZS04-0135 for Enterprise Agreement Contract
- European Announcement Letter ZS98-0118 for ServiceSuite™ Contract

**CRU and Machine Exchange Service**

At IBM's discretion, you will receive CRU service or IBM will initiate shipment of a replacement machine to your location. You are responsible for its installation and verification of operation. You must pack the failed machine into the shipping container that contained the replacement machine and return the failed machine to IBM. Transportation charges, both ways, are paid by IBM. You may be charged for the replacement machine if IBM does not receive the failed machine within 15 days of your receipt of the replacement.

**Non-IBM parts service**

Under certain conditions, IBM provides services for selected non-IBM parts at no additional charge for machines that are covered under warranty service upgrades or maintenance services.

This service includes hardware problem determination (PD) on the non-IBM parts (for example, adapter cards, PCMCIA cards, disk drives, memory) installed within IBM machines and provides the labor to replace the failing parts at no additional charge.

If IBM has a Technical Service Agreement with the manufacturer of the failing part, or if the failing part is an accommodations part (a part with an IBM FRU label), IBM may also source and replace the failing part at no additional charge. For all other non-IBM parts, customers are responsible for sourcing the parts. Installation labor is provided at no additional charge, if the machine is covered under a warranty service upgrade or a maintenance service.

**Warranty service upgrades**

**Usage plan machine**

No

**IBM hourly service rate classification**

Not applicable
When a type of service involves the exchange of a machine part, the replacement may not be new, but will be in good working order.

**Maintenance service offerings**
Support for WebSphere DataPower Appliances is available via Support Registration.
Consult your IBM representative for details.

**Field-installable features**
No

**Model conversions**
No

**Machine installation**
Customer setup. Customers are responsible for installation according to the instructions IBM provides with the machine.

**Graduated program license charges apply**
No

**Licensed internal code and licensed machine code**
This product does not contain Licensed Internal Code or Licensed Machine Code.

## Prices
For all local charges, contact your IBM representative.

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Corrections

(Corrected on May 17, 2011)
The Cryptographic Accelerator card feature was added to the Product number section.