



IBM System z enhancements, continuing to manage risk

Table of contents

1	At a glance	7	Publications
1	Overview	8	Services
2	Key prerequisites	8	Technical information
3	Description	11	IBM Electronic Services
5	Product positioning	12	Terms and conditions
7	Product number	12	Pricing
7	Education support		

At a glance

Today's enhancements to the IBM® System z10 Enterprise Class (z10 EC) and IBM System z10 Business Class (z10 BC) servers demonstrate our commitment to the continuing evolution of the IBM mainframe with continued focus on the mainframe's strengths - security, virtualization, availability, and scalability - while helping to control your costs.

- A worldwide port name (WWPN) prediction tool is designed to allow setup of your SAN prior to the delivery and installation of your new System z10 server and get you up and running faster.
- Server Time Protocol (STP) enhancements will deliver system management improvements by saving STP configurations across Power On Resets (PORs) and power outages experienced by your IBM System z10 or System z9® server. Additionally, new z/OS® messages are generated for various hardware events that affect STP. The ability to generate z/OS messages will be supported on IBM System z10 and System z9 with z/OS V1.11 with enabling support rolled back to z/OS V1.10 and V1.9 which is expected by the end of this year.
- System z® fulfills its hardware directions regarding 12x InfiniBand coupling links as stated in Hardware Announcement [108-154](#), dated February 26, 2008, and Hardware Announcement [108-754](#), dated October 21, 2008. System z now supports InfiniBand coupling link attachment between System z10 and System z9 general purpose servers. Previously a System z9 server could attach to System z10 using 12x InfiniBand as a standalone coupling facility server only.
- Memory sizes up to 248 GB will now be available on the z10 BC to support consolidation of distributed servers and adding new workloads such as SAP, Oracle, or Cognos8.
- Capacity Back Up (CBU) enhancements change the allocation of the default number of tests, allow the expiration of existing CBUs to be extended up to five years from date of order, and additional tests can be added individually rather than in increments of five.
- Common Criteria Evaluation Assurance Level 5 (EAL5) certification for z10 EC was received on October 29, 2008. EAL5 certification provides assurances that many different applications running in different operating environments in different logical partitions on one z10 EC will be secure and distinct from each other.
- More cryptographic protection and security with Advanced Encryption Standard (AES) 192 and 256, and support for Longer Personal Account Numbers is now available for the IBM System z9.

For ordering, contact your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: YE001).

Overview

We must move past today's challenges to seize tomorrow's opportunities. It's time to start thinking differently about infrastructure. In this smarter world, we need our infrastructure to propel us forward, not hold us back. A dynamic infrastructure addresses today's challenges and tomorrow's opportunities and enables reduced cost, improved service, and risk management.

IBM System z delivers extreme business value by enabling you to conduct business reliably and securely. It provides a simplified and consolidated dynamic infrastructure for critical core business applications, especially for areas that demand superior quality of IT service, all with very low marginal cost.

Today's enhancements to the IBM System z10 Enterprise Class (z10 EC) and IBM System z10 Business Class (z10 BC) servers demonstrate our commitment to the continuing evolution of the IBM mainframe. They offer continued focus on the mainframe's strengths: security, virtualization, availability, and scalability.

Preplanning for your Storage Area Network (SAN): A new worldwide port name (WWPN) tool provides advance SAN preplanning so you are ready before your new IBM System z10 server arrives.

Server Time Protocol: Enhancements will deliver improved installation, problem determination, and problem correction on your IBM System z10 and System z9.

Fulfillment of hardware directions regarding InfiniBand coupling links: System z now supports 12x InfiniBand coupling link attachment between System z10 and System z9 general purpose (no longer limited to standalone coupling facility) servers as stated in Hardware Announcement [108-154](#), dated February 26, 2008, and Hardware Announcement [108-754](#), dated October 21, 2008.

Capacity Back Up (CBU): Enhancements change the allocation of the default number of test activations, allowing the expiration of existing CBU to be extended up to no more than five years from date of order, and offer additional CBU tests in single units.

IBM System z10 BC memory increase: Additional memory features up to 248 GB will be available earlier than the June 2009 date originally stated in Hardware Announcement [108-754](#), dated October 21, 2008.

EAL5 Certification for the z10 Enterprise Class Server: The IBM z10 EC received Common Criteria Evaluation Assurance Level 5 (EAL5) on October 29, 2008.

Cryptography Enhancements on System z9: More protection and security options are now available with Advanced Encryption Standard (AES) 192 and 256, and support for Longer Personal Account Numbers for stronger data protection on Crypto Express2 and Crypto Express2-1P.

The future does run on System z, and today's enhancements deliver improved security and connectivity.

Key prerequisites

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

Planned availability dates

New build and MES functions and features available May 29, 2009:

- WWPN prediction tool on z10
- STP configuration and time information saved across Power on Resets (POR) or power outages for two servers on z10 and z9tm
- Alignment of quantity of CBU test activations with the number of CBU years assigned to the CBU record on z10
- Extension of the expiration date of CBU records by up to five years from date of order on z10
- CBU tests in single quantities on z10
- Up to 248 GB memory available on z10 BC

Crypto Express2 functions for z9 made available on March 31, 2009:

- Secure Key AES
- Support for 13- through 19-digit Personal Account Numbers

Description

Preplanning and setup of SAN for FCP environment on System z10

A worldwide port name (WWPN) prediction tool is now available to assist you with preplanning of your Storage Area Network (SAN) environment prior to the installation of your IBM System z10 server.

This standalone tool is designed to allow you to set up your SAN in advance, so that you can be up and running much faster once the server is installed. The tool assigns WWPNs to each virtual Fibre Channel Protocol (FCP) channel/port using the same WWPN assignment algorithms a system uses when assigning WWPNs for channels utilizing N_Port Identifier Virtualization (NPIV).

The tool needs to know the FCP-specific I/O device definitions in the form of a .csv file. This file can either be created manually, or exported from Hardware Configuration Definition/Hardware Configuration Manager (HCD/HCM). The tool will then create the WWPN assignments, which are required to set up your SAN. The tool will also create a binary configuration file that can be imported later by your system.

The WWPN prediction tool can be downloaded from Resource Link[™] and is applicable to all FICON® channels defined as CHPID type FCP (for communication with SCSI devices) on System z10.

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

Changes to Capacity Back Up (CBU)

The allocation of the default number of test activations is changing with this announcement. Rather than a fixed default number of five test activations for each CBU entitlement record (feature number 6818), the number of test activations per instance of #6818 will coincide with the number of CBU years, #6817, the number of years assigned to the CBU record. This equates to one test activation per year for each CBU entitlement purchased.

On System z10 the CBU entitlement records (#6818) contain an expiration date that is established at the time of order and is dependent upon the quantity of CBU years (#6817). You will now have the capability to extend your CBU entitlements through the purchase of additional CBU years. The number of #6817 per instance of #6818 remains limited to five and fractional years are rounded up to the near whole integer when calculating this limit. For instance, if there are two years and eight months to the expiration date at the time of order, the expiration date can be extended by no more than two additional years. One test activation is provided for each additional CBU year added to the CBU entitlement record.

Additional test activations are now available in quantities of one (#6805) and the number of test activations remains limited at 15 per CBU entitlement record (#6818).

These changes apply only to System z10 and to CBU entitlements purchased through the IBM sales channel or directly from Resource Link.

Increased memory sizes for z10 BC now available

Memory sizes above 120 GB originally announced in Hardware Announcement [108-754](#), dated October 21, 2008, with availability in June 2009 are now available. Four additional features of customer accessible memories - 152 GB (feature number 2420), 184 GB (#2421), 216 GB (#2422), and 248 GB (#2423) - can now be configured on the System z10 BC. Adding any of these features as an upgrade to an existing server would be disruptive.

- Upgrading your server's memory (RAM) may be one of the quickest, most efficient, and most cost-effective ways to boost performance.

- These memory sizes, when used with IFLs, provide a more robust system when consolidating Linux® workload on the System z.
- With reduced-cost memory for new workloads, it makes sense (now is the time) to move older distributed applications to the mainframe.
- The z10 BC offers almost four times as much total server available memory than is offered on the IBM System z9 BC.

Server Time Protocol (STP) enhancements

STP configuration and time information restoration after Power on Reset (PORs) or power outage: This enhancement delivers system management improvements by restoring the STP configuration and time information after PORs or a power failure that affects both servers of a two-server STP-only Coordinated Timing Network (CTN). To enable this function, you must select an option that will assure that no other servers can join the two-server CTN. Previously, if both the Preferred Time Server (PTS) and the Backup Time Server (BTS) experienced a simultaneous power outage (site failure), or both experienced a POR, reinitialization of time and special roles (PTS, BTS, and CTS) was required. With this enhancement you will no longer need to reinitialize the time or reassign the roles for these events.

This function is available on both the System z9 and System z10 servers.

Preview - Improved STP system management with new z/OS messaging: This is a new function planned to generate z/OS messages when various hardware events that affect the External Time Sources (ETS) configured for an STP-only CTN occur. This may improve problem determination and correction times. Previously, the messages were generated only on the Hardware Management Console (HMC).

The ability to generate z/OS messages will be supported on IBM System z10 and System z9 servers with z/OS V1.11 with enabling support rolled back to z/OS V1.10 and V1.9 by the end of 2009.

EAL5 certification for z10 Enterprise Class Server

As of October 29, 2008, IBM System z10 Enterprise Class (z10 EC) joined previous IBM mainframes as the world's only servers with the highest level of hardware security certification, Common Criteria Evaluation Assurance Level 5 (EAL5), for its logical partitions (LPARs).

The EAL5 ranking will give you confidence that you can run many different applications running on different operating systems - such as z/OS, z/VM®, z/VSEtm, z/TPF, and Linux-based applications - containing confidential data - such as payroll, human resources, e-commerce, ERP, and CRM systems - on one z10 EC divided into partitions that keep each application's data secure and distinct from the others. That is, the z10 EC architecture is designed to prevent the flow of information among logical partitions on a single system.

All customers who currently trust their critical business transactions to the IBM mainframe, as well as government agencies who deal with national security issues, will benefit from the privacy certification afforded to z10 EC.

System z9 now supports 12x IB-SDR on general purpose servers

Support for 12x InfiniBand single data rate (12x IB-SDR) has now been expanded on System z9 to include all z9 ECs and all z9 BCs and is no longer restricted to systems where the z9 is a standalone coupling facility.

The 12x InfiniBand coupling links can now be used for connections between any System z10 and System z9 including z9 ECs and z9 BCs with processor units (PUs) defined as a Central Processor (CP), Integrated Facility for Linux (IFL), System z9 Application Assist Processor (zAAP), System z9 Integrated Information Processor (zIIP), or System Assist Processor (SAP).

This fulfills the statements of direction in Hardware Announcement [108-154](#), dated February 26, 2008, and Hardware Announcement [108-754](#), dated October 21, 2008.

Notes:

- The MES addition of the first 12x InfiniBand coupling link feature to a System z9 server will be disruptive. MES addition of 12x InfiniBand features after the first is designed to be concurrent.
- The System z9 HSA Estimation tools on Resource Link should be used to plan for the increase in HSA when the first 12x InfiniBand feature is added to a System z9 server
- IBM does not intend to support 12x InfiniBand coupling links to connect two System z9 servers.
- Long Reach 1x InfiniBand coupling links are exclusive to System z10 and will not be offered on System z9.

Cryptographic enhancements to Crypto Express2 on System z9

Secure Key AES: The Advanced Encryption Standard (AES) is a National Institute of Standards and Technology specification for the encryption of electronic data. It is expected to become the accepted means of encrypting digital information, including financial, telecommunications, and government data. AES is the symmetric algorithm of choice, instead of Data Encryption Standard (DES) or Triple-DES, for the encryption and decryption of data. The AES encryption algorithm is supported with secure (encrypted) keys of 128, 192, and 256 bits.

The secure key approach, similar to what is supported today for DES and TDES, offers the ability to keep the encryption keys protected at all times, including the ability to import and export AES keys, using RSA public key technology.

Support for AES encryption algorithm includes the master key management functions required to load or generate AES master keys, update those keys, and re-encipher key tokens under a new master key.

Secure key AES is exclusive to System z9 and System z10 and is supported by z/OS and z/VM for guest exploitation. Refer to the [Software requirements](#) section.

Support for 13- through 19-digit Personal Account Numbers: Credit card companies sometimes perform card security code computations based on Personal Account Number (PAN) data. Currently, Integrated Cryptographic Service Facility (ICSF) callable services CSNBCSV (VISA CVV Service Verify) and CSNBMSG (VISA CVV Service Generate) are used to verify and to generate a VISA Card Verification Value (CVV) or a MasterCard Verification Code (CVC).

The ICSF callable services currently support 13-, 16-, and 19-digit PANs. To deliver additional flexibility, new keywords PAN-14, PAN-15, PAN-17, and PAN-18 are implemented in the rule array for both CSNBCSV and CSNBMSG to indicate that the PAN data is comprised of 14, 15, 17, or 18 PAN digits, respectively.

Support for 13- through 19-digit PANs is exclusive to System z9 and System z10 is offered by z/OS and z/VM for guest exploitation. Refer to the [Software requirements](#) section.

Accessibility by people with disabilities

A U.S. 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

Section 508 of the U.S. Rehabilitation Act

System z10 servers are capable on delivery, when used in accordance with IBM's associated documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act of 1973, 29 U.S.C. Section 794d, as implemented by 36 C.F.R. Part 1194, provided that any Assistive Technology used with the Product properly interoperates with it.

Product positioning

The future does run on System z. The System z10 design quad-core processor chip represents a revolution in the IBM System z family of products. The new processor chip allows expanded scalability, and when combined with larger memory capacity, faster internal bandwidth, and more subcapacity options. The System z10 EC and System z10 BC are positioned to offer greater

growth for customers and enable consolidation on a new level. Customers of all sizes are able to use the mainframe to run legacy work and should consider using their mainframe to run new applications using hundreds or thousands of virtual servers in a single energy-efficient server.

Enhancements today will enable better risk management. These include a new worldwide port name (WWPN) prediction tool to assist in the preplanning of the SAN environment, a new function in Serve Time Protocol (STP) for saving the STP configuration when there is an outage that affects both servers in a dyad, and the changes necessary to support a new z/OS function designed to generate messages for STP-related hardware events. These new functions will improve installation, problem determination, and error correction time.

Updates to System z10 Parallel Sysplex® coupling connectivity allow attachment between System z10 servers and System z9 general purpose servers (no longer just standalone coupling facilities) using 12X InfiniBand attachment at 3 gigabytes per second (GBps). InfiniBand coupling can provide significantly improved service times compared to ISC-3s for distances up to 150 meters. Remember that System z10 will be the last System z server to support ICB-4.

The z10 BC delivers a midrange server with a new face for midrange enterprise computing. Designed for existing customers or new customers looking for better solutions to improve and leverage IT investments, the server brought new consolidation scale unseen in this space. Today's announcement delivers the extreme memory sizes announced in Hardware Announcement 108-794, (RFA48381) dated October 21, 2008. Almost four times as much total server available memory, up to 248 gigabytes, will now be available. Upgrading the server's memory (RAM) may be one of the quickest, most efficient, and most cost-effective ways to boost performance.

IBM is pleased to announce the System z10 EC received Common Criteria Evaluation Assurance Level 5 (EAL5) certification on October 29, 2008. The EAL5 ranking will give companies confidence that they can run many different applications running on different operating systems on one z10 EC divided into partitions that keep each application's data secure and distinct from each other.

Statement of general direction

The System z10 will be the last server to support connections to the Sysplex Timer® (9037). Servers that require time synchronization, such as to support a base or Parallel Sysplex, will require Server Time Protocol (STP). STP has been available since January 2007 and is offered on the System z10, System z9, and zSeries® 990 and 890 servers.

The System z10 will be the last server to support Dynamic ICF expansion. This is consistent with the Statement of Direction in Hardware Announcement [107-190](#), dated April 18, 2007: "IBM intends to remove the Dynamic ICF expansion function from future System z servers."

The System z10 will be the last server to support ICB-4 links. IBM intends to not offer Integrated Cluster Bus-4 (ICB-4) links on future servers. IBM intends for System z10 to be the last server to support ICB-4 links as originally stated in Hardware Announcement [108-154](#), dated February 26, 2008.

ESCON® channels will be phased out. It is IBM's intent for ESCON channels to be phased out. System z10 EC and System z10 BC will be the last servers to support greater than 240 ESCON channels.

IBM intends to support optional water cooling on future high-end System z servers. This cooling technology will tap into building chilled water that typically exists within the data center for computer room air conditioning systems. External chillers or special water conditioning will typically not be required. Water cooling technology for high-end System z servers will be designed to deliver improved energy efficiency.

IBM intends to support the ability to operate from High Voltage DC power on future System z servers. This will be in addition to the wide range of AC power already supported. A direct HV DC data center power design can improve data center energy efficiency by removing the need for an additional DC to AC inversion step.

All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice. Any reliance on these statements of general direction is at the relying party's sole risk and will not create liability or obligation for IBM.

Product number

Description	Machine type	Model	Feature
System z10 EC	2097	E12 E26 E40 E56 E64	
Additional CBU Test			6805

Description	Machine type	Model	Feature
System z10 BC	2098	E10	
Additional CBU Test			6805

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld® ID and password are required (use IBM ID).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=109-230>

Education support

Visit the following Web site for additional information

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

Call IBM IT Education Services at 800-IBM-TEACH (426-8322) for catalogs, schedules, and enrollments.

Publications

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

Title	Order number
z10 EC System Overview	SA22-1084
z10 BC System Overview	SA22-1085
z9 EC System Overview	SA22-6833
z9 BC System Overview	SA22-1083

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

Title	Order number
z10 EC Installation Manual	GC28-6864
z10 EC Service Guide	GC28-6866
z10 BC Installation Manual	GC28-6874
z10 BC Service Guide	GC28-6878

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

Title	Order number
Capacity on Demand User's Guide	SC28-6871
SCSI IPL - Machine Loader Messages	SC28-6839
System z Functional Matrix	ZSW0-1335

Publications for System z10 can be obtained at Resource Link by accessing the following Web site

<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.

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

Hardware requirements

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

Descriptions of the MCLs are available now through Resource Link

Access Resource Link at

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

Select:

- Fixes, Hardware, Exception Letters
- Click on *System z10 EC* or *System z10 BC*
- Click on *Driver xxx Customer Exception Letter*

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

Peripheral hardware and device attachments

IBM devices previously attached to IBM System z9 and zSeries servers are supported for attachment to System z10 channels, unless otherwise noted. The subject I/O devices must meet ESCON or FICON/FCP architecture requirements to be supported. I/O devices that meet OEMI architecture requirements are supported only using an external converter. Prerequisite Engineering Change Levels may be required. For further detail, contact IBM service personnel.

While the System z10 supports devices as described above, IBM does not commit to provide support or service for an IBM device that has reached its End of Service effective date as announced by IBM.

Note: IBM cannot confirm the accuracy of performance, compatibility, or any other claims related to non-IBM products. Questions regarding the capabilities of non-IBM products should be addressed to the suppliers of those products.

Software requirements

Listed are the operating system minimum versions and releases. Select the releases appropriate to your operating system environments.

Note: Refer to the z/OS, z/VM, z/VSE subsets of the 2094DEVICE, 2096DEVICE, 2097DEVICE, and 2098DEVICE Preventive Service Planning (PSP) bucket prior to installing a System z10 or System z9.

Worldwide port name (WWPN) prediction tool on System z10 (CHPID type FCP) requires at a minimum:

- z/OS V1.8, V1.9, and V1.10 with PTFs
- z/VM V5.2, V5.3, and V5.4 with PTFs

Secure Key AES on System z9 Business Class and System z9 Enterprise Class requires at a minimum:

- z/OS V1.8, z/OS V1.9 or z/OS V1.10 with the Cryptographic Support for z/OS V1R8-V1R10 and z/OS.e V1R8 Web deliverable was made available November 21, 2008
- z/OS V1.7 with the IBM Lifecycle Extension for z/OS V1.7 (5637-A01) and the Cryptographic Support for z/OS V1R8-V1R10 and z/OS.e V1R8 Web deliverable was made available on November 21, 2008
- z/VM V5.3 for guest exploitation

Support for 13- through 19-digit Personal Account Numbers on System z9 Business Class and System z9 Enterprise Class requires at minimum:

- z/OS V1.8, z/OS V1.9 or z/OS V1.10 with the Cryptographic Support for z/OS V1R8-V1R10 and z/OS.e V1R8 Web deliverable was made available on November 21, 2008
- z/OS V1.7 with the IBM Lifecycle Extension for z/OS V1.7 (5637-A01) and the Cryptographic Support for z/OS V1R8-V1R10 and z/OS.e V1R8 Web deliverable was made available on November 21, 2008
- z/VM V5.3 for guest exploitation

Note: The Cryptographic Support for z/OS V1R8-V1R10 and z/OS.e V1R8 Web deliverable may be obtained at

<http://www-03.ibm.com/systems/z/os/zos/downloads/>

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

Fiber optic cable orders

Fiber optic cables for the z10 EC, z10 BC, z9 EC, z990, z9 BC, and z890 are available from IBM Site and Facilities Services.

IBM Site and Facilities Services has a comprehensive set of scalable solutions to address IBM cabling requirements, from product-level to enterprise-level. The IBM Facilities Cabling Services - fiber transport system and the IBM IT Facilities Assessment, Design, and Construction Services - optimized airflow assessment for cabling, offered by IBM Site and Facilities Services, provide services for small, medium, and large enterprises:

- Assessment and planning for IBM Fiber Transport System (FTS) trunking components
- Planning and installation services for individual fiber optic connections

IBM Global Technology Services has the expertise and personnel available to effectively plan and deploy the appropriate cabling with the future in mind. These services may include assessment, planning, consultation, cable selection, installation, and documentation, depending upon the services selected.

These services are designed to be right-sized for your products or the end-to-end enterprise, and to take into consideration the requirements for all of the protocols and media types supported on the System z10, System z9, and zSeries (for example, ESCON, FICON, Coupling Links, OSA) whether the focus is the data center, the Storage Area Network (SAN), the Local Area Network (LAN), or the end-to-end enterprise.

IBM Site and Facilities Services are designed to deliver convenient, packaged services to help reduce the complexity of planning, ordering, and installing fiber optic cables. The appropriate fiber cabling is selected based upon the product requirements and the installed fiber plant.

The services are packaged as follows:

Under **IBM Facilities Cabling Services** there is the option to provide IBM Fiber Transport System (FTS) trunking commodities (fiber optic trunk cables, fiber harnesses, panel-mount boxes) for connecting to the z10 EC, z10 BC, z9 EC, z9 BC, z990, and z890. IBM can reduce the cable clutter and cable bulk under the floor. An analysis of the channel configuration and any existing fiber optic cabling is performed to determine the required FTS trunking commodities. IBM can also help organize the entire enterprise. This option includes enterprise planning, new cables, fiber optic trunking commodities, installation, and documentation.

Under IBM IT Facilities Assessment, Design, and Construction Services there is the option to provide the Optimized Airflow Assessment for Cabling to provide you with a comprehensive review of your existing data center cabling infrastructure. This service provides an expert analysis of the overall cabling design required to help improve data center airflow for optimized cooling, and to facilitate operational efficiency through simplified change management.

See the [Cable orders](#) section of this announcement for more information or contact IBM Global Technology Services for details.

Refer to the services section of Resource Link for further details. Access Resource Link at

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

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 a z10 EC and z10 BC. 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.
 - Use the Physical Channel Identifier (PCHID) report or the report from the Channel Path Identifier (CHPID) Mapping Tool to accurately route all cables.
- All labeling of fiber optic cables with PCHID numbers for proper installation to server.
 - Use the PCHID report or the report from the CHPID Mapping Tool to accurately label all cables.

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

Fiber Quick Connect (FQC), a fiber harness integrated in the z10 EC and z10 BC frame for "quick" connect, is offered as a feature on the z10 EC and z10 BC for connection to ESCON and FICON LX channels.

Cables for ICB links continue to be available as features. Refer to the *Special features* section of the *Sales Manual* on the Web for a list of these features and cables for ICB links

<http://www.ibm.com/common/ssi/OIX.wss>

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.

Security, auditability, and control

The z10 EC and z10 BC use 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.

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

MES discount applicable

No

Field installable feature

Yes

Warranty period

One year

Features assume the same warranty or maintenance terms as the machine in which they are installed for the full warranty or maintenance period announced for such machine.

Customer setup

No

Machine code

Same license terms and conditions as base machine

Pricing

For all local charges, contact your IBM representative.

Description	Mach type	Mod	Feat	MMMC indicat	Init/MES
System z10 EC	2097	E12		X	
		E26		X	
		E40		X	
		E56		X	
		E64		X	

Additional CBU Test 6805 Both

Description	Mach type	Mod	Feat	MMMC indicat	Init/MES
System z10 BC	2098	E10		X	

Additional CBU Test 6805 Both

If field installed on a purchased machine, parts removed or replaced become the property of IBM and must be returned.

Trademarks

z9, Resource Link, z/VSE and Electronic Service Agent are trademarks of IBM Corporation in the United States, other countries, or both.

IBM, System z9, z/OS, System z, FICON, z/VM, Parallel Sysplex, Sysplex Timer, zSeries, ESCON, PartnerWorld and Redbooks are registered trademarks of IBM Corporation in the United States, other countries, or both.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Other company, product, and service names may be trademarks or service marks of others.

Terms of use

IBM products and services which are announced and available in your country can be ordered under the applicable standard agreements, terms, conditions, and prices in effect at the time. IBM reserves the right to modify or withdraw this announcement at any time without notice. This announcement is provided for your information only. Additional terms of use are located at:

<http://www.ibm.com/legal/us/en/>

For the most current information regarding IBM products, consult your IBM representative or reseller, or visit the IBM worldwide contacts page

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