



# IBM z/OS V1.8 – Extending the enterprise-wide role

## Overview

With z/OS® V1.8, IBM extends the value of the flagship mainframe operating system with improvements in core z/OS competencies, including scale, availability, and resource optimization. z/OS V1.8 also extends its enterprise-wide role with enhancements in workload management, application and data serving, and security. In addition, there is increased focus on simplifying z/OS for IT professionals, which can result in many advances in ease of use.

Scalability enhancements are designed to include support for more real memory, GRS support for more concurrent ENQs, continued 31-bit constraint relief, support for large data sets, and more. Availability enhancements are designed to include more options for fast data replication and improved recoverability in a sysplex. Resource optimization advances are designed to include improved I/O priority for tape devices and additional Workload Manager (WLM) processing options for zAAP workloads. z/OS V1.8 also delivers a new z/OS system component, z/OS XML System Services, as well as several other important functions for support of application integration, and industry and de facto standards. This new release provides ease of use enhancements for the IBM Health Checker framework, IBM Configuration Assistant for z/OS Communications Server, and ISPF.

This new release is planned to provide an optimized LDAP directory server, called IBM Tivoli® Directory Server for z/OS, designed to allow greater consolidation of LDAP directories on z/OS. This function is planned to be made available by the first half of 2007. This is planned to enable you to collapse user registries typically used by distributed applications on z/OS, which can help simplify enterprise management and disaster recovery.

The existing Integrated Security Services —LDAP Server will continue be available in V1.8 in addition to the new IBM Tivoli Directory Server for z/OS.

z/OS's enterprise-wide resource management is intended to be improved with more integration and cooperation between z/OS WLM and Enterprise Workload Manager (EWLM). z/OS's enterprise-wide role of being the application and data hub is strengthened with support for new zIIP and zAAP functionality.

## Key prerequisites

z/OS V1.8 runs on the following IBM System z™ servers:

- z9 BC
- z9 EC
- z900
- z990
- z800
- z890

For information about z/OS V1.8 hardware and software prerequisites, refer to *z/OS and z/OS.e Planning for Installation* (GA22-7504), when available.

## Planned availability date

September 29, 2006

## At a glance

z/OS V1.8 is designed to offer:

- Availability enhancements including more options for fast data replication and improved recoverability in a sysplex.
- Increased focus on simplifying z/OS for the new generation of IT professionals with many advances in ease of use.
- Further application integration support and support for industry and de facto standards.
- Simplified enterprise-wide management with improved resource management and advances to allow greater consolidation of distributed LDAP directories on z/OS.
- Continued delivery of IBM's world-class software support service for z/OS, which is available 24 hours a day, every day.

### For ordering, contact:

Your IBM representative, an IBM Business Partner, or the Americas Call Centers at

**800-IBM-CALL**

Reference: LE001

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## Description

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Following is an overview of z/OS V1.8. For a complete view of z/OS V1.8, refer to *z/OS V1R8.0 Introduction and Release Guide* (GA22-7502), available by visiting

[http://publibz.boulder.ibm.com/cgi-bin/bookmgr\\_OS390/BOOKS/E0Z2A118](http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/E0Z2A118)

### Scalability

z/OS V1.8 is designed to extend system limits and continues to support application workload growth. There is support for up to 4 TB of real memory on a single z/OS image. This can allow the use of up to 512 GB of real memory on a single z/OS image on IBM System z9™ EC servers and up to 256 GB on z990 servers. There is also improved support for large-format sequential data sets, increased system-wide and intra-address space limits for Global Resource Serialization (GRS), and improved high-level language support for VSAM data sets with extended addressability.

Specifically, z/OS V1.8 is designed to include:

- Support for up to 4 TB (4,398,046,511,104 bytes) of real memory on a single z/OS image, an increase from the prior maximum of 128 GB. z/OS V1.8 supports up to 512 GB on IBM System z9 EC servers and up to 256 GB on IBM zSeries® z990 servers, an increase from the prior maximum of 128 GB.
- Language Environment® enhancements that provide z/OS XL C/C++ runtime library support for large-format sequential data sets opened using QSAM (noseek in C/C++), removing the constraint of 65535 tracks per volume for sequential data sets.
- Improved middleware scalability with a new programming interface for GRS that is designed to allow authorized programs to set their own concurrent enqueue (ENQ) limits within their address spaces.
- Movement of selected GRS control blocks above the 2 GB bar. This move is expected to provide Global ENQ constraint relief for GRS STAR mode customers.
- PDSE exploitation of 64-bit addressing. These changes are expected to allow many more PDSE members to be open at the same time.
- Language Environment runtime library for z/OS XL C/C++ support for VSAM data sets having the extended addressability attribute.
- Extended DFSMSrmm™ support for managing removable media across the enterprise. In addition, DFSMSrmm is designed to support using a common time and provide support for displaying and setting dates and times in any chosen time zone.
- Support for DASDSM/CVAF Rapid Index Rebuild.
- VARY command capability to process VARY ONLINE commands in parallel, complementing the parallel VARY OFFLINE processing introduced in z/OS V1.7. Parallel VARY processing is designed to decrease elapsed time for commands used to change the status of many devices.

For more information about z/OS V1.8 scalability improvements, refer to the **Scalability** topic in the **Supplemental information** section.

## Application integration

z/OS V1.8 has several important functions intended to deliver further application integration support and support for industry and de facto standards:

- A new system component of z/OS, z/OS XML System Services
- Improvements in Unicode support that conform to the Unicode 4.0 standard needed by middleware to set character sort order
- Improved interoperability between z/OS UNIX® programs and other z/OS programs with enhanced BPXBATCH support for data sets
- Improved cross-platform support with CIM Server and schema upgrades
- A new capability in Language Environment that is designed to provide for tracing transitions between executables compiled using the XPLINK compiler option and non-XPLINK executables. This is expected to help application programmers more easily diagnose the performance bottlenecks that might exist in mixed XPLINK/non-XPLINK applications.
- Other improvements that are all intended to add new capabilities and help extend and tune your applications.

New and enhanced z/OS V1.8 function includes:

- A new system component of z/OS, z/OS XML System Services (z/OS XML), which will be designed to deliver an optimized set of services for parsing XML documents.
- A new LDAP server for z/OS designed to improve performance, scalability, auditability, availability, and ease of use, and to provide stronger affinity to z/OS platform features like Parallel Sysplex®. (IBM plans to make this function available by the first half of 2007.)
- Unicode support for new collation tables needed by middleware applications, with names based on the Unicode Collation Algorithm (UCA), which conforms to the Unicode 4.0 standard.
- BPXBATCH program enhancements allowing STDOUT and STDERR DD statements to specify SYSOUT, partitioned, partitioned data set extended (PDSE), and sequential data sets in addition to z/OS UNIX files. Also, a new STDPARM DD statement is added that supports input from partitioned, partitioned data set extended (PDSE), sequential data set, and z/OS UNIX files. The STDPARM data set supports parameter lists up to 64K bytes in length. When BPXBATCH is called from another program, the maximum size of the parameter list it will process without using STDPARM is increased to 32,754 bytes. Last, data sets specified using the STDENV DD statement may now specify a PDSE. These functions are also available when using the BPXBATSL entry point for BPXBATCH, and are available for z/OS V1.5 and higher with APAR OA11699.
- A new version of the Common Information Model (CIM). This includes the upgrade of the CIM Server Runtime Environment to version 2.5.1 of OpenPegasus from the Open Group, the upgrade of the CIM Schema to 2.9, and additional resource instrumentation.
- RMF™ eServer® OS monitoring Stage 2 for z/OS, including a WBEM profile based on the IETF SLP protocol, supporting CIM indications designed to

enable exploiters using standard CIM client applications to subscribe to asynchronous events, and exposing some additional existing RMF metrics to CIM.

- A new capability to allow you to trace XPLINK/non-XPLINK transitions.
- Program Management Binder Extended Relative Immediate Support to help in reducing the size of load modules and program objects with new options you can specify.
- Support for the flockfile() family of functions in Language Environment. The flockfile(), frylockfile(), funlockfile(), getc\_unlocked(), getchar\_unlocked(), putc\_unlocked(), and putchar\_unlocked() will be implemented in a way intended to comply with their description in the Single UNIX Specification Version 3 (SUSV3) standard.
- XL C/C++ performance and usability enhancements for z/OS V1.8.
- Support for a /etc/inittab file, used to start and restart daemons.
- dbx debugger support for the complex and packed decimal data types used by applications that demand a higher degree of mathematical precision.
- Additional locale support for the Euro currency symbol for countries that have recently joined the European Union. This function is also available with APAR PQ99282 for z/OS V1.4 and higher.
- A number of enhancements to the Software Configuration and Library Manager (SCLM) component of ISPF.

For more information about the application integration extensions and improvements in z/OS V1.8, refer to the **Application integration** topic in the **Supplemental information** section.

## Security

In z/OS V1.8, z/OS continues to deliver industry leadership for security. Improvements that are all intended to help deliver the kind of security-rich environment that has made z/OS an industry leader include:

- RACF® infrastructure for password phrases from 14 to 100 characters in length
- Significant improvements to IdenTrust-certified support for digital certificates, including SCEP and multiple-CA support
- Improvements for tape data set protection using RACF or another external security manager
- Support for the Advanced Encryption Standard (AES) for IPsec

z/OS V1.8 is designed to include:

- z/OS System SSL exploitation of 128-bit AES using the CP Assist Cryptographic Facility (CPACF) on System z9 servers, and support for X.509 V3 certificates using SHA-256 with RSA signatures for SSL and TLS.
- Support for defining Intrusion Detection Services (IDS) policies in a policy agent configuration file as well as an LDAP server. This solution provides an IDS policy solution that is intended to be consistent with other policy types for those installations that do not have an LDAP infrastructure in place or that prefer using configuration files instead of LDAP.

- RACF infrastructure for password phrases from 14 to 100 characters in length, in addition to the current support for passwords. Password phrases allow for an exponentially greater number of possible combinations of characters than do passwords.
- Public Key Infrastructure (PKI) Services support for multiple certificate authorities (CA), including the ability to establish multiple certificate authorities on a single image; and Simple Certificate Enrollment Protocol (SCEP) support.
- New options for securing tape data sets using the System Authorization Facility (SAF), to allow you to define profiles to protect data sets on tape using the DATASET class without the need to activate the TAPEDSN option or the TAPEVOL class, to allow you to specify that all data sets on a tape volume should have common authorization, and to allow you to specify whether users are authorized to overwrite existing files on a tape volume.
- Enhanced encryption capabilities with the support for the Advanced Encryption Standard (AES) algorithm for IP Security with a 128-bit key length.
  - Infoprint® Server documentation has been enhanced to describe how this can be used to encrypt print output between z/OS and distributed printers.
- Support for SAF Identity Tokens.
- RACF support for virtual key rings.

For more information about z/OS V1.8 security improvements, refer to the **Security** topic in the **Supplemental information** section.

## Availability

z/OS, in conjunction with IBM System z servers, continues to help address requirements for high availability. z/OS V1.8 is designed to extend DFSMS fast replication to the data set level on 2105 (Enterprise Storage Server™) and later storage controllers; offer improved recoverability for the z/OS UNIX System Services (z/OS UNIX) Byte Range Lock Manager when a system failure occurs in a sysplex; improve the Coupling Facility Resource Manager (CFRM); provide further improvements to Consoles processing and System Logger; and help make significant improvements in GDPS™ HyperSwap™ and CF duplexing recovery.

In z/OS V1.8, enhancements include:

- Extended DFSMSShsm™ fast replication support to allow for dumping fast replication backup copies to tape and for recovering fast replication backup versions from dump tapes, in addition to the current support for recovering backup versions from DASD target volumes.
- Enhancements to DFSMS fast replication to support data set recovery on 2105 (Enterprise Storage Server) and later disk storage devices.
- New function for the z/OS UNIX byte range lock manager (BRLM), which will be designed to allow applications that use byte-range locking to stay active when a system within the sysplex fails.
- CFRM performance enhancements intended to significantly reduce I/O contention for CFRM couple data sets (CDS) when rebuilding Coupling Facility structures, during Coupling Facility Duplexing establishment and failover, and during connect/disconnect processing. The reduction in I/O

contention is expected to improve recovery time for CF structures, thereby improving availability.

- System Logger support for renaming existing log streams, and additional support designed to allow you to separate logger activity for test and production log streams.
- GDPS/PPRC enhancements designed to help reduce the length and variability of failover recovery times by improving the consistency between secondary copies of data at the recovery site and duplexed structures in the Coupling Facility.
- A new HyperSwap trigger source type, I/O Timeout, designed to act on I/O timeouts detected by the Missing Interrupt Handler (MIH).
- Improved z/OS UNIX System Services latch contention detection.
- In z/OS V1.8, elimination of the single master console and console switch, removing potential points of failure.

For more information about z/OS V1.8 availability improvements, refer to the **Availability** topic in the **Supplemental information** section.

### ***Optimization and management capabilities***

In z/OS V1.8, Communications Server offers additional network and workload balancing improvements by favoring local servers, when possible, to help reduce inter-CEC network traffic. There is also enhanced Workload Manager (WLM) processing for zAAP workloads, improved I/O priority for tape devices, and more integration between WLM and Enterprise Workload Manager (EWLM). These functions are intended to help optimize workloads within an image and across a sysplex. In z/OS 1.8 enhancements include:

- In z/OS V1.8, Enhancements to Workload Manager services can allow z/OS applications and middleware to report to WLM abnormal operating conditions that have an impact on their ability to successfully process new work requests. WLM is designed to use this information to influence the workload balancing recommendations it provides to functions such as Sysplex Distributor and the Load Balancing Advisor. When problem conditions are reported to WLM, workload balancing recommendations are expected to be appropriately reduced, allowing these load balancing functions to avoid routing new work requests to the target applications that are experiencing these conditions.
- Improved network and load balancing options are included in z/OS Sysplex Distributor.
- WLM improvements for zAAPs are designed to manage workloads based on zAAP delay in addition to CP delay and improve IFAHONORPRIORITY processing.
- System Resource Manager (SRM) is designed to calculate a new static I/O priority for all address spaces and enclaves for tape devices, to be used when no dynamic I/O priority has been assigned.
- Global Resource Serialization (GRS) is enhanced to enable you to specify the contention notifying system (CNS) for GRS Star. This new function is made available also on z/OS V1.7 with APAR OA11382.
- EWLM support is added to z/OS WLM, to accept the classification of work from EWLM, introduce a high-performance EWLM instrumentation option via WLM Enclave Services, map WLM execution delay

monitoring services to appropriate Application Response Measurement (ARM) services, and provide a similar management of process entitlements on both the z/OS-centric world and the heterogeneous world controlled by EWLM by introducing system-level WLM resource groups.

- WLM is designed to include zAAP data in the CPU using and delay samples as well as in the CPU service times reported to EWLM for processes using zAAPs.
- Support for the Object Access Method (OAM) DB2® Binary Large Object Support enables objects larger than 32 KB to be stored using DB2's large object (LOB) support and the binary large object (BLOB) data type. There is coexistence support for earlier release levels to coexist in an OAMplex with z/OS V1.8.  
**Note:** OAM at z/OS V1R8 requires a minimum level of DB2 V7 even if OAM DB2 Binary Large Object Support is not exploited.
- OAM Object Tape Enhancements adds automatic selection of RECYCLE-eligible tape volumes to the existing MOVEVOL with RECYCLE function, and provides support for an immediate backup copy to be created for an object at the time the object is originally stored.
- The z/OS UNIX System Services asynchronous socket read and write operations (the  `aio_read()` and  `aio_write()` callable services) are designed to use fast-path processing and to improve performance for SRB-mode fast path syscalls.
- SCLM design changes have been made that are intended to improve the performance of the SCLM Library utility (option 3.1).
- VARY processing is redesigned to bring multiple devices online in parallel, in addition to the parallel vary offline processing introduced in z/OS V1.7.
- JES2 is designed to help balance workload in a multi-access spool configuration within a sysplex by controlling the number of WLM-managed initiators in use on each system.

For more information about z/OS V1.8 optimization and management improvements, refer to the **Optimization and management capabilities** topic in the **Supplemental information** section.

### ***Networking***

In z/OS V1.8, there are significant improvements for networking and communications, including the ability to specify subplexes for TCP/IP communications and improved sysplex autonomic functions, improvements in networking security, and support for Windows™ Terminal Server (WTS). These functions include:

- The ability to specify a subdivision of a sysplex into multiple "subplex" scopes from a sysplex networking function perspective. For example, some VTAM® and TCP/IP instances in a sysplex might belong to one subplex, while other VTAM or TCP/IP instances in the same sysplex might belong to other subplexes.
- A sysplex autonomics function designed to provide monitoring of critical network interfaces so that sysplex autonomics recovery can be triggered when failures occur at an interface.
- A new application that allows for dynamic registration and deregistration of Domain Name Server (DNS) records for z/OS hosts, host groups, servers, and

server groups and their associated zones based on their current availability.

- New facilities and configuration options to support IP filtering, IPSec, and Internet Key Exchange (IKE) for IPv6.
- New and extended z/OS Communications Server callable APIs to enable TCP connections or UDP endpoints to be dropped, allow wildcards to be specified on HPR connection requests, provide better management of TN3270 connections, and improve SMF accounting for TN3270.
- z/OS SMB server support for Windows Terminal Server (WTS) clients.
- z/OS SMB server support for Linux™ Samba clients.
- A new REXX interface designed to be used to invoke the FTP client programmatically, and a sample REXX program.
- Telnet enhancements designed to allow you to specify that a TN3270 server should automatically clean up hung SNA Telnet sessions when a new TN3270 connection is initiated, system symbol support within Telnet unformatted system services message (USSMSG) processing, and USS table assignment from the LU exit.
- Support for JES3 NJE communications using TCP/IP, planned to be available on z/OS V1.8 in the first half of 2007.
- A new TCP/IP configuration parameter that allows users to designate the source IP address to be used for outbound TCP connections based on the destination IP addresses or networks.
- In z/OS V1.8, removal of the Firewall Technologies component of the Integrated Security Services element. Many Firewall Technologies functions have been stabilized for some time and can be replaced using comparable or better functions provided by Communications Server, notably, IPSecurity. In addition, a functionally rich downloadable tool replaces the IPSecurity and IP Filtering configuration GUI support.

For more information, refer to *z/OS V1R8.0 Migration*.

- A stand-alone TN3270 Server in z/OS V1.6 Communications Server and subsequent releases. This stand-alone TN3270 server can provide increased flexibility, improved reliability, and simplified problem diagnosis as compared to the in-stack version of the TN3270 Server. z/OS V1.8 is planned to be the last release of z/OS Communications Server which will support the in-stack version of the TN3270 Server. After z/OS V1.8, this capability will be removed from the product. In preparation for that change, customers should consider implementing the stand-alone TN3270 Server. For more information, refer to

<http://www.ibm.com/software/network/commserver/zos/>

For more information about z/OS V1.8 networking improvements, refer to the **Networking** topic in the **Supplemental information** section.

## ***Ease of use***

Ease of use is a continued focus area in z/OS V1.8. Improvements are delivered in the IBM Health Checker for z/OS Framework and also additional checks, a number of Hardware Configuration Manager (HCM) and ISPF enhancements, and usability extensions to Infoprint Server's Web-based print management interface. These and other usability improvements include:

- The enhanced IBM Health Checker for z/OS framework, intended to make it easier to write checks, and to provide improved parmlib, parsing, and display support for checks. In addition, there are a number of new checks for Communications Server, GRS, storage management (ASM), RACF, BAM, DFSMS, and Resource Recovery Services (RRS).
- A significant number of Hardware Configuration Manager (HCM) enhancements.
- ISPF improvements intended to support SuperC Compare and Search-For functions on the Data Set List Actions panel, to help make it easier to search for members, autodiscover the workstation IP address when establishing a Workstation Agent session, improve the way aliases are processed, and provide tape data set support.
- Infoprint Server design enhancements to provide improved printer error recovery, more accurate accounting information, and ease of use features in the Infoprint Central web-based job and printer management interface.
- RMF postprocessor and Monitor III improvements.
- System Display and Search Facility (SDSF) display support for zAAP utilization.
- An RRS SHUTDOWN command, and the inclusion of RRS status information in MVS™ DISPLAY commands.

The IBM Configuration Assistant for z/OS Communications Server GUI, introduced in z/OS V1.7 as the z/OS NSCA (Network Security Configuration Assistant), is extended to include support for QoS (Quality of Service) and IDS (Intrusion Detection Services) policy configuration.

For more information about z/OS V1.8 ease of use improvements, refer to the **Ease of use** topic in the **Supplemental information** section.

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## **Product positioning**

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The many enhancements in z/OS V1.8 continue to position z/OS as the IBM flagship mainframe operating system. These innovations provide proof points of the IBM commitment to the mainframe, as defined in the Mainframe Charter. Designed and developed together with the System z9 and zSeries servers and key IBM middleware (such as DB2, IMS™, CICS®, and WebSphere® Application Server), z/OS provides the qualities of service that thousands of customers rely upon for their mission-critical business data and applications.

The strengths of System z and z/OS combined can form an ideal enterprise data serving hub. Creating a more manageable view of enterprise data may be achieved by eliminating many copies of the data and consolidating on to DB2 for z/OS and leveraging the platform's classic strengths of availability, scalability, data integrity, manageability and security.

System z and z/OS are ideal for participating in services-oriented architecture solutions. By hosting some

of the latest WebSphere Suite of SOA products and integrating new applications with core mainframe applications, z/OS can extend its qualities of service to these new applications and sophisticated workload management can help meet your IT business goals.

Overlying all of this is the ability of System z and z/OS to be the “secure vault”<sup>1</sup> for critical business data and application. z/OS can provide robust security management via RACF, highly secure and available TCP/IP networking, DB2 for z/OS Multilevel Security support, encryption, and enterprise-wide key management and certificate authority capabilities, as well as support for many industry security standards.

<sup>1</sup> Secure vault represents the role and ability of System z9 and zSeries to provide a highly resilient and security-rich, enterprise-wide environment for enterprise data and transactions.

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## Statement of direction

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IBM plans to take the following actions effective with the general availability of z/OS V1.8:

- The APPC Application Suite is a set of common applications originally designed to enhance the value of SNA networks for end users. Since more full-featured alternative applications exist in modern integrated SNA/IP networks, z/OS V1.8 is planned to be the last release of z/OS Communications Server which will include the APPC Application Suite. After z/OS V1.8 the APPC Application Suite will no longer be shipped with the product, and will not be supported. However, note that APPC itself remains an integral part of z/OS Communications Server’s SNA functions, and there are no plans to remove APPC from z/OS. For more information, refer to

<http://www.ibm.com/software/network/commserver/zos/>

IBM plans to take the following actions in the future:

- **Preview — Group capacity limit on IBM System z9 EC and z9 BC:** IBM plans to make it possible to define a logical partition (LPAR) group capacity limit on System z9 servers. This function will be designed to allow you to specify a capacity limit to be defined for each LPAR, and to define a group of LPARs on a server. This is expected to allow the system to manage the group in such a way that the sum of the LPAR capacity limits will not be exceeded.

When available, support of group capacity limit will be exclusive to System z9 EC and z9 BC.

- **Layer 3 Virtual MAC for z/OS and z/OS.e environments:** When the associated OSA-Express function is available, the z/OS Layer 3 VMAC function will help to simplify the network infrastructure and facilitate load balancing when multiple operating system instances are sharing the same OSA port or Media Access Control (MAC) address. With Layer 3 VMAC, each operating system instance can now have its own unique “logical” or “virtual” MAC (VMAC) address. Instead of sharing the same physical MAC address, each TCP/IP stack and its associated IP addresses are accessible using their own VMAC addresses.

Layer 3 VMAC is an improved virtualization technique which is designed to dedicate a Layer 3 VMAC to a single TCP/IP stack which can help:

- Simplify network configuration

- Improve IP workload balancing
- Remove the dependency on Generic Routing Encapsulation (GRE) tunnels
- Allow WebSphere Application Server content-based routing to interoperate with z/OS in an IPv6 network
- Allow z/OS to use a “standard” interface ID for IPv6 addresses
- Remove the need for PRIROUTER/SECROUTER function in z/OS

**Preview** — When available, OSA Layer 3 VMAC is planned to be exclusive to z9 EC and z9 BC, and will be applicable to the OSA-Express2 features and to the OSA-Express features (Gigabit Ethernet LX and SX and 100BASE-T Ethernet) when configured as CHPID type OSD (QDIO). OSA Layer 3 VMAC is required to exploit the support in z/OS V1.8.

- **Network Traffic Analyzer:** When the associated Open Systems Adapter (OSA) function is available, the Network Traffic Analyzer function will help to provide a new diagnostic trace facility, allowing OSA packet trace records to be sent directly to the host operating system. Using Network Traffic Analyzer, along with the existing z/OS tools and service aids, z/OS system administrators will be able to monitor (“sniff”) each OSA CHPID for the network traffic.

Network Traffic Analyzer is designed to extend the serviceability features of OSA, helping provide system programmers and network administrators the capability to control, capture, and format OSA hardware packet trace information.

**Preview** — When available, an enhancement to the QDIO architecture (OSA-Express Network Traffic Analyzer) will be designed to allow trace records to be sent to z/OS. This enhancement is planned to be exclusive to z9 EC and z9 BC, and will be applicable to the OSA-Express2 features when configured as CHPID type OSD (QDIO). OSA-Express Network Traffic Analyzer is required to exploit the support in z/OS V1.8.

- **QDIO Diagnostic Synchronization:** When the associated OSA function is available, the QDIO Diagnostic Synchronization function will help provide system programmers and network administrators the ability to coordinate and simultaneously capture both software (z/OS) and hardware (OSA-Express2) traces. This function is designed to allow z/OS to signal an OSA-Express2 feature (using a new Diagnostic Assist function) to stop traces and capture the current trace records.

**Preview** — When offered on z9 EC and z9 BC, QDIO Diagnostic Synchronization is planned to be applicable to the OSA-Express2 features when configured as CHPID type OSD (QDIO). The z9 EC and z9 BC QDIO Diagnostic Synchronization support is required to exploit the support in z/OS V1.8.

- IBM plans to enhance the IBM Encryption Facility for z/OS (5655-P97) Encryption Services feature to use the OpenPGP standard, RFC 2440. This support will be designed to allow you to exchange an encrypted, compressed, and/or digitally signed file between your internal data centers using the Encryption Services feature in conjunction with your external partners and vendors who have an installed RFC 2440-compliant client running on z/OS and other operating systems. It is expected that IBM will implement the required functions of the OpenPGP standard, RFC 2440, that will allow Encryption Facility for z/OS to achieve

compliance with the standard. The planned support includes, but is not limited to, symmetric encryption using AES and Triple-DES, asymmetric encryption of randomly generated symmetric keys using RSA and ElGamal algorithms, and working with DSA signatures.

- On October 25, 2005, IBM announced the IBM Communication Controller for Linux for System z9 and zSeries V1.2, which provides an X.25 NPSI enablement interface. This function allows a software vendor to deliver support for an X.25 over TCPIP network. It is IBM's intent to also release an IBM X.25 over TCPIP product which uses this X.25 NPSI enablement interface. Together, the Communication Controller for Linux on System z and X.25 over TCPIP products can help you modernize your networking infrastructure for Communications Server on z/OS.
- IBM intends to deliver enhancements to the consoles component in the future, not in 2007 as originally planned and announced in Software Announcement 206-039, dated February 28, 2006. These enhancements will be intended to provide enhanced reliability and availability of the sysplex-wide management of the operator console configuration by:
  - Reducing the amount of console configuration data passed around the sysplex under serialization. This change is expected to improve overall sysplex recovery time and reduce serialization delays during system startup and planned system shutdown activities.
  - Increasing the maximum number of MCS and SMCS consoles that can be defined and active in a configuration from 99 per sysplex to 99 per system in the sysplex.

For more information, and for all previously announced statements of direction affecting z/OS V1.8 and future releases, visit

[http://www.ibm.com/servers/eserver/zseries/zos/zos\\_sods.html](http://www.ibm.com/servers/eserver/zseries/zos/zos_sods.html)

These statements represent current intentions of IBM.

Any reliance on these statements of direction is at the relying party's sole risk and will not create any liability or obligation for IBM.

All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice.

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## Hardware and software services

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### *Installation services*

IBM offers a number of remote and on-site IBM Operational Support Services, Migration Services, and Installation Services designed to accelerate productive use of the IBM solution. These services are provided by IBM or an IBM Business Partner at an additional charge. For additional information, contact an IBM representative and ask for IBM Global Technology Services (GTS) Services for z/OS or z/OS.e.

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## Reference information

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### *FITS requirements*

For a list of V1.8 FITS requirements, refer to

[http://www-03.ibm.com/servers/eserver/zseries/zos/bkserv/user\\_group\\_reqs.html](http://www-03.ibm.com/servers/eserver/zseries/zos/bkserv/user_group_reqs.html)

Software Announcement 206-039, dated February 28, 2006 (Preview: z/OS V1.8 and z/OS.e V1.8 extend system limits and continue to support application workload growth)

### *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).

BP Attachment for Announcement Letter 206-190

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=206-190>

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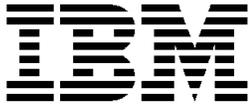
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# IBM United States Announcement Supplemental Information

August 8, 2006

## Scalability

z/OS® V1.8 helps extend system limits and continues to support application workload growth. There is support for up to 4 TB of real memory on a single z/OS image. This can allow the use of up to 512 GB of real memory on a single z/OS image on IBM System z9™ EC servers and up to 256 GB on z990 servers. There are also improved support capabilities for large-format sequential data sets, increased system-wide and intra-address space limits for Global Resource Serialization (GRS), and improved high-level language support for VSAM data sets with extended addressability.

New and enhanced z/OS V1.8 function:

- There is support for up to 4 TB (4,398,046,511,104 bytes) of real memory on a single z/OS image on IBM System z9 servers and up to 256 GB on IBM zSeries® z990 servers, an increase from the prior maximum of 128 GB. This can enable programs that use large amounts of real memory to avoid paging and swapping overheads, and helps enable workload growth.
- GRS offers a new programming interface designed to allow authorized programs to set their own concurrent enqueue (ENQ) limits within their address spaces. Some subsystems, such as DB2®, often need to open a large number of data sets concurrently. Others, such as CICS®, can manage many different units of work within a single address space.

This new support can allow such programs to increase their ENQ limits beyond the system's default limit. Also, this support is designed to allow system programmers to dynamically alter the system-wide limits.

- GRS design is changed to move selected GRS control blocks above the 2 GB bar. This helps avoid GRS storage constraints as the storage size, processor capacity, and workloads running on large z/OS images grow. Changes in PDSE exploitation of 64-bit addressing are expected to allow many more PDSE members to be open at the same time.
- Language Environment® delivers enhancements to the C runtime library functions `fgetpos()`, `fsetpos()`, and `fseek()`. This can improve the performance of repositioning operations within multivolume data sets.
- Language Environment provides z/OS XL C/C++ runtime library support for large-format sequential data sets opened using QSAM (noseek in C/C++). This support removes the constraint of 65535 tracks per volume for sequential data sets.
- Language Environment provides z/OS XL C/C++ runtime library support for VSAM data sets with extended addressability. This support is for key-sequenced (KSDS), entry-sequenced (ESDS), and relative-record data sets (RRDS).

- DFSMSrmm™ extends support for managing removable media across the enterprise. The DFSMSrmm CIM agent is designed to support the creation, change, and deletion of volumes and data sets. This is in addition to the query and display capabilities provided in z/OS V1.7.

The CIM agent uses the OpenPegasus CIM Server. It is able to run on z/OS and other systems supported by OpenPegasus. In addition, to improve systems support across the enterprise, DFSMSrmm support uses common time and provides support for displaying and setting dates and times in any chosen time zone.

- Support for rapid index rebuild in z/OS V1.8 is designed to help speed VTOC conversions from nonindexed to indexed.
- Support is provided for DASDSM/CVAF Rapid Index Rebuild.
- VARY command processing is changed to process VARY ONLINE commands in parallel, complementing the parallel VARY OFFLINE processing introduced in z/OS V1.7. Parallel VARY processing is designed to decrease elapsed time for commands used to change the status of many devices.

## Application integration

In z/OS V1.8, there are several important functions that deliver further application integration support and support for industry and de facto standards:

- A new system component of z/OS, z/OS XML System Services
- Improvements in Unicode support
- BPXBATCH support for data sets
- CIM Server and schema upgrades
- The ability to trace transitions in and out of XPLINK in z/OS UNIX® System Services (z/OS UNIX) programs
- Other improvements that are all intended to add new capabilities and help extend and tune your applications

New and enhanced z/OS V1.8 function includes:

- XL C/C++ has made the following performance and usability enhancements for z/OS V1.8:
  - XL C++ now provides support for the following set of C99 (ISO/IEC 9899:1999) features to aid in portability:
    - restrict qualifier
    - valid universal character name ranges
    - `__func__` identifier for debugging assistance
  - XL C/C++ includes the following new compiler options and suboptions:

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- HGPR — to enable the compiler to use 64-bit instructions in 32-bit mode thereby potentially increasing the performance of 32-bit programs running on 64-bit hardware
- HOT — to provide the ability to generate more highly optimized code
- SPLITLIST — to split the IPA link phase listings into several files for easier viewing
- LANGLVL(C99\_FUNC\_) — to assist with debugging code
- The GONUMBER compiler option now supports 64-bit applications and generates line number tables for both 32-bit and 64-bit applications.
- The integrated CICS translator is supported for use with CICS Translation Server V3.1 or later, to enable you to embed CICS statements in C/C++ source and pass them through the compiler without the need of an explicit preprocessing step, permitting a more seamless operation of C/C++ within the CICS environment.
- Storage limitations are removed when optimizing complex applications using IPA. The IPA optimizer now runs in the 64-bit address space and no longer exhibits the storage limitations that restricted the use of the IPA optimizer during past releases.
- The as command is available for HLASM assembler invocation to enable you to process assembler source files and invoke the HLASM assembler to produce object files.

Note that z/OS V1.8 is planned to be the last release to include the C/C++ IBM Open Class (IOC) Dynamic Link Libraries (DLLs). For more information, refer to the z/OS statements of direction at

[http://www.ibm.com/servers/eserver/zseries/zos/zos\\_sods.html](http://www.ibm.com/servers/eserver/zseries/zos/zos_sods.html)

- A new LDAP server for z/OS, IBM Tivoli® Directory Server for z/OS, that is designed to improve performance, scalability, auditability, availability, and ease of use. This function is planned to be made available by the first half of 2007. The existing Integrated Security Services — LDAP Server will continue to be available in V1.8 in addition to the new IBM Tivoli Directory Server for z/OS. The IBM Tivoli Directory Server for z/OS delivers stronger affinity to z/OS platform features like Parallel Sysplex®. Among the enhancements are:
  - A new back end for small and medium-sized directories designed to cache all directory entries in memory for better performance and use a z/OS UNIX System Services file as its backing store. This is made available in addition to the existing DB2-based back end. This enhancement is expected to help simplify setup and operation for small and medium-sized directories.
  - Automatic Restart Management (ARM) and TCP/IP restart support designed to help improve availability.
  - Parallel Sysplex support designed to enhance synchronization of LDAP servers within a sysplex and allow a sysplex group to replicate with other LDAP servers.

- The creation of SMF records designed to improve LDAP auditability.

- In V1.8, IBM introduces a new system component of z/OS, z/OS XML System Services (z/OS XML), which will be designed to deliver an optimized set of services for parsing XML documents. It is expected to be of use to IBM products, those from other software vendors, and customer middleware and applications having high performance or unique environmental XML nonvalidating parsing requirements, such as the ability to run in cross-memory and service request block (SRB) modes.

Initial support delivers an assembler language interface. This new function is intended to satisfy a statement of direction made in Software Announcement 205-167, dated July 27, 2005, and will also be available on z/OS V1.7. In a future release, IBM plans to add C/C++ high-level language support.

- Unicode support is vital to enterprises with globalization imperatives; that is, to those for which storing data from different languages in a common format is important. z/OS V1.8 offers new collation tables needed by middleware applications. Their names are based on the Unicode Collation Algorithm (UCA), which conforms to the Unicode 4.0 standard. Using the new keywords can allow collation sequences for various locales to be used so that data stored in Unicode can be sorted using the appropriate collating sequence for each supported language.
- BPXBATCH program enhancements allow STDOUT and STDERR DD statements to specify SYSOUT, partitioned, partitioned data set extended (PDSE), and sequential data sets in addition to z/OS UNIX files. Also, a new STDPARM DD statement is added that supports input from partitioned, partitioned data set extended (PDSE), sequential data set, and z/OS UNIX files. The STDPARM data set supports parameter lists up to 64K bytes in length. When BPXBATCH is called from another program, the maximum size of the parameter list it will process without using STDPARM is increased to 32,754 bytes. Last, data sets specified using the STDENV DD statement may now specify a PDSE. This function is also available for z/OS V1.5 and higher with APAR OA11699.
- z/OS V1.8 includes a new version of the Common Information Model (CIM). This includes the upgrade of the CIM Server Runtime Environment to V2.5.1 of OpenPegasus from the Open Group, an upgrade of the CIM Schema to 2.9, and additional resource instrumentation. Key features of the new CIM Server for z/OS are the support for Embedded Objects, Events (CIM Indications), HTTP Chunking, and the capability to run CIM providers in a separate address space. In addition, a command line interface is provided to execute CIM Client requests against the CIM Server. Improvements are implemented in the areas of security, reliability, and scalability of the CIM Server.
- RMF™ implements eServer® OS monitoring Stage 2 for z/OS. Stage 2 includes:
  - A WBEM profile based on the IETF SLP protocol is intended to make self-discovery of the CIM-based monitoring service easier.
  - Support for CIM indications is designed to enable exploiters using standard CIM client applications to subscribe to asynchronous events.

- Support is provided for making additional RMF metrics available to CIM.
- Language Environment is now designed to provide a new capability for tracing transitions between executables compiled using the XPLINK compiler option and non-XPLINK executables. This is expected to help application programmers more easily diagnose the performance bottlenecks that might exist in mixed XPLINK/non-XPLINK applications.
- The Program Management Binder is now designed to:
  - Provide Extended Relative Immediate Support. The binder is now designed to further exploit the use of the relative immediate instructions. These instructions can now be used with external references when creating object modules, and the binder is now designed to resolve those references between object modules.
  - Support new options for reducing the size of load modules and program options. The binder is designed to reduce the size of load modules and program objects by removing information unnecessary for execution when you specify the new STRIPCL and STRIPSEC options. STRIPCL specifies that removable classes be removed, while STRIPSEC specifies that unreferenced sections be removed.
- Support is provided for the flockfile() family of functions in Language Environment. The flockfile(), frylockfile(), funlockfile(), getc\_unlocked(), getchar\_unlocked(), putc\_unlocked(), and putchar\_unlocked() will be implemented in a way intended to comply with their description in the Single UNIX Specification Version 3 (SUSV3) standard.
- There is support for the /etc/inittab file that is used on other UNIX systems to start and restart daemons. This is intended to allow you to identify system processes to be started during system initialization that should receive additional system management by z/OS UNIX System Services.
- The dbx debugger is designed to support the complex and packed decimal data types used by applications that demand a higher degree of mathematical precision.
- ISPF Edit informational messages are made available to ISPF Edit macros. As in the past, in ISPF Edit interactive mode, the message identifier, short message text, and long message text are displayed on the screen. This change makes the same information available to noninteractive macros in order to help allow them to handle more conditions.
- Additional locale support for the Euro currency symbol is provided for countries that have recently joined the European Union: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia. As it does for other locales, this support allows the Euro currency symbol to be displayed and printed as the national currency symbol in these countries. This function is also available with APAR PQ99282 for z/OS V1.4 and higher.
- RMF Spreadsheet macros are extended to analyze zAAP usage.
- The Software Configuration and Library Manager (SCLM) component of ISPF includes the following enhancements:
  - The ability to specify a language description when using the SPROF (SCLM Edit Profile) command and the SCLMINFO service to define an SCLM language
  - Additional information about return codes in error messages generated by the COBOL parser (FLMLPCBL)
- JES3 is enhanced to allow applications using the SYSOUT Application Programming Interface (SAPI) to retrieve SYSOUT data sets with READ access to the appropriate profile in the JESSPOOL class. Currently, UPDATE access is always required.

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## Security

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In z/OS V1.8, z/OS continues to deliver industry leadership for security. Improvements that are all intended to help deliver the kind of security-rich environment that has made z/OS an industry leader include:

- Support for RACF® password phrases from 14 to 100 characters in length
- Significant improvements to Identrust-certified support for digital certificates, including SCEP and multiple-CA support
- Improvements for tape data set protection using RACF or another external security manager
- Support for the Advanced Encryption Standard (AES) for IPsec

z/OS V1.8 is designed to include:

- Improvements in the z/OS System SSL component are designed to help you secure communications for the industry-standard SSL and TLS protocols using the AES 128-bit hardware provided by the CP Assist Cryptographic Facility (CPACF) on System z9 servers. Additionally, z/OS System SSL now supports X.509 V3 certificates with SHA-256 and RSA encryption signatures in the z/OS System SSL key database. These certificates can now be used when using SSL and TLS.
- Support is provided for defining Intrusion Detection Services (IDS) policies in a policy agent configuration file as well as an LDAP server. This solution provides an IDS policy solution that is intended to be consistent with other policy types for those installations that do not have an LDAP infrastructure in place or that prefer using configuration files instead of LDAP.
- RACF supports the use of passwords longer than eight characters, called password phrases. A password phrase is a character string that can comprise mixed-case letters, numbers, and certain special characters from 14 to 100 characters in length. Password phrases allow for an exponentially greater number of possible combinations of characters than do passwords. A user ID can have both a password and a password phrase. The same user ID can be used both for existing applications that accept an eight-character password and those that take advantage of the new password phrase infrastructure. This support is intended to help to improve system security and usability.

- Public Key Infrastructure (PKI) Services improvements include:
  - Multiple certificate authority (CA) support is designed to allow more than one instance of the PKI Services daemon to run on a z/OS system. Also, new support is intended to allow you to establish multiple certificate authorities on a single image. Both new functions help improve the scale and availability of PKI Services management and fulfillment services on z/OS.
  - PKI services is now designed to support the Simple Certificate Enrollment Protocol (SCEP). SCEP support, which is also offered by other industry certificate authority (CA) software, allows SCEP-enabled clients, such as Cisco routers, to request certificates by sending messages to a CA using the HTTP protocol. The addition of SCEP support is designed to allow PKI Services to respond to SCEP messages and support both manual and automatic enrollment.
- DFSMS support introduces new options for securing tape data sets using System Authorization Facility (SAF). These are designed to allow you to define profiles to protect data sets on tape using the DATASET class without the need to activate the TAPEDSN option or the TAPEVOL class.
 

DFSMS also provides options you can use to specify that all data sets on a tape volume should have common authorization and that users are authorized to overwrite existing files on a tape volume.
- Support is provided for the Advanced Encryption Standard (AES) algorithm for IP Security with a 128-bit key length. This algorithm replaces DES as the standard encryption algorithm. Infoprint® Server documentation has been enhanced to describe how this can be used to encrypt print output between z/OS and distributed printers.
- Support for SAF Identity Tokens provides exploiters with increased user accountability and auditability of resources by providing end-to-end auditing that tracks identities used for initial authentication and those used on the current platform.
- There is RACF support for virtual key rings. This support treats the collection of all the certificates owned by one user ID, including the SITE and CERTAUTH reserved user IDs, as an independent key ring. The use of the CERTAUTH virtual key ring is intended to help eliminate the need to manually create multiple real key rings for SSL-enabled z/OS client applications such as FTP.
- In z/OS V1.8, DFSMSShm™ fast replication support extends the full-volume dump function to allow dumping of fast replication backup copies to tape. The dump copies can be created by command or by automatic dump. Fast replication backup versions can be recovered from DASD target volumes (as in previous releases) or from dump tapes.
- In DB2 9 for z/OS, to further facilitate management of backup and recovery needs, the system-level utilities and the RECOVER utility will be enhanced to take advantage of new features provided by DFSMSShm Fast Replication support in z/OS V1.8.
 

The backup version being recovered can reside on disk or tape. When the backup version is recovered from disk, the recovery can be performed using fast replication or previously available copy methods. The combination of DB2 9 for z/OS Support with DFSMSShm Fast Replicate in z/OS 1.8 enables users to recover its backed up DB2 data extending back to any point in time subsequent to the earliest currently retained backup version (up to 50 backup versions allowed) and logs that have been stored.
- In z/OS V1.8, the z/OS UNIX System Services (z/OS UNIX) byte range lock manager (BRLM) is enhanced. It is designed to allow applications that use byte-range locking to stay active when a system within the sysplex fails. This improves availability for those applications.
- CFRM performance improvements are intended to enhance sysplex availability by significantly reducing I/O contention for CFRM couple data sets (CDS). This improves the performance of sysplex processes that use the CFRM couple data set. These processes include rebuilding Coupling Facility structures, Coupling Facility Duplexing establishment and failover, and connect/disconnect processing. When sysplex partitioning actions are taken, and when a Coupling Facility fails, Parallel Sysplex configurations are expected to recover significantly faster, improving sysplex availability.
- In z/OS V1.8, the single master console is eliminated, and therefore it no longer can act as a single point of failure. The functions associated with the master console, including master command authority and the ability to receive messages delivered via the INTERNAL or INSTREAM message attribute, are able to be applied to any console, including EMCS consoles, in the configuration. In addition, the console switch function is removed, which removes a potential point of failure because you are able to define more than two consoles with master console authority that can be used should a primary console fail.
- System Logger enhancements in z/OS V1.8 include:
  - Support for renaming an existing log stream. This allows you to maintain the current data under a new name and enable new work to begin after defining a new instance of the log stream, and is expected to help reduce the impact of a damaged log stream by not requiring that the original data be deleted.
  - Support for specifying different groups of log streams in the LOGR CDS. This function is intended to allow you to separate logger activity for test and production log streams. This can allow them to run in the same sysplex with less interference between them.
- GDPS/PPRC enhancements are designed to help reduce the length and variability of failover recovery times by improving the consistency between secondary copies of data at the recovery site and

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## Availability

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z/OS, in conjunction with IBM System z™ servers, continues to help address requirements for high availability. z/OS V1.8 is designed to extend DFSMS fast replication to the data set level on 2105 (Enterprise Storage Server™) and later storage controllers; offers improved recoverability for the z/OS UNIX System Services (z/OS UNIX) Byte Range Lock Manager when a system failure occurs in a sysplex; improves the Coupling Facility Resource Manager (CFRM); provides further improvements to Consoles processing and System Logger; and can help make significant improvements in GDPS™ HyperSwap™ and CF duplexing recovery. These include:

duplexed structures in the Coupling Facility. New interfaces between the Cross-System Communications Facility (XCF) and GDPS enable “break duplexing” decisions for duplexed Coupling Facility structures to be made in a way that parallels the DASD “break PPRC mirroring” decision.

This enhancement preserves a usable copy of the duplexed Coupling Facility structures for recovery. It helps improve GDPS recovery time, enable consistent application restart times, and reduce the need for log-based recovery. The XCF support for this function is available for z/OS V1.5 and above with the PTFs for APAR OA11719.

- In z/OS V1.8, there is support for a new HyperSwap trigger source type, I/O Timeout. In the past, HyperSwap function was invoked automatically when an error indication is returned for an I/O operation because of failures such as subsystem failures, boxed devices, or I/O errors. This support is extended to act on I/O timeouts detected by the Missing Interrupt Handler (MIH). The new function is designed to allow transactions to resume processing quickly on the secondary volumes. It can help deliver improved availability while helping reduce the need for operator intervention. HyperSwap is available with the separately priced GDPS/PPRC and GDPS/PPRC HyperSwap Manager offerings.
- z/OS V1.8 is designed to provide improved z/OS UNIX System Services latch contention detection. The output of the DISPLAY OMVS,Waiters operator command is enhanced to include a table of waiting threads and show file system latches held. These additional display capabilities help operators better identify the tasks that are waiting and the resources they are waiting for.

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## Optimization and management

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In z/OS V1.8, Communications Server offers additional network and workload balancing improvements by favoring local servers when possible to help reduce inter-CEC network traffic. There is also enhanced Workload Manager (WLM) processing for zAAP workloads, improved I/O priority for tape devices, and more integration between WLM and Enterprise Workload Manager (EWLM). These functions are intended to help optimize workloads within an image and across a sysplex:

- In z/OS V1.8, Enhancements to Workload Manager services can allow z/OS applications and middleware to report to WLM abnormal operating conditions that have an impact on their ability to successfully process new work requests. WLM is designed to use this information to influence the workload balancing recommendations it provides to functions such as Sysplex Distributor and the Load Balancing Advisor. When problem conditions are reported to WLM, workload balancing recommendations are expected to be appropriately reduced, allowing these load balancing functions to avoid routing new work requests to the target applications that are experiencing these conditions.
- A new option is designed to allow the z/OS Sysplex Distributor to favor local system target servers where possible, while avoiding servers that are no longer active or are overloaded. If the Sysplex Distributor chooses a target on the same system as the client, this new design optimizes the connection in the following manner:

- Traffic for the target connection is no longer routed to the sysplex distributor routing stack.
- The connections are eligible for the “fast local sockets” optimized path.
- Sysplex Sockets report these sockets as being on the same system.
- In z/OS V1.8, Workload Manager (WLM) improvements:
  - Manage workloads based on zAAP delay in addition to CP delay. This is designed to manage workloads based on both zAAP and CP utilization.
  - Change the way the IFAHONORPRIORITY=YES parameter in IEAOPTxx parmlib members is processed. This function is designed to enable zAAPs to obtain help from CPs when there is more zAAP eligible work than zAAP capacity. The change helps limit the amount of work that is scheduled on CPs when sufficient zAAP capacity is available to run work that is eligible to run on zAAPs. The changed function is also available with APARs OA14131 and OA13953 for z/OS and z/OS.e V1.6; and z/OS and z/OS.e V1.7.
- System Resource Manager (SRM) calculates a new static I/O priority for all address spaces and enclaves. The new I/O priority is derived from the importance of the service class the unit of work is classified to, and is designed to be used by IOS when no dynamic I/O priority is provided by WLM or SRM. This function is supported for tape I/O only.
- Global Resource Serialization (GRS) enhancements enable GRS Star users to specify which system will be the contention notifying system (CNS). In a GRS Star environment, global contention is reported by a single image acting as the CNS. Allowing you to specify the placement of CNS work can help you better balance workload in a sysplex.

All systems in a sysplex must support this function to enable its use. In addition to z/OS V1.8, this new function is included on z/OS V1.7 with APAR OA11382.

- EWLM support is added to z/OS WLM:
    - WLM is designed to accept the classification of work from EWLM. EWLM transaction classes can be correlated to WLM service classes via classification rules in the WLM Service Definition. If such a correlation has been defined, WLM assigns the specified WLM service class to the end-to-end work in the EWLM transaction class rather than reclassifying it.
- A performance administrator on the EWLM control center is then able to see integrated information about end-to-end work within the same transaction class for reporting and management. This helps improve cross-platform workload management.
- With z/OS V1.8, a high-performance EWLM instrumentation option via WLM Enclave Services is introduced that is designed to help reduce the instrumentation overhead significantly. The high-performance EWLM instrumentation option is suitable for applications that implement a sequential transaction processing flow without subtransactions.
  - WLM execution delay monitoring services are mapped to appropriate Application Response Measurement (ARM) services. This simplifies the EWLM instrumentation of subsystems that are already instrumented with WLM execution delay monitoring services, such as CICS and IMS™.

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## Networking

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- WLM has been enhanced to allow you to specify the capacity of system-wide resource groups as a percentage of a single processor's capacity or as a percentage of an LPAR's capacity. This function is intended to allow you to specify relative capacities that change dynamically with the capacity of a processor or LPAR.
- The function originally planned for the SYSSTC1-SYSSTC5 service classes as described in Software Announcement 206-039, dated February 28, 2006, is not included in z/OS V1.8. The classes themselves remain, but they are reserved for possible future use.
- In the past, only CP data was reported to EWLM. With z/OS V1.8, zAAP data is included in the CPU using and delay samples as well as in the CPU service times reported to EWLM for processes using zAAPs.
- The Object Access Method (OAM) DB2 Binary Large Object Support enables objects larger than 32 KB to be stored using DB2's large object (LOB) support and the binary large object (BLOB) data type. A new keyword is supported on the OAM1 statement of the IEFSSNxx parmlib member to indicate that DB2's LOB support should be used. Storing in LOB storage structures improves performance when working with large objects. A 256 MB object, for example, can be stored in a single row in a LOB storage structure, but would require 8000+ rows in a conventional 32 KB table.

There is coexistence support for earlier release levels to coexist in an OAMplex with z/OS V1.8.

**Note:** OAM at z/OS V1R8 requires a minimum level of DB2 V7 even if OAM DB2 Binary Large Object Support is not exploited.

- OAM Object Tape Enhancements adds automatic selection of RECYCLE-eligible tape volumes to the existing MOVEVOL with RECYCLE function, and provides support for an immediate backup copy to be created for an object at the time the object is originally stored.
- The z/OS UNIX System Services asynchronous socket read and write operations (the aio\_read() and aio\_write() callable services) are converted to use fast-path processing. In addition, performance is improved for all fast-path syscalls that are called in SRB mode. This improves performance for applications that use asynchronous I/O or that run in SRB mode.
- SCLM design changes to reduce the number of ISPF service calls and cache certain data, and improve the performance of the SCLM Library utility (option 3.1), are included in z/OS V1.8.
- VARY processing is redesigned to bring multiple devices online in parallel. This provides a significant improvement in the elapsed time required to vary a large number of devices online.
- JES2 is designed to help balance workload in a multi-access spool configuration within a sysplex. This new design is intended to use approximately the same percentage of active WLM-managed initiators in each service class on each system. Depending on the characteristics of your workloads and their arrival patterns, this can help balance batch workloads across a MAS configuration within a sysplex.

In z/OS V1.8, there are significant improvements for networking and communications, including the ability to specify subplexes for TCP/IP communications and improved sysplex autonomic functions, support for JES3 NJE connections via TCP/IP, improvements in networking security, and support for Windows™ Terminal Server (WTS).

- The following enhancements are for Sysplex environments:
  - The ability to specify a subdivision of a sysplex into multiple "subplex" scopes from a sysplex networking function perspective is delivered. For example, some VTAM® and TCP/IP instances in a sysplex might belong to one subplex, while other VTAM or TCP/IP instances in the same sysplex might belong to other subplexes. This function can be useful in scenarios where different LPARs within the same sysplex need to be isolated into different security zones, with isolation between those zones.
  - The sysplex automics function is enhanced to deliver monitoring of critical network interfaces so that sysplex automics recovery can be triggered when a failure occurs at the interface.
  - A new application allows dynamic registration and deregistration of Domain Name Server (DNS) records for z/OS hosts, host groups, servers, and server groups and their associated zones based on their current availability. This function provides an improved alternative to the dynamic registration and deregistration of DNS hostnames currently available with the z/OS BIND DNS 4.9.3 server.
- Support for JES3 NJE communications using TCP/IP is planned to be made available in z/OS V1.8. This function includes support for IPv6, secure sockets (SSL/TLS), and all the NJE constructs (ENDNODE, SUBNET, Store-and-Forward) supported by the owning JES. This new support is in addition to the SNA and BSC protocols currently supported by JES3. In order to use the NJE/TCP support, both sides of the connection are required to support NJE/TCP. This function is planned to be made available during the first half of 2007.
- Functions to support IP filtering, IPSec, and Internet Key Exchange (IKE) for IPv6 are provided:
  - The Policy Agent, to help configure IP filters, manual tunnels, and dynamic tunnels for IPv6
  - The TCP/IP profile, to allow configuration of default IP filters for IPv6 when the policy-based IP filters are not active
  - The z/OS Communications Server IKE daemon, to negotiate dynamic tunnels for IPv6
  - The IBM Configuration Assistant for z/OS Communications Server GUI, to help configure IPSec for IPv6 in the Policy Agent and the IKE daemon
  - The ipsec command, to display and modify installed IP filter information, manual tunnel information, and dynamic tunnel information for IPv6

- The Traffic Regulation Management daemon (TRMD), to support logging of IP Security events, such as IP filter permits and denies, for IPv6
- z/OS Communications server delivers a rich set of callable APIs that can be used by network management applications. In z/OS V1.8, a number of additions and improvements are made to this set of APIs:
  - There is an API for dropping multiple TCP connections or UDP endpoints.
  - The existing Enterprise Extender network management interface is enhanced to allow the specification of wildcard characters in the CP name on HPR connection requests. For applications using this interface to gather HPR connection data, using a wildcard value can reduce the number of NMI requests issued to obtain all of the data, and this improves application performance.
  - The ability to manage TN3270 connections is improved with:
    - The provision of a new API designed to allow for the retrieval of performance data for TN3270 server sessions
    - The addition of the TCP connection ID to the TN3270 SMF records
- WTS support: In the past, the z/OS SMB server could handle a single user session over a single communications session from a Windows PC. The WTS is able to act as a client to the z/OS SMB server. The WTS allows many Windows clients to connect to it. The server, in turn, can act as a client to the z/OS SMB server and send many user sessions over a single communications session.
- Linux™ Samba client support: The z/OS SMB server also supports Linux Samba clients.
- There are the following changes for SNA and Enterprise Extender (EE):
  - An EE connectivity test command is provided to assist in debugging various network problems. This new test command is intended to be used to test an existing EE connection, or to assist in determining why an EE connection cannot be established.
  - A number of miscellaneous usability, serviceability, and problem determination improvements are made to SNA, and in particular EE.
- FTP enhancement: z/OS V1.8 Communications Server provides a new REXX interface designed to be used to invoke the FTP client programmatically. This API support extends the existing FTP Client API to support the REXX programming language. A sample REXX program is delivered.
- Telnet enhancements:
  - Enhancements allow you to specify that a TN3270 server should automatically clean up hung SNA Telnet sessions when a new TN3270 connection is initiated. This is designed to help reduce the number of reconnect failures caused when Telnet still has a SNA session for the original connection.
- There is support for the resolution of system symbols for Telnet unformatted system services message (USSMSG) processing. System-specific symbols such as the system name are displayed to help you diagnose problems.
- The USS table assignment from the LU exit is designed to provide more flexibility in assigning a USS table based on client criteria.
- z/OS V1R6 Communications Server and subsequent releases include a stand-alone TN3270 Server. This stand-alone TN3270 server can provide increased flexibility, improved reliability, and simplified problem diagnosis as compared to the in-stack version of the TN3270 Server. z/OS V1R8 is planned to be the last release of z/OS Communications Server which will support the in-stack version of the TN3270 Server. After z/OS V1R8 this capability will be removed from the product. In preparation for that change, customers should consider implementing the stand-alone TN3270 Server. For more information, refer to
 

**<http://www.ibm.com/software/network/commserver/zos/>**
- AnyNet® is removed from z/OS Communications Server. AnyNet has not been enhanced in many years, and has been supplanted by Enterprise Extender, which has superior function and performance.
- The ability to define parallel EE Transmission Groups (TGs) using multiple SAPs is removed in z/OS V1.8. Parallel TGs defined in such a manner provide no benefit over single EE logical links.
- There is a new TCP/IP configuration parameter that allows users to designate the source IP address to be used for outbound TCP connections based on the destination IP addresses or networks. In scenarios where outbound TCP connections from z/OS need to traverse multiple distinct networks, this enhancement can help make firewall administration easier, as users can permit traffic from a single, predictable IP address to traverse the firewall.
- In z/OS V1.8, the Firewall Technologies component of the Integrated Security Services element is removed. Many Firewall Technologies functions have been stabilized for some time and can be replaced using comparable or better functions provided by Communications Server, notably IPSecurity. In addition, a functionally rich downloadable tool replaces the IPSecurity and IP Filtering configuration GUI support. For more information, refer to *z/OS V1R7.0 Migration*.

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## Ease of use

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Ease of use is a continued focus area in z/OS V1.8. There are significant improvements delivered in the IBM Health Checker for z/OS framework and also additional checks, a number of Hardware Configuration Manager (HCM) and ISPF enhancements, and usability extensions to Infoprint Server's Web-based print management interface. These and other usability improvements are:

- The IBM Configuration Assistant for z/OS Communications Server GUI, introduced in z/OS V1.7 as the z/OS NSCA (Network Security Configuration Assistant), is extended to include support for QoS (Quality of Service) and IDS (Intrusion Detection Services) policy configuration. This support allows an

administrator to configure IPSec, Application Transparent TLS, QoS, and IDS policy using a consistent user interface. In the past, QoS and IDS were configured with separate GUIs. These changes are expected to simplify the QoS/IDS configuration tasks by applying the Configuration Assistant for z/OS Communications Server concepts to QoS and IDS. Also, the GUI is designed to generate the policy agent configuration file for IDS policy, as described in **Security**.

- In z/OS V1.8, there are significant improvements for health checking. The enhanced IBM Health Checker for z/OS framework makes it easier to write checks, and to provide improved parmlib, parsing, and display support for checks. In addition, there are a number of new checks for Communications Server, GRS, storage management (ASM), RACF, BAM, DFSMS, and Resource Recovery Services (RRS).
  - The following are Hardware Configuration Manager (HCM) enhancements:
    - A new function is designed to export and import I/O definition files (IODFs). This improves processing time and helps make it easier to send IODFs to IBM for problem determination.
    - A new function is designed to save the layout of a controller in a physical description file (PDF) so it can be used as a model for new controllers.
    - Another new function allows you to locate objects that contain specific values in user fields, filter via wildcards, and select multiple objects for deletion in the Edit dialog.
    - There is support for the Copy, Add like, and Repeat functions that are provided by Hardware Configuration Definition (HCD). This support enables you to define complex objects more quickly and eliminate the need to switch back to HCD to use the function.
    - A new function is intended to allow you to compare HCM configuration files and get HCD IODF Compare Reports via an HCM dialog, and provide an additional means to check whether the changes that have been made were those intended.
    - The automatic generation of entries in the activity log file of an IODF enhances the usability of the activity log file.
    - The generation of cable labels includes PCHID information for channel paths. Switch port names are defaulted to the connection data for each port. These functions are intended to reduce the need for manual changes.
    - The ability to hide connections in the HCM diagram helps allow you to tailor a cropped configuration view for documentation purposes.
    - Hardware Configuration Manager (HCM) provides performance data integration with a Web interface of the RMF Distributed Data Server (DDS) for selected objects of the HCM diagram. The displayed RMF Monitor III online performance data enables you to detect performance bottlenecks and provide faster problem resolution.
  - The following are ISPF improvements:
    - Support has been added for SuperC Compare and Search-For functions on the Data Set List Actions panel.
- Enhancements help make it easier to search for members:
    - A new member list primary command, FILTER, is designed so you can filter member lists using member attributes. The command is designed to allow you to use it repeatedly to refine the member list.
    - A new option on the SRCHFOR command enables you to specify that member list filtering display only those members containing a search string.
  - The ISPF workstation connect program WSCON is designed to autodiscover the IP address of the connected TN3270 workstation and use this address to establish a session with the Workstation Agent. This improves usability, because you will no longer need to be aware of your IP address or enter it on the Initiate Workstation Connection panel to establish a session.
  - ISPF client/server code is converted to use the IBM C/C++ runtime libraries, which can help reduce the number of C runtime libraries in use on your system. Also, some performance improvement is expected.
  - ISPF is designed to help ensure that, when a member having one or more aliases is renamed or deleted, aliases are updated to point to the new name or deleted. This helps prevent the inadvertent creation of "orphaned" alias entries.
  - Data Set List line commands support for tape data sets is enabled. DFSMSrmm supports this by enabling a fast path directly into the relevant part of the DFSMSrmm dialog.
- Enhancements to Infoprint Server's Infoprint Central Web-based print management GUI are designed to let you:
    - Display real-time status information for a TCP/IP-connected printer, including online/offline status, or how much paper is in the printer's input and output bins
    - Turn a TCP/IP-connected printer online or offline, and reset the printer
    - Stop an IP PrintWay™ job from printing without canceling the job
    - Identify by user ID which Infoprint Central user performed a certain action on a print job, printer, or NetSpool™ LU
    - Obtain details about network connectivity problems using the TRACEROUTE command for faster problem resolution
  - RMF enhancements designed to support ease of use include:
    - The RMF postprocessor is designed to honor duration intervals for overview processing in the same way as for standard intervals. This support is intended to allow you to generate meaningful postprocessor trend reports over long periods and use the spreadsheet macros to plot charts for multiple days and even weeks.
    - RMF Monitor III displays LRU status VSAM RLS activity reports, which enables you to distinguish between buffers below and above the 2 GB bar.

- System Display and Search Facility (SDSF) displays zAAP utilization in addition to system CP utilization on the DA screen.
- Recoverable Resource Services (RRS) enhancements:
  - MVS™ DISPLAY commands include RRS status information. This makes it easier to implement automatic alerts and capture information in syslog.
  - A new SHUTDOWN command is designed to allow you to end RRS instead of doing a CANCEL. This helps avoid unnecessary abnormal termination and provide clearer shutdown messages.

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## z/OS V1.8 product content

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z/OS is composed of base elements and optional features. Optional features are priced and unpriced. To learn more about these elements and features, refer to *z/OS and z/OS.e Planning for Installation (GA22-7504)* at

[http://publibz.boulder.ibm.com/cgi-bin/bookmgr\\_OS390/BOOKS/E0Z2B118](http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/E0Z2B118)

### *Replacing base elements*

Customers have the ability to replace a z/OS base function with a commercially available product that provides a similar function. Contact an IBM representative for qualification and pricing information. All z/OS integrated testing results and performance claims are voided with such replacement.

### *Enabling optionally priced features*

z/OS optionally priced features use a z/OS product registration service, together with product policy statements, to determine whether or not the z/OS priced feature has been ordered and should run. Optionally priced features that are ordered concurrently with z/OS will be shipped by IBM together with policy statements in parmlib that enable the ordered priced features. z/OS priced features that have not been ordered will also be shipped with z/OS, but with policy statements that disable the unordered features. If the customer subsequently enables any of the optional priced features, those features also become subject to the payment terms of the customer's existing z/OS license as described in the *z/OS Licensed Program Specifications (GA22-7503)*. Customers must notify IBM when they enable an optional feature that was shipped disabled. A detailed description of the enablement support is available in *z/OS and z/OS.e Planning for Installation (GA22-7504)*.

### *Program services*

Central service for suspected defects in z/OS code is provided by the IBM Support Center within the customer's geography. On-site (local) support, although available in many geographies, is provided as part of IBM's portfolio of fee-based services.

### *Service policy*

IBM plans to provide service support for each release of z/OS for three years following its general availability date. IBM, at its discretion, may choose to leave a release supported for more than three years.

The service policy for the priced and unpriced features and Web deliverables described in this announcement is

the same as the service policy of the release on which they are installed.

Coexistence and migration rules should be taken into account in planning future migrations. Refer to **General coexistence, release migrations, and fallback** in the **Technical information** section for additional information.

As announced in Software Announcement 205-170, dated July 27, 2005, a function in SMP/E, Internet Service Retrieval, simplified the acquisition of z/OS service. This function supplements existing service options in ShopzSeries. Internet Service Retrieval can help eliminate manual tasks currently required for ordering and delivery of IBM PTFs using current methods.

IBM recommends that you begin to use this function (also included in the same level of SMP/E function contained in z/OS V1.7 and z/OS.e V1.7.) to acquire service. Other options include ShopzSeries, or one of these worldwide fee offerings:

- U.S. — SoftwareXcel, Resolve
- Europe/Middle East/Africa — Enhanced Technical Support
- Canada — Support Line
- Latin America — Support Line
- Asia Pacific/South — Support Line

IBM plans to continue to offer electronic delivery of service and to continue to simplify z/OS service ordering, delivery, and installation. To help reduce the number of ordering interfaces and help assure timely delivery of new function, existing ESO and CBPDO physical delivery subscriptions will be discontinued effective September 2006, as previously announced in Software Announcement 205-167, dated July 27, 2005. You can use a job scheduling system and SMP/E Internet Service Retrieval to get service at any interval you find convenient, or use the Internet delivery subscription option available in ShopzSeries.

In addition to SMP/E Internet Service Retrieval, you can continue to use options for ordering service from the ShopzSeries Web site at

<http://www.ibm.com/software/shopzseries>

### *Installation and customization enhancements*

Effective with z/OS V1.8 availability, the Customized Offerings (for example, CBPDO, ServerPac, SystemPac®) plan to provide the following enhancements:

- The Customized Offerings have been enhanced to provide additional media support as follows:
  - 3592 support has been added to all the Customized Offerings:
    - CBPDO (5751-CS3)
    - ServerPac (5751-CS9)
    - SystemPac (5751-CS4)
    - ProductPac® (5751-CS5)
    - RefreshPac (5751-CS7)
    - Customized Offerings Driver (5655-M12)

3592 media support was announced in the preview announcement with a planned availability in September 2006. 3592 media may be selected at Ordering Activation on September 15, 2006; however, manufacturing will not begin until October 15, 2006. Shipments for ServerPac orders on 3592 media will begin approximately two weeks

after manufacturing begins. Shipments for verified SystemPac orders will begin approximately four weeks after manufacturing begins. Shipments for CBPDO orders will begin approximately one week after manufacturing begins.

- 3490E support has been added to CBPDO. This medium is already supported in all the other Customized Offerings.
- To utilize the higher-density media more efficiently, the RIM tape has been eliminated. The files are now shipped on the first (or only) System Tape.
- The CustomPac Dialog no longer supports 9345 DASD. If this device is encountered, it will be treated as an OEM device.
- As of fourth quarter 2006, the Customized Offerings will provide SMPPTS spill data set support. Based on the number and size of the unintegrated PTFs in an order, 1 to 99 SMPPTS spill data sets and their associated DDDEFs may be provided with the order.

The Customized Offerings Driver (COD) is a prebuilt stand-alone driving system that can be used to drive the installation of CBPDO or ServerPac if you do not have a driving system or your driving system does not meet the minimum driving system requirements. The Customized Offerings Driver V2.2.0 has been updated to a subset of z/OS V1.5, which is the minimum driving system level for installing z/OS V1.8.

### **Customized fee offerings**

**CustomPac enhancements:** SystemPac and ProductPac are now orderable on ShopzSeries. When you order SystemPac, you can browse the product catalog, including Independent Software Vendor (ISV) products, select the appropriate products to configure your order, and reconcile technical requisites. You can also upload your installed inventory report to determine which upgrades are available for the IBM and selected ISV products currently installed on your system, and to prepopulate your SystemPac order with the appropriate products. If your order contains products from multiple system releases (SRELs), you have the option to include all products in a single order or split your order into a separate order for each SREL. Full-volume dump and dump by data set are available as delivery methods.

For more information on these offerings, visit

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

**SubsystemPac now customized in DFDSS logical volume dump format:** Currently, SubsystemPacs are available in a copy-by-dataset (IEBCOPY) format only. Concurrent with z/OS V1.8 general availability, an ordering option is planned to be added for z/OS SubsystemPac for delivery in DFSMSdss™ logical dump format. This new option is expected to allow you to restore your subsystem order's data sets to a volume you choose. You must license one of the optional features of z/OS that includes DFSMSdss to use the new DFSMSdss logical dump format for installing SubsystemPacs.

**Enhanced software service support:** By accessing IBMLink™ and using the ServiceLink application Service Information Search (SIS), you can search multiple databases for answers to questions or for previously reported defects in IBM software. Currently SIS searches only RETAIN® databases. With many types of documents now available only in the eSupport Knowledge Base (eSKB), SIS will be enhanced to search the eSKB database, in addition to the RETAIN libraries, to help give

you the most current usage data. This expanded search will be supported in SIS, with the availability of IBMLink R5.0, planned for August 2006.

SIS is included in the service offerings, SoftwareXcel Enterprise Edition for zSeries, SoftwareXcel Basic Edition, and Resolve.

### **Important Web sites**

- z/OS Web site  
<http://www.ibm.com/servers/eserver/zseries/zos/>
- z/OS.e Web site  
<http://www.ibm.com/servers/eserver/zseries/zose/>
- z/OS V1R8.0 Introduction and Release Guide  
[http://publibz.boulder.ibm.com/cgi-bin/bookmgr\\_OS390/BOOKS/E0Z2A118](http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/E0Z2A118)
- General Q & A  
<http://www.ibm.com/servers/eserver/zseries/faq/>
- Previously announced statements of direction  
[http://www.ibm.com/servers/eserver/zseries/zos/zos\\_sods.html](http://www.ibm.com/servers/eserver/zseries/zos/zos_sods.html)
- z/OS Internet Library  
<http://www.ibm.com/servers/eserver/zseries/zos/bkserv/>
- Descriptions of courses worldwide  
<http://www.ibm.com/services/learning>
- z/OS downloads  
<http://www.ibm.com/servers/eserver/zseries/zos/downloads/>
- CustomPac  
<http://www.ibm.com/services/custompac>
- ShopzSeries  
<http://www.ibm.com/software/shopzseries>
- z/OS Communications Server  
<http://www.ibm.com/software/network/commserver/zos/>
- IBM Open Class® Library Transition Guide  
[http://publibz.boulder.ibm.com/cgi-bin/bookmgr\\_OS390/BOOKS/CBCIT100/CCONTENTS](http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/CBCIT100/CCONTENTS)

### **Reference information**

#### **FITS requirements**

For a list of V1.8 FITS requirements, refer to

[http://www-03.ibm.com/servers/eserver/zseries/zos/bkserv/user\\_group\\_reqs.html](http://www-03.ibm.com/servers/eserver/zseries/zos/bkserv/user_group_reqs.html)

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## Education support

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Here are some of the courses available for classroom delivery:

- Introduction to z/OS Environment (ES05)
- Fundamental System Skills for z/OS (ES10)
- z/OS Facilities (ES15)
- z/OS Operations (ES27)
- z/OS Installation (ES41)
- IBM System z9 and zSeries 990/890 Technical Update and Configuration Guidelines (OZ05)
- z/OS V1R5 to z/OS V1R7 Update: z/OS 64 bit Applications (OZ92)
- z/OS V1R6 to z/OS V1R7 Update: Scalability and Autonomics (OZ93)

In the U.S. and Canada, call 800-IBM-TEACH (426-8322) to enroll in one or more of these classes. To find other z/OS-related courses, visit

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

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## Technical information

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### *Specified operating environment*

**Hardware requirements:** z/OS V1.8 runs on the following IBM servers:

- IBM System z9 EC (z9-109) or z9 BC
- zSeries z900 or z990
- zSeries z800 or z890

**Software requirements:** The z/OS base is a system that can be IPLed. There are no software prerequisites in order to IPL. Specific functions may require additional products not included in the z/OS base, or in the optional features of z/OS. Refer to *z/OS and z/OS.e Planning for Installation* (GA22-7504) for a listing of specific software requirements at

[http://publibz.boulder.ibm.com/cgi-bin/bookmgr\\_OS390/BOOKS/E0Z2B118](http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/E0Z2B118)

### **Compatibility**

*General coexistence, release migrations, and fallback:* z/OS and z/OS.e give you compatibility and flexibility as you migrate systems in a multisystem configuration by allowing multiple releases of z/OS and z/OS.e to coexist. This includes non-Parallel Sysplex and Parallel Sysplex multisystem configurations.

Coexistence allows systems within a multisystem configuration to be upgraded to a new release level of z/OS or z/OS.e one system at a time. This is contingent on the fact that the release you are migrating to can coexist with the lowest release running in your multisystem configuration.

z/OS is coexistence-supported with its equivalent z/OS.e release, and with the z/OS.e releases equivalent to any

coexistence-supported z/OS release. As such, z/OS.e supports the same migration policy as z/OS.

As was started with z/OS and z/OS.e V1.6, the first release of the new annual release cycle, the coexistence, migration, and fallback policy aligns with the service policy. IBM intends to continue with the practice of providing service support for each release of z/OS or z/OS.e for three years following its general availability (GA) date. IBM, at its sole discretion, may choose to leave a release supported for more than three years. In some cases, more than three releases may be coexistence, migration, and fallback supported if IBM, at its sole discretion, chooses to provide service support for greater than three years for a release. However, any z/OS or z/OS.e release having three or fewer months of service remaining at the time of GA of a new release will not be coexistence, migration, and fallback supported.

**Note:** These statements represent the current intention of IBM. IBM reserves the right to change or alter the coexistence, migration, and fallback policy in the future or to exclude certain releases beyond those stated. IBM development plans are subject to change or withdrawal without further notice. Any reliance on this statement of direction is at the relying party's sole risk and does not create any liability or obligation for IBM.

Migration forward as well as fallback should be made within the same z/OS or z/OS.e releases supported by the coexistence policy.

The following table shows the releases that are coexistence-supported with z/OS and z/OS.e V1.8.

### **Coexistence-supported releases**

Release	Coexistence-supported with release in Column 1
z/OS V1.5 or z/OS.e V1.5	z/OS V1.2 (1), z/OS V1.3 (2), z/OS V1.4 (3), z/OS V1.5 (3), z/OS.e V1.3, z/OS.e V1.4, z/OS.e V1.5
z/OS V1.6 or z/OS.e V1.6	z/OS V1.3 (2), z/OS V1.4 (3), z/OS V1.5 (3), z/OS V1.6, z/OS.e V1.3, z/OS.e V1.4, z/OS.e V1.5, z/OS.e V1.6
z/OS V1.7 or z/OS.e V1.7	z/OS V1.4 (3), z/OS V1.5 (3), z/OS V1.6, z/OS V1.7, z/OS.e V1.4, z/OS.e V1.5, z/OS.e V1.6, z/OS.e V1.7
z/OS V1.8 or z/OS.e V1.8	z/OS V1.5 (3), z/OS V1.6, z/OS V1.7, z/OS V1.8, z/OS.e V1.5, z/OS.e V1.6, z/OS.e V1.7, z/OS.e V1.8
z/OS V1.9 or z/OS.e V1.9 (4)	z/OS V1.7, z/OS V1.8, z/OS V1.9, z/OS.e V1.7, z/OS.e V1.8, z/OS.e V1.9
z/OS V1.10 or z/OS.e V1.10 (4)	z/OS V1.8, z/OS V1.9, z/OS V1.10, z/OS.e V1.8, z/OS.e V1.9, z/OS.e V1.10

### **Notes**

- (1) z/OS V1.2 end of service was October 2004.
- (2) z/OS V1.3 and z/OS.e V1.3 end of service was March 2005.
- (3) z/OS V1.4, z/OS.e V1.4, z/OS V1.5, and z/OS.e V1.5 end of service will be March 2007.
- (4) Operating system levels beyond z/OS and z/OS.e V1.8 represent current intentions of IBM.

This consistent coexistence, migration, and fallback policy applies to release migrations for all configurations, whether they are:

- Single-system configurations
- Individual systems within a multisystem configuration
- Cases where a simultaneous IPL is used to migrate all systems in a multisystem configuration at the same time

It is very important that you order the required z/OS release you need for migration and coexistence while it is still available. Refer to information under **Key dates** to find out how long z/OS V1.7 will remain orderable.

For additional information on z/OS coexistence and release migration information, refer to *z/OS and z/OS.e Planning for Installation (GA22-7504)* at

[http://publibz.boulder.ibm.com/cgi-bin/bookmgr\\_OS390/BOOKS/E0Z2B118](http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/E0Z2B118)

For migrations inside the IBM migration and coexistence policy, IBM Global Technology Services (GTS) has fee-based offerings that provide a PTF on demand service for toleration and coexistence maintenance based upon a customer's SMP/E Consolidated Software Inventory (CSI). With these offerings, you specify the release of z/OS, z/OS.e, or other products, or hardware (for example, 2094) to which you are migrating, and all configured toleration/coexistence maintenance for your current system (as specified by your CSI) will be delivered to you as a customized package in electronic or physical format. This is provided through the S/390® SoftwareXcel offering, via the Service Request and Delivery (SRD) function.

GTS also provides hands-on fee-based services to assess whether a migration outside the migration and coexistence policy might be possible. For more information on the migration services that GTS provides for both inside and outside the migration and coexistence policy, contact your local IBM sales specialist.

*JES coexistence, release migrations, and fallback:* IBM recommends that you migrate to the next version of JES2 or JES3 at the same time you migrate to the rest of z/OS. This way, you benefit directly from the new function provided by the most current JES and enable other elements and features to benefit from this level.

Fallback for z/OS and z/OS.e is at a system level, rather than an element or feature level. When you migrate to JES2 or JES3 at the same time you migrate to z/OS, you cannot back out JES2 or JES3 separately; you can only back out the entire z/OS product.

However, because such a migration is not always practical, certain prior levels of JES2 and JES3 are supported with z/OS V1.8 so that you can stage your migration to z/OS V1.8 JES2 or JES3 (that is, migrate your JES2 or JES3 later). If you stage your migration to z/OS V1.8 JES2 or JES3, coexistence and fallback to a prior JES2 or JES3 is supported so long as the prior z/OS level can coexist with other z/OS and z/OS.e systems in the same MAS or multisystem complex.

For additional information on z/OS and z/OS.e JES release migration and coexistence, refer to *z/OS and z/OS.e Planning for Installation (GA22-7504)* by visiting

[http://publibz.boulder.ibm.com/cgi-bin/bookmgr\\_OS390/BOOKS/E0Z2B118](http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/E0Z2B118)

**Performance considerations:** Additional information on z/OS V1.8 performance will be published at general availability. Contact an IBM representative at or after general availability.

**User group requirements:** z/OS V1.8 satisfies or partially satisfies requirements from IBM customers and one or more of the worldwide user group communities. Information on the specific user group requirements (numbers and descriptions) can be found at

[http://www.ibm.com/servers/eserver/zseries/zos/bkserv/user\\_group\\_reqs.html](http://www.ibm.com/servers/eserver/zseries/zos/bkserv/user_group_reqs.html)

### **Planning information**

**Direct customer support:** Direct customer support for questions about the installation and use of the product is provided by IBM Operational Support Services — SoftwareXcel Enterprise Edition or SoftwareXcel Basic Edition. These fee services can help enhance productivity by providing voice and electronic access into the IBM support organization. IBM Operational Support Services — SoftwareXcel Enterprise Edition or SoftwareXcel Basic Edition will help answer questions pertaining to usage, how to, and suspected software defects for eligible products.

Installation and technical support is provided by IBM Global Technology Services. For more information on services, call 1-888-426-4343.

To obtain information on customer eligibility and registration procedures, contact the appropriate support center.

### **Security, auditability, and control**

Data security and auditability in the z/OS environment are enhanced by the functions available in the optional Security Server for z/OS feature. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

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## **Ordering information**

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### **Ordering z/OS through the Internet**

ShopzSeries provides an easy way to plan and order your z/OS ServerPac or CBPDO. It will analyze your current installation, determine the correct product migration, and present your new configuration based on z/OS. Additional products can also be added to your order (including determination of whether all product requisites are satisfied). ShopzSeries is available in the U.S., Canada, and several countries in Europe. In countries where ShopzSeries is not available yet, contact your IBM representative (or IBM Business Partner) to handle your order via the traditional IBM ordering process. For more details and availability, visit the ShopzSeries Web site at

<http://www.ibm.com/software/shopzseries>

### **Current licensees**

For pricing information previously announced for z/OS V1, refer to

- Software Announcement 200-352, dated October 3, 2000

- Software Announcement 202-036, dated February 19, 2002
- Software Announcement 202-105, dated April 30, 2002
- Software Announcement 202-190, dated August 13, 2002
- Software Announcement 203-131, dated May 13, 2003
- Software Announcement 204-056, dated April 7, 2004
- Software Announcement 205-167, dated July 27, 2005

### **Key dates**

- **August 8, 2006:** z/OS V1.8 CFSW configurator support for stand-alone path (5694-A01) and price proposal support.
- **September 15, 2006:** First date for ordering z/OS V1.8 ServerPac, SystemPac, and CBPDO using CFSW configuration support, or ShopzSeries, the Internet ordering tool. Note that most z/OS media (executable code) is shipped only through Customized Offerings (ServerPac, SystemPac, and CBPDO).
- **September 29, 2006:** z/OS V1.8 planned general availability via ServerPac, CBPDO and SystemPac.
- **October 10, 2006:** Recommended last date for submitting z/OS V1.7 orders via the entitled Customized Offerings (ServerPac and CBPDO). This date will allow for adequate order processing time.
- **October 15, 2006:** Manufacturing of orders on 3592 tape media will begin.
- **October 23, 2006:** Last date for ordering z/OS V1.7 via ServerPac and CBPDO.
- **November 27, 2006:** Recommended last date for submitting orders for z/OS V1R4 z990 Exploitation Support feature and z/OS V1R4 Consoles Enhancements feature. This date will allow for adequate order processing time.
- **December 11, 2006:** Last date for ordering z/OS V1R4 z990 Exploitation Support feature and z/OS V1R4 Consoles Enhancements feature.
- **December 31, 2006:** Last date for Web download of the following Web deliverables:
  - LDAP Enhancements for z/OS V1R4/R5 and z/OS.e V1R4/R5
  - z990 and z890 Enhancements to Cryptographic Support

For z/OS V1.6, z/OS V1.7, z/OS.e V1.6 and z/OS.e V1.7 customers, there are two additional Web deliverables that are available for your use:

- Enhancements to Cryptographic Support for z/OS and z/OS.e V1R6/R7, which became generally available as of May 26, 2006
- IBM zIIP Support for z/OS and z/OS.e V1R6/R7 Web deliverable, which became generally available as of June 30, 2006

To obtain the Web deliverables listed above, visit

<http://www.ibm.com/server/eserver/zseries/zos/downloads>

The end of service for a Web deliverable occurs at end of service for the release on which it runs.

It is very important that you order the required z/OS release you need for migration and coexistence while it is still available. Refer to information under **Key dates** to find out how long z/OS V1.7 will remain orderable.

For the latest product catalog for CBPDO, ServerPac, and SystemPac, visit the following Web site

<http://www.ibm.com/servers/eserver/zseries/software/swinfo/>

Then, select z/OS.

Products that are unavailable via CBPDO, ServerPac, or SystemPac, such as Lotus® Domino® (5655-B86), can also be separately ordered for use with z/OS.

CBPDO and ServerPac are offered for electronic delivery, where ShopzSeries product ordering is available. For more details on electronic delivery, refer to the ShopzSeries help information

<http://www.software.ibm.com/ShopzSeries>

The following features will be available for electronic delivery in CBPDO when ordered using ShopzSeries until December 11, 2006:

- z/OS V1R4 z990 Exploitation Support feature
- z/OS V1R4 Consoles Enhancements feature

### **Current licensees of z/OS V1**

z/OS V1 customers can migrate to z/OS V1.8 by ordering the release through the Customized Offerings (ServerPac, SystemPac, CBPDO) as they have done in the past.

For more details, refer to the **New licensees** section under the **Ordering information** section.

### **New licensees**

**New licensees of z/OS V1.8:** This product ships its executable code via Customized Offerings (ServerPac, SystemPac, CBPDO). The media type is chosen during the customized offering ordering procedure. Refer to the **Customized Offerings** section for the media types offered.

Production of z/OS V1.8 orders will begin on the planned general availability date, **September 29, 2006**. Ship dates for orders will be based on order sequence, Customized Offering selected, production capability, and customer-requested arrival date. Due to the amount of customization of ServerPac orders, shipments will begin approximately **two weeks after** general availability. Due to the amount of additional customization of SystemPac orders, shipments will begin approximately four weeks after order and data input verification. For CBPDO orders, shipments will begin one week after general availability. In all cases, no delivery commitments are to be made to the customer until confirmed arrival dates are in ESW.

### **Basic license**

To order a basic license, specify the z/OS V1.8 program number 5694-A01. Proceed to select the feature numbers listed, which are required, and then select any optional feature numbers.

**Single version charging:** To elect single version charging, the customer must notify and identify to IBM the prior program and replacement program and the designated machine the programs are operating on.

**Basic machine-readable material:** The following no-charge features are added to z/OS V1.8 and can be ordered effective **August 8, 2006**. These features have pricing/billing features associated with them. Refer to **Notes** below for details on past announcements for this information.

z/OS V1.8 Feature description	z/OS V1.8 Orderable supply ID
Base	S012HK3

**Notes**

- The billing features and pricing information for the above feature descriptions remain unchanged and are provided in:
  - Software Announcement 200-352, dated October 3, 2000
  - Software Announcement 202-036, dated February 19, 2002
  - Software Announcement 202-105, dated April 30, 2002
  - Software Announcement 202-190, dated August 13, 2002
  - Software Announcement 203-131, dated May 13, 2003
  - Software Announcement 204-056, dated April 7, 2004
  - Software Announcement 205-167, dated July 27, 2005
- This product ships its executable code via Customized Offerings (ServerPac, SystemPac, CBPDO). The media type is chosen during the customized offering ordering procedure. Refer to the **Customized Offerings** section for the media types offered.

**Basic publications**

A program directory and one copy of the following publication are supplied automatically with the basic machine-readable material:

**Basic unlicensed hardcopy publication**

Title	Order number
z/OS Hot Topics Newsletter	GA22-7501

The z/OS publications are available on the Internet at

<http://www.ibm.com/servers/eserver/zseries/zos/bkserv/>

**Basic unlicensed softcopy publication**

Title	Order number
z/OS Version 1 Release 8 Collection	SK3T-4269

Starting with z/OS V1.4, as books are updated, they will be available in softcopy only on the softcopy collection and the Internet.

For a fee, the customer can order the softcopy collections or any z/OS V1.8 documents available in hardcopy using the IBM Publications Center on the Web

<http://www.ibm.com/shop/publications/order>

For customers in 23 countries, the IBM Publications Center offers the option to order hardcopy publications or softcopy collections by customer number. Verify whether this option is available in the user's country.

For other publications ordering options, visit

[http://www.ibm.com/servers/eserver/zseries/zos/bkserv/order\\_books.html](http://www.ibm.com/servers/eserver/zseries/zos/bkserv/order_books.html)

**z/OS Version 1 Release 8 Collection (BookManager® and PDF):** This collection contains the z/OS V1.8 product books in both BookManager and PDF softcopy formats on CD-ROM. If this collection is refreshed after general availability, an updated collection will be automatically sent to z/OS V1.8 licensees.

By general availability, the z/OS V1.8 books will be available at

<http://www.ibm.com/servers/eserver/zseries/zos/bkserv/>

For creating softcopy repositories, SoftCopy Librarian is the strategic tool for uploading and managing BookManager and PDF softcopy files on a z/OS host or server and on LANs and workstations. SoftCopy Librarian is a free program that is available on the softcopy tools disc of the collections or the Web. Use it to obtain and manage shelves from IBM or OEMs (original equipment manufacturers), CD or DVD collections, or the Internet from the IBM PUBLIB Web site, as well as from other Web sites that provide support for the SoftCopy Librarian.

Starting in October 2003, SoftCopy Librarian is supported only on Windows 2000 and Windows XP.

The latest version of the SoftCopy Librarian can be downloaded from this Web site

<http://publib.boulder.ibm.com/epubs/df/ebrsclwj.exe>

**Optional machine-readable material**

**Optional unpriced features — z/OS V1.8:** The following optional features, offered at no additional charge, are added to z/OS V1.8 and can be ordered effective **August 8, 2006**.

z/OS V1.8 Feature description	z/OS V1.8 orderable supply ID
Communications Server Security Level 3 z/OS Security Level 3	S012HLM S012HK4

**Notes**

1. This product ships its executable code via Customized Offerings (ServerPac, SystemPac, CBPDO). The media type is chosen during the customized offering ordering procedure. Refer to the **Customized Offerings** section for the media types offered.
2. All the above features can be exported outside the U.S.
3. These features should be ordered during this release cycle, since they are not automatically included in all orders, due to need for export regulation tracking.

**Optional priced features:** The following optional no-charge features are added to z/OS V1.8 and can be ordered effective **August 8, 2006**. These features have

pricing/billing features associated with them. Refer to **Notes** below for details on past announcements for this information.

z/OS V1.8 Feature description	z/OS V1.8 Orderable supply ID
BDT FTF	S012HK8
BDT SNA NJE	S012HK6
BookManager Build	S012HK9
C/C++ without Debug	S012HL1
DFSMSdss,hsm	S012HL7
DFSMSrmm	S012HM2
DFSMSdss	S012HL1
DFSMSstvs	S012HK7
DFSORT	S012HM4
GDDM-PGF	S012HL8
GDDM-REXX	S012HKG
HCM	S012HLS
HLASM Toolkit	S012HJX
Infoprint Server	S012HLT
JES3	S012HKN
RMF	S012HLW
SDSF	S012HKJ
Security Server	S012HKD

**Notes**

- The billing features and pricing information for the above feature descriptions are described in
  - Software Announcement 200-352, dated October 3, 2000
  - Software Announcement 202-036, dated February 19, 2002
  - Software Announcement 202-105, dated April 30, 2002
  - Software Announcement 202-190, dated August 13, 2002,
  - Software Announcement 203-131, dated May 13, 2003
  - Software Announcement 204-056, dated April 7, 2004
  - Software Announcement 205-167, dated July 27, 2005
- This product ships its executable code via Customized Offerings (ServerPac, SystemPac, CBPDO). The media type is chosen during the customized offering ordering procedure. Refer to the **Customized Offerings** section for the media types offered.
- If the customer subsequently enables any of the optional priced features, those features also become subject to the payment terms of the existing z/OS license as described in *z/OS Licensed Program Specifications* (GA22-7503). The customer must notify IBM when an optional feature is enabled that was shipped disabled from IBM.
- One or both of the BDT optional features (File-to-File or SNA NJE) must be ordered and installed in order to use the BDT function shipped with the base.
- The DFSMSdss feature cannot be ordered with the DFSMSdss,hsm feature. Likewise, the DFSMSdss,hsm feature cannot be ordered with the DFSMSdss feature.

**Optional unpriced national language version (NLV) features:** The z/OS V1.8 NLV support features will become generally available on the same date the release becomes available.

z/OS V1.8 provides support in the languages listed below. However, not all elements within z/OS V1.8 are translated

into each language. Refer to *z/OS and z/OS.e Planning for Installation* (GA22-7504) for information on which elements are translated into which languages, by visiting

[http://publibz.boulder.ibm.com/cgi-bin/bookmgr\\_OS390/BOOKS/E02ZB118](http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/E02ZB118)

The following optional features, offered at no additional charge, are added to z/OS V1.8 and can be ordered effective **August 8, 2006**.

The NLV features for z/OS V1.8 are:

z/OS V1.8 NLV feature description	z/OS V1.8 orderable supply ID
Brazilian Portuguese Base (PTB)	S012HLZ
Brazilian Portuguese BookMgr Build	S012HKS
Canadian French Base (FRC)	S012HKH
Canadian French BookMgr Build	S012HKX
Danish Base (DAN)	S012HLL
Dutch Base (NLD)	S012HKF
French Base (FRA)	S012HK5
French BookMgr Build	S012HKV
German Base (DEU)	S012HL9
German BookMgr Build	S012HJS
Italian Base (ITA)	S012HLD
JPN Base	S012HKZ
JPN C/C++ Without Debug	S012HM3
JPN DFSORT	S012HLP
JPN Infoprint Server	S012HLG
JPN RMF	S012HK0
JPN SDSF	S012HKC
JPN Security Server	S012HL2
Upper Case English Base (ENP)	S012HKR
Korean Base (KOR)	S012HJT
Norwegian Base (NOR)	S012HJZ
Spanish Base (ESP)	S012HL3
Spanish BookMgr Build	S012HLF
Swedish Base (SVE)	S012HLX
Swiss German Base (DES)	S012HKW
Simplified Chinese Base (CHS)	S012HJW
Traditional Chinese Base (CHT)	S012HJV

**Notes**

- The above feature descriptions are offered at no additional charge.
- This product ships its executable code via Customized Offerings (ServerPac, SystemPac, CBPDO). The media type is chosen during the customized offering ordering procedure. Refer to the **Customized Offerings** section for the media types offered.

**Optional unlicensed publications**

**Optional unlicensed softcopy publications:** The following optional one-time charge features are added to z/OS V1.8 and can be ordered effective **August 8, 2006**.

Subscriptions to the following softcopy collections may be ordered for a fee by specifying the one-time charge feature numbers listed below:

Title	Order number	Orderable supply ID	Price
z/OS Software Products Collection	SK3T-4270	S012HL5	\$275
IBM eServer zSeries Redbooks Collection	SK3T-7876	S012HK2	150
z/OS Security Server RACF Collection	SK3T-4272	S012HL4	150
z/OS Version 1 Release 8 and Software Products DVD Collection	SK3T-4271	S012HLR	350

## Notes

- The Redbooks collection is updated, concurrently, with z/OS releases.
- The z/OS Security Server RACF Collection is updated, concurrently, with z/OS releases, and is available one week after the release general availability to licensees of the z/OS Security Server optional feature. The update for z/OS V1.8 is planned to be available October 6, 2006.
- The feature descriptions listed above are the same offered in z/OS V1.7.
- When the above softcopy collections are ordered as features of z/OS V1.8, the special subscription price includes automatic shipment of all updates made while the product version can be ordered.

The *z/OS Software Products Collection* now includes more than 1,730 unlicensed online documents for more than 290 z/OS software products and Parallel Sysplex, and a softcopy tools disc. This collection includes documents for multiple releases of software products that run on z/OS. The documents are provided in BookManager format and, when available, in PDF format as well.

The *IBM eServer zSeries Redbooks Collection* contains IBM Redbooks, in PDF format, related to z/OS and other System z products. IBM Redbooks, which are produced by the International Technical Support Organization, include timely technical information based on realistic scenarios and are created by IBM experts, customers, and business partners from around the world.

The IBM Redbooks are also available for viewing or downloading on the following Web site

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

To find Redbooks that apply to z/OS, enter z/OS in the search field at the top of the Web page.

The *z/OS Security Server RACF Collection* includes unlicensed softcopy documents, in BookManager format, for numerous software product libraries that reference z/OS Security Server RACF. It also includes education course listings, Web sites to access sample code on the Internet, and Portable Document Format (PDF) files for the z/OS Security Server manuals and softcopy tools. Using this collection, the customer has easy access to all the Security Server RACF-related information without handling individual sets of documents and libraries on many CD-ROMs.

The *z/OS Version 1 Release 8 and Software Products DVD Collection (SK3T-4271)* includes softcopy tools, libraries for z/OS Version 1 Release 8 (the element and feature libraries), the libraries for multiple releases of z/OS software products, and selected IBM eServer zSeries Redbooks. Both BookManager and PDF formats, when available, are included on this single DVD. This comprehensive z/OS collection is essentially the *z/OS Version 1 Release 8 Collection (SK3T-4269)* and the *z/OS Software Products Collection (SK3T-4270)* combined with selected IBM Redbooks from the *IBM eServer zSeries Redbooks Collection (SK3T-7876)* and delivered on the higher-density DVD technology. The contents of the popular zFavorites for zSeries mini-CD are also included on the DVD collection. This collection requires a DVD drive that can read discs in DVD-9 (single-sided, dual-layer) format.

**Optional licensed publications:** Effective with z/OS V1.7, there are no longer any licensed publications, which

previously required a separate key code to access on ResourceLink.

## z/OS V1.7 features withdrawn

The following z/OS V1.7 features are withdrawn from marketing effective October 23, 2006:

z/OS V1.7 orderable supply ID	z/OS V1.7 feature description
S011PSG	z/OS V1.7 Base
S011PRV	z/OS V1.7 BDT FTF
S011PRS	z/OS V1.7 BDT SNA NJE
S011PS8	z/OS V1.7 BookManager Build
S011PSB	z/OS V1.7 C/C++ without Debug
S011PSM	z/OS V1.7 DFSMSdss,hsm
S011PRO	z/OS V1.7 DFSMSrmm
S011PR5	z/OS V1.7 DFSMSdss
S011PR3	z/OS V1.7 DFSMStvs
S011PS5	z/OS V1.7 DFSORT
S011PPP	z/OS V1.7 GDDM-PGF
S011PRF	z/OS V1.7 GDDM-REXX
S011PPW	z/OS V1.7 HCM
S011PRR	z/OS V1.7 HLASM Toolkit
S011PSF	z/OS V1.7 Infoprint Server
S011PR4	z/OS V1.7 JES3
S011PPN	z/OS V1.7 RMF
S011PS6	z/OS V1.7 SDSF
S011PSD	z/OS V1.7 Security Server
S011PRC	z/OS V1.7 Communications Server Security Level 3
S011PPS	z/OS V1.7 z/OS Security Level 3
S011PSC	z/OS V1.7 SK3T-4272 z/OS Security Server RACF Collection
S011PPR	z/OS V1.7 SK3T-4270 z/OS Software Products Collection
S011PRM	z/OS V1.7 SK3T-7876 IBM z/OS V1 zSeries Redbook Collection
S011PS4	z/OS V1.7 SK3T-4271 z/OS V1R7 and Software Products DVD Collection
S011PPV	z/OS V1.7 Braz Port Base (PTB)
S011PS2	z/OS V1.7 Braz Port BookMgr Build
S011PRG	z/OS V1.7 Can Fren Base (FRC)
S011PR7	z/OS V1.7 Can Fren BookMgr Build
S011PPZ	z/OS V1.7 Danish Base (DAN)
S011PRP	z/OS V1.7 Dutch Base (NLD)
S011PPF	z/OS V1.7 French Base (FRA)
S011PSR	z/OS V1.7 French BookMgr Build
S011PSP	z/OS V1.7 Germ Base (DEU)
S011PPG	z/OS V1.7 Germ BookMgr Build
S011PRK	z/OS V1.7 Ital Base (ITA)
S011PR9	z/OS V1.7 JPN Base
S011PS1	z/OS V1.7 JPN C/C++ Without Debug
S011PSJ	z/OS V1.7 JPN DFSORT
S011PR1	z/OS V1.7 JPN Infoprint Server
S011PSN	z/OS V1.7 JPN RMF
S011PPL	z/OS V1.7 JPN SDSF
S011PR6	z/OS V1.7 JPN Security Server
S011PR2	z/OS V1.7 Upper Case English Base (ENP)
S011PRH	z/OS V1.7 Kor Base (KOR)
S011PPM	z/OS V1.7 Norw Base (NOR)
S011PPT	z/OS V1.7 Span Base (ESP)
S011PRW	z/OS V1.7 Span BookMgr Build
S011PS7	z/OS V1.7 Swed Base (SVE)
S011PS9	z/OS V1.7 Swiss Germ Base (DES)
S011PPK	z/OS V1.7 Simp Chin Base (CHS)
S011PS3	z/OS V1.7 Trad Chin Base (CHT)

## z/OS V1.4 features withdrawn

The following z/OS V1.4 features are withdrawn from marketing effective December 11, 2006:

z/OS V1.4 orderable supply ID	z/OS V1.4 feature description
S00WR8M	z/OS V1.4 Base
S00WRBK	z/OS V1.4 BDT FTF
S00WR9F	z/OS V1.4 BDT SNA NJE
S00WR81	z/OS V1.4 BookManager Build
S00WR8R	z/OS V1.4 C/C++ with Debug
S00WRBL	z/OS V1.4 C/C++ without Debug
S00WR90	z/OS V1.4 DFSMSdss, hsm
S00WR9J	z/OS V1.4 DFSMSrmm
S00WR8W	z/OS V1.4 DFSMSdss
S0103D3	z/OS V1.4 DFSMSStvs
S00WR96	z/OS V1.4 DFSORT
S00WR80	z/OS V1.4 GDDM-PGF
S00WR9X	z/OS V1.4 GDDM-REXX
S00WRBZ	z/OS V1.4 HCM
S00WR95	z/OS V1.4 HLASM Toolkit
S00WR98	z/OS V1.4 Infoprint Server
S00WRBX	z/OS V1.4 JES3
S00WRB8	z/OS V1.4 RMF
S00WRB7	z/OS V1.4 SDSF
S00WR9C	z/OS V1.4 Security Server
S00WRBG	z/OS V1.4 Communications Server Security Level 3
S00WRBF	z/OS V1.4 IBM HTTP Server NA Secure
S00WR9G	z/OS V1.4 QCSF Security Level 3
S00WRB4	z/OS V1.4 System SSL Security Level 3
S00WR8J	z/OS V1.4 Security Server Network Authentication Security Level 3
S01064C	z/OS V1.4 z990 Exploitation
S01064G	z/OS V1.4 Consoles Enhancements
S00WR7Z	z/OS V1.4 Base Source Code -- 3480
S00WRBT	z/OS V1.4 Base Source Code -- JPN -- 3480
S00WRBC	z/OS V1.4 Security Server Source Code -- 3480
S00WR9L	z/OS V1.4 SK3T-4272 z/OS Security Server RACF Collection
S00WR8H	z/OS V1.4 SK3T-4270 z/OS Software Products Collection
S00WR8K	z/OS V1.4 SK3T-7876 IBM z/OS V1 zSeries Redbook Collection
S00WR9W	z/OS V1.4 SK3T-4271 z/OS V1R4 and Software Products DVD Collection
S00WR8D	z/OS V1.4 Braz Port Base (PTB)
S00WRBH	z/OS V1.4 Braz Port BookMgr Build
S00WRB5	z/OS V1.4 Can Fren Base (FRC)
S00WR9K	z/OS V1.4 Can Fren BookMgr Build
S00WR87	z/OS V1.4 Danish Base (DAN)
S00WR9S	z/OS V1.4 Dutch Base (NLD)
S00WRBM	z/OS V1.4 French Base (FRA)
S00WR8S	z/OS V1.4 French BookMgr Build
S00WR8V	z/OS V1.4 Germ Base (DEU)
S00WRBW	z/OS V1.4 Germ BookMgr Build
S00WRB3	z/OS V1.4 Ital Base (ITA)
S00WR99	z/OS V1.4 JPN Base
S00WR92	z/OS V1.4 JPN C/C++ With Debug
S00WR8X	z/OS V1.4 JPN C/C++ Without Debug
S00WR91	z/OS V1.4 JPN DFSORT
S00WR8N	z/OS V1.4 JPN Infoprint Server
S00WRBP	z/OS V1.4 JPN RMF
S00WR9M	z/OS V1.4 JPN SDSF
S00WR8Z	z/OS V1.4 JPN Security Server
S01064D	z/OS V1.4 JPN z990 Exploitation
S01064H	z/OS V1.4 JPN Consoles Enhancements
S00WRB2	z/OS V1.4 Upper Case English Base (ENP)
S00WR8L	z/OS V1.4 Kor Base (KOR)
S00WR9Z	z/OS V1.4 Norw Base (NOR)
S00WR83	z/OS V1.4 Span Base (ESP)
S00WR9V	z/OS V1.4 Span BookMgr Build
S00WRB0	z/OS V1.4 Swed Base (SVE)
S00WR89	z/OS V1.4 Swiss Germ Base (DES)
S00WR9N	z/OS V1.4 Simp Chin Base (CHS)
S00WRBV	z/OS V1.4 Trad Chin Base (CHT)
S00WR9R	z/OS V1.4 Base Source Code -- 4mm
S00WRBB	z/OS V1.4 Base Source Code -- JPN -- 4mm
S00WR88	z/OS V1.4 Security Server Source Code -- 4mm

## Customized Offerings

Product deliverables are shipped only via Customized Offerings (for example, CBPDO, ServerPac, SystemPac).

CBPDO and ServerPac are offered for electronic delivery, where ShopzSeries product ordering is available. For more details on electronic delivery, refer to the ShopzSeries help information

<http://www.software.ibm.com/ShopzSeries>

Media type for this software product is chosen during the Customized Offerings ordering process. Based on your customer environment, it is recommended that the highest possible density tape medium is selected. Currently offered media types are:

- CBPDOs — 3480, 3480 Compressed, 3590(6)
- ServerPacs — 3480, 3480 Compressed, 3490E, 3590(6)
- SystemPacs — 3480, 3480 Compressed, 3490E, 3590(6)

(6) 3590 is highest-density media currently orderable which will ship the fewest number of media.

**Note:** 3592 media is higher density media than 3590 media and will be available for ordering starting September 15, 2006, with delivery after z/OS V1.8 availability.

This product is included in ServerPac, CBPDO, and SystemPac at general availability.

Production of software product orders will begin on the planned general availability date.

- CBPDO shipments will begin one week after general availability.
- ServerPac shipments will begin two weeks after inclusion in ServerPac.
- SystemPac shipments will begin four weeks after inclusion in SystemPac due to additional customization and data input verification.

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## Terms and conditions

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The terms and conditions of z/OS Version 1 (5694-A01) are unaffected by this announcement. For more information, refer to Software Announcement 200-352, dated October 3, 2000.

**IBM Operational Support Services — Support Line:** Yes

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**Note:** Shipments will begin after the planned availability date.

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