IBM Advanced Technical Support

A System Programmer Productivity Tool Bag

SHARE
NYC
Session 2885

August 2004

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A Potpourri of Information

Did you Know...

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Recent Announcements

Software Releases
Service Discontinuance
Key Dates
iSource

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Announcements

August 10, 2004

- **z/OS V1.6: Integrating New Applications and Preview z/OS 1.7**
  - Announcement Letter 204-180
  - New function announced:
    - Support for zAAP (Application Assist Processor) – **z/OS exclusive**
    - Improved LDAP server availability & performance
    - Communications Server enhancements
  - Previous z/OS 1.6 preview: Announcement Letter 204-017 (February 10, 2004)
  - General Availability: September 24, 2004
  - Requires IBM @server zSeries z900, z990, z890, z800
- **z/OS.e V1.6: Integrating New Applications and Preview z/OS.e 1.7**
  - Announcement Letter 204-179
  - General Availability: September 24, 2004
  - Requires IBM @server zSeries z890, z800

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Announcements

August 10, 2004

- **IBM 64-Bit SDK for z/OS, Java 2 technology Edition, V1.4**
  - Announcement Letter 204-178
  - Provides support for Java applications in a 64-bit environment
  - Support zAAP engines
  - General Availability: December 17, 2004 at the @server zSeries Java Web site: http://www.ibm.com/servers/eserver/zseries/software/java
  - Requires IBM @server zSeries z900, z990, z890, z800 and z/OS or z/OS.e 1.6 or higher
- **Sub-capacity pricing for IBM License Agreement (LPA) programs**
  - Announcement Letter 204-184
  - General Availability: September 1, 2004
  - Requires IBM @server zSeries servers

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Announcements

August 10, 2004

- **IBM SMP/E for z/OS V3.3**
  - Announcement Letter 204-176
  - RECEIVE FROMNETWORK SUPPORT OF sockS FIREWALLS & SECURE ftp
  - Support for Internet delivery of ServerPac
  - SMP/E usage of IEBCOPY COPYMOD statement to allow reblocking
  - REJECT CHECK
  - CSI query with wildcard character
  - General Availability: September 24, 2004
  - Requires z/OS or z/OS.e 1.3 or higher

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Announcements

May 25, 2004

IBM Ported Tools for z/OS

- Announcement Letter 204-109
- Unpriced program product
- Provides Open Secure Shell (OpenSSH)
- OpenSSH is an open source version of the SSH protocol suite of network connectivity tools

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Announcements

April 7, 2004

IBM enhances the IBM zSeries 890 family of servers

- Announcement Letter 104-117
- zSeries Application Assist Processor (zAAP)
- Increased scalability
- Two Logical Channel Subsystems – up to 512 ESCON Channels
- Spanning of external channels
- OSA-Express Integrated Console Controller (OSA-ICC)
- On/Off CoD support for Internal Coupling Facilities (ICF) and zAAPs
- Up to 48 ISC-3 links in peer mode
- Coupling Facility Control Code (CFCC) Enhanced Patch Apply and CFCC Level 13
- Improvements in FICON Express performance
- Required z/OS software
  - z/OS V1.4 z990 Exploitation Support feature
    - This orderable, unpriced, and optional feature provides exploitation support for >1 logical channel subsystems and 30 LPARs
    - Orderable through December 2006

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IBM

Announcements

April 7, 2004

- **IBM enhances the IBM zSeries 990 family of servers**
  - Announcement Letter 104-118
  - zSeries Application Assist Processor (zAAP)
  - Four Logical Channel Subsystems – up to 1024 ESCON Channels
  - Spanning of external channels
  - OSA-Express Integrated Console Controller (OSA-ICC)
  - On/Off CoD support for Internal Coupling Facilities (ICF) and zAAPs
  - Up to 48 ISC-3 links in peer mode
  - Coupling Facility Control Code (CFCC) Enhanced Patch Apply and CFCC Level 13
  - Security enhancements
  - Improvements in FICON Express performance
  - Required z/OS software
    - z/OS V1.4 z990 Exploitation Support feature
      - This orderable, unpriced, and optional feature provides exploitation support for four logical channel subsystems and 30 LPARs
      - Orderable through December 2006

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IBM

Announcements

May 13, 2003

- **Software Pricing for IBM @server zSeries z990 and Enhancements to Variable Workload License Charges (VWLC)**
  - Lowering the base charge from 45 MSUs to 3 MSUs
  - Effective July 1, 2003
  - Announcement Letter 203-130

August 5, 2003

- **Software service discontinuance: Selected IBM z/OS and S/390 products — Some replacements available**
  - includes OS/390 2.10, z/OS V1R2/R3/R4, z/OS.e V1R3/R4 end of support dates
  - Announcement Letter 903-149

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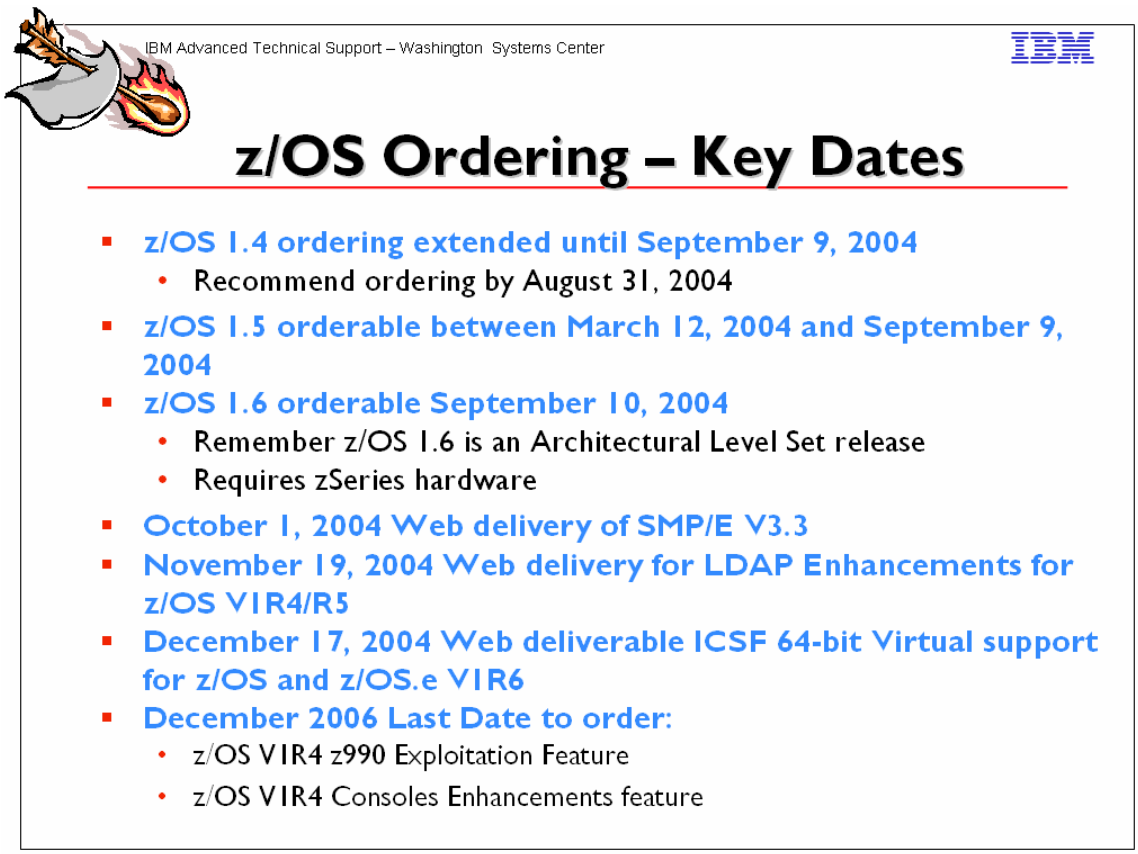

Key dates

- **August 10, 2004:** z/OS.e V1.6 CFSW configurator support for stand-alone path (5655-G52) and price proposal support.
- **August 31, 2004:** Recommended last date for submitting z/OS.e V1.4 and z/OS.e V1.5 orders for ServerPac and SystemPac. This date will allow for adequate order processing time.
- **September 9, 2004:** Last date for ordering z/OS.e V1.4 and z/OS.e V1.5 via ServerPac and SystemPac.
- **September 10, 2004:** First date for ordering z/OS.e V1.6 ServerPac or SystemPac using CFSW configuration support, or ShopzSeries, the Internet ordering tool. Note that most z/OS.e media (executable code) is shipped only through Customized Offerings (ServerPac, SystemPac).
- **September 24, 2004:** z/OS.e V1.6 planned general availability via ServerPac and SystemPac.
- **September 24, 2004:** Planned general availability of z990 and z890 Enhancements to Cryptographic Support Web Deliverable to support z/OS V1.6 and z/OS.e V1.6. This new support is in addition to the previously available support for z/OS V1.2 through z/OS V1.5, z/OS.e V1.3 through z/OS.e V1.5, and OS/390 V2.10, which became generally available on May 28, 2004.
- **September 24, 2004:** Planned general availability of z/OS and z/OS.e Text Search Web deliverable. This Web deliverable will support z/OS V1.6 and z/OS.e V1.6.
- **September 30, 2004:** Last date for Web download of the SMP/E V3.2 Web deliverable.
- **October 1, 2004:** Planned general availability of SMP/E V3.3 Web deliverable.
- **November 19, 2004:** Planned general availability of LDAP Enhancements for z/OS V1R4/R5 and z/OS.e V1R4/R5 Web deliverable.

- **December 17, 2004:** Planned general availability of ICSF 64-bit Virtual Support for z/OS V1.6 and z/OS.e V1.6 Web deliverable.
- **December 31, 2004:** Last date for Web download of the z/OS V1R1/R2/R3 and z/OS.e V1R3 Managed System Infrastructure for Setup Web deliverable.
- **December 31, 2004:** Last date for Web download of the z990 Compatibility for Selected Releases Web deliverable (which supports OS/390 V2.10, z/OS V1R2, z/OS V1.3, and z/OS.e V1.3). This support is required for z/OS.e V1.3 to run on a z890.
- **December 2006:** Last date for ordering z/OS.e V1.4 z990 Coexistence Update feature and z/OS.e V1.4 Consoles Enhancements feature.

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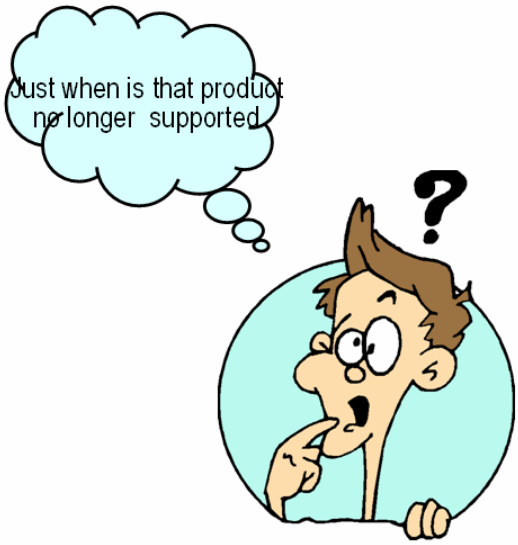
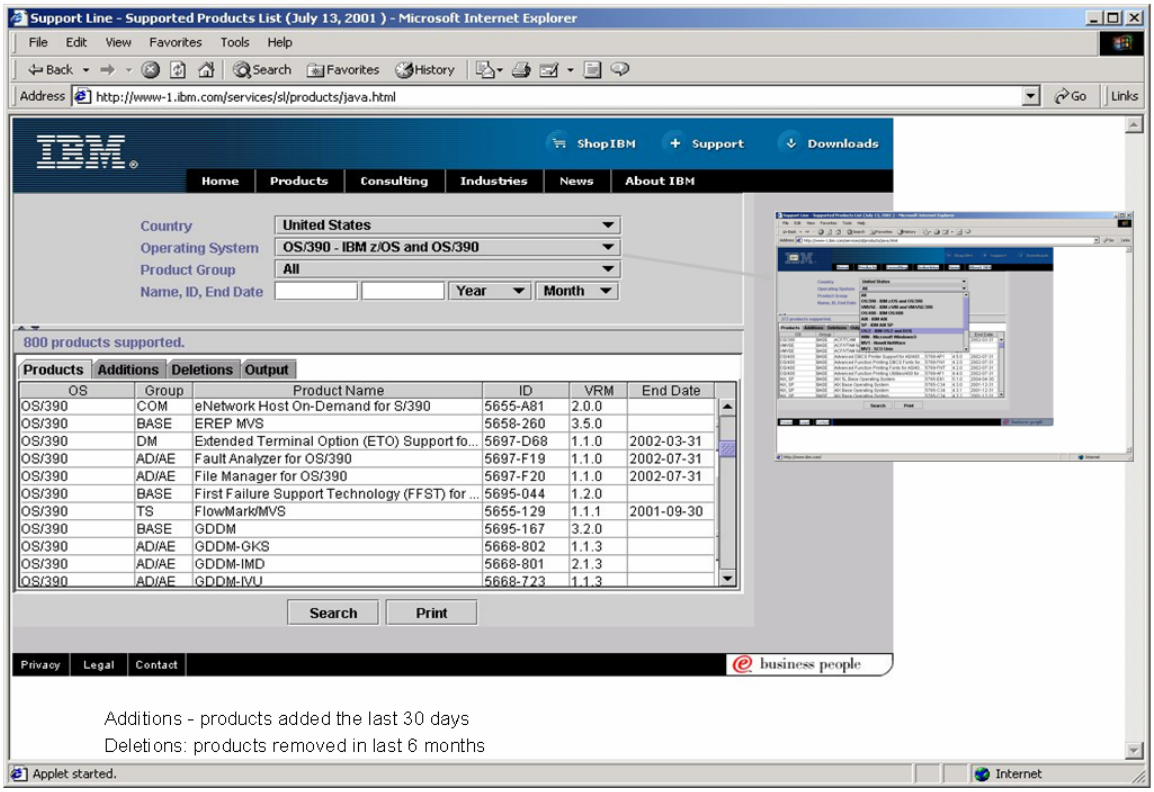
Service End Dates

- http://www.ibm.com/services/sl/products/java.html
  - Java application
  - Requires JVM 1.3



Home Page



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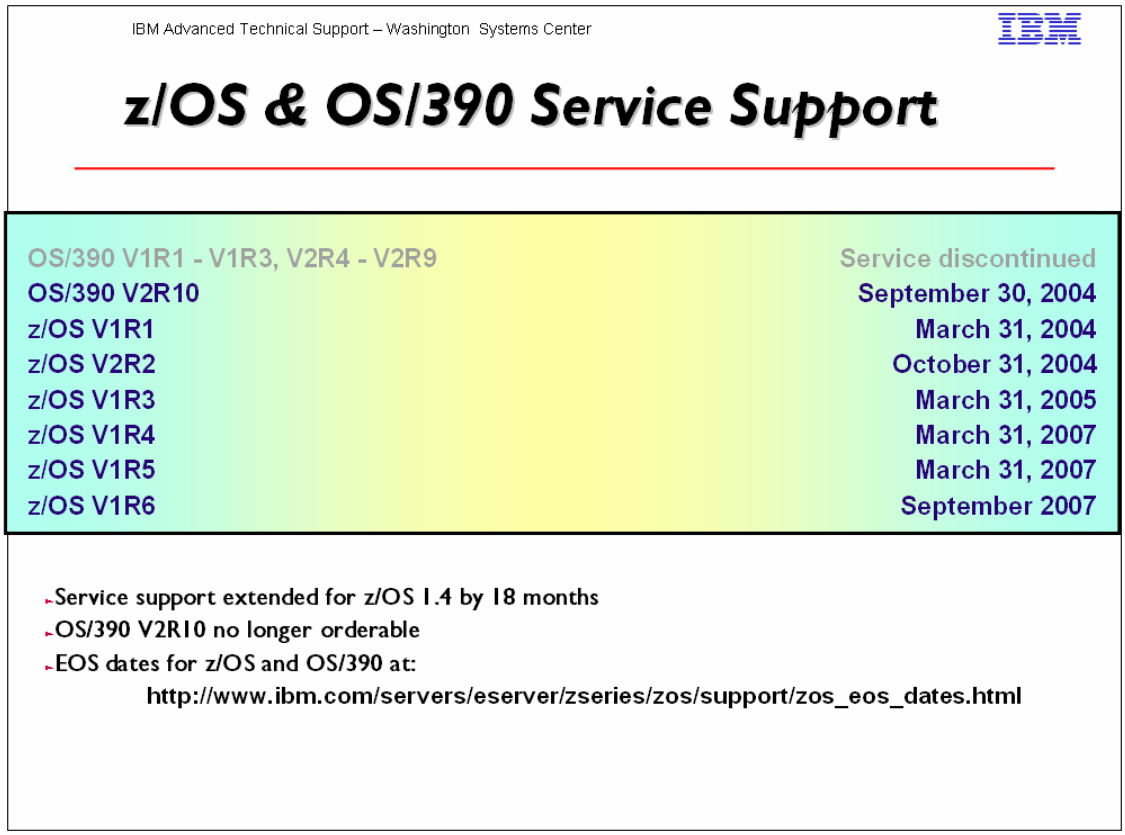

Notes:

z/OS, z/OS.e, and OS/390 marketing policy

IBM intends to market a given release until the next release becomes available. IBM may occasionally choose to continue to market a release beyond the availability of the next release.

z/OS, z/OS.e, and OS/390 end of marketing and end of service dates

The following tables provide the announcement, general availability, end of marketing, and end of service dates for z/OS, z/OS.e, OS/390, and MVS/ESA releases as announced by IBM in the United States.

All statements regarding the future direction and intent of IBM are subject to change or withdrawal without notice and represent goals and objectives only.

Notes:
iSource for personalized IBM e-news. Useful IBM news, tailored to your interests. iSource gives you e-mail access to many different kinds of IBM information. Whether you're from St. Paul or Sao Paolo, there's targeted news you can use. And if you want to pass your iSource information along, you can do so via e-mail.

Announcement Letters
Regional versions available: United States, Canada, Europe, Middle East, Africa, Latin America, and Asia Pacific South
Provides timely technical information and is easy to forward to colleagues.
Receive complete, up-to-the-minute information on new products and services. Weekly announcements contain the most comprehensive product descriptions available, from overview and ordering information to product benefits and technical requirements.

Focusing on You News Digest
Regional versions available: United States, Canada
Provides: Hints and tips, Educational offers and Special pricing and rebates.

Get **weekly summaries** of important **IBM news** tailored for your specific areas of interest, as well as instant access to important phone numbers, URLs and other helpful IBM resources.
Special Promotions
Regional versions available: United States

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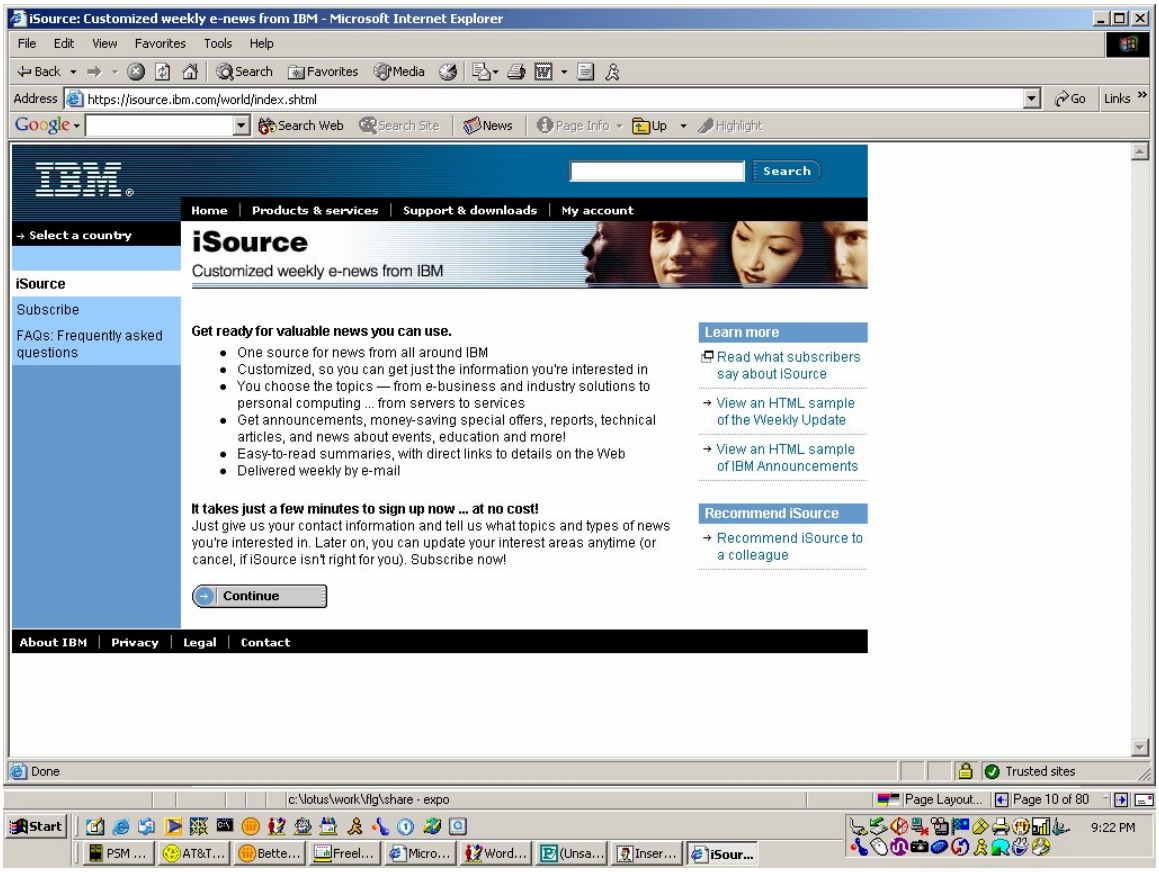
Provides: Special discounts , Trade-in promotions, and Low-rate financing.

Receive information on special offers and financing...new products and product updates...contests and promotional giveaways...and other information that can save you time and money. Be among the first to take advantage of these offers!

Press Releases
Regional versions available: United States
Provides: Product information, Earnings reports , and Corporate mergers and acquisitions. Get the news as it happens - hear about IBM mergers and acquisitions, product enhancements, corporate updates and more. Receive press releases relevant to your areas of interest whenever they become available. It's a great way to stay in the know.



IBM

Publications

books and other things
Red*
LookAt
Public Notification System
Library Server
Library Center

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IBM

z/OS Softcopy Collection

New Price Reduction
$20 for DVD

Product	*z/OS V1Rx Collection*	z/OS V1R*x* and Software Products DVD Collection	z/OS Licensed Collection
z/OS V1R5	SK3T-4269-12	SK3T-4271-12	LK3T-4307
z/OS V1R4	SK3T-4269-10	SK3T-4271-10	LK3T-4307-04
z/OS V1R3	SK3T-4269-05	SK3T-4271-05	LK3T-4307-02 or later
z/OS V1R2	SK3T-4269-03	SK3T-4271-03	LK3T-4307-02 or later
z/OS V1R1	SK3T-4269-01	SK3T-4271-01	LK3T-4307-02 or later

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z/OS V1R5 Migration

- **Path-specific migration documentation tailored to your migration path**
  - z/OS v1.4 ==> V1,5
  - z/OS V1.3 ==> V1.5
  - z/OS V1.2 ==> V1.5
  - Comprehensive
- **z/OS Summary of Messages and Changed Interfaces**
  - SA22-7505-05
  - The title has been changed to reflect the document's new scope
  - Enhanced to include not only message changes, but all interface changes for z/OS elements and features
    - provides information about message and interface changes for z/OS V1R5, z/OS V1R4, and z/OS V1R3
  - Interface changes are presented in Part 1
  - Message changes are presented in Part 2

New

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z/OS V1R6 Migration

- **Path-specific migration documentation tailored to your migration path**
  - z/OS V1.5 ==> V1.6
  - z/OS v1.4 ==> V1,6
  - z/OS V1.3 ==> V1.6
  - Comprehensive
- **z/OS Summary of Messages and Changed Interfaces**
  - SA22-7505-05
  - The title has been changed to reflect the document's new scope
  - Enhanced to include not only message changes, but all interface changes for z/OS elements and features
    - provides information about message and interface changes for z/OS V1R5, z/OS V1R4, and z/OS V1R3
  - Interface changes are presented in Part 1
  - Message changes are presented in Part 2

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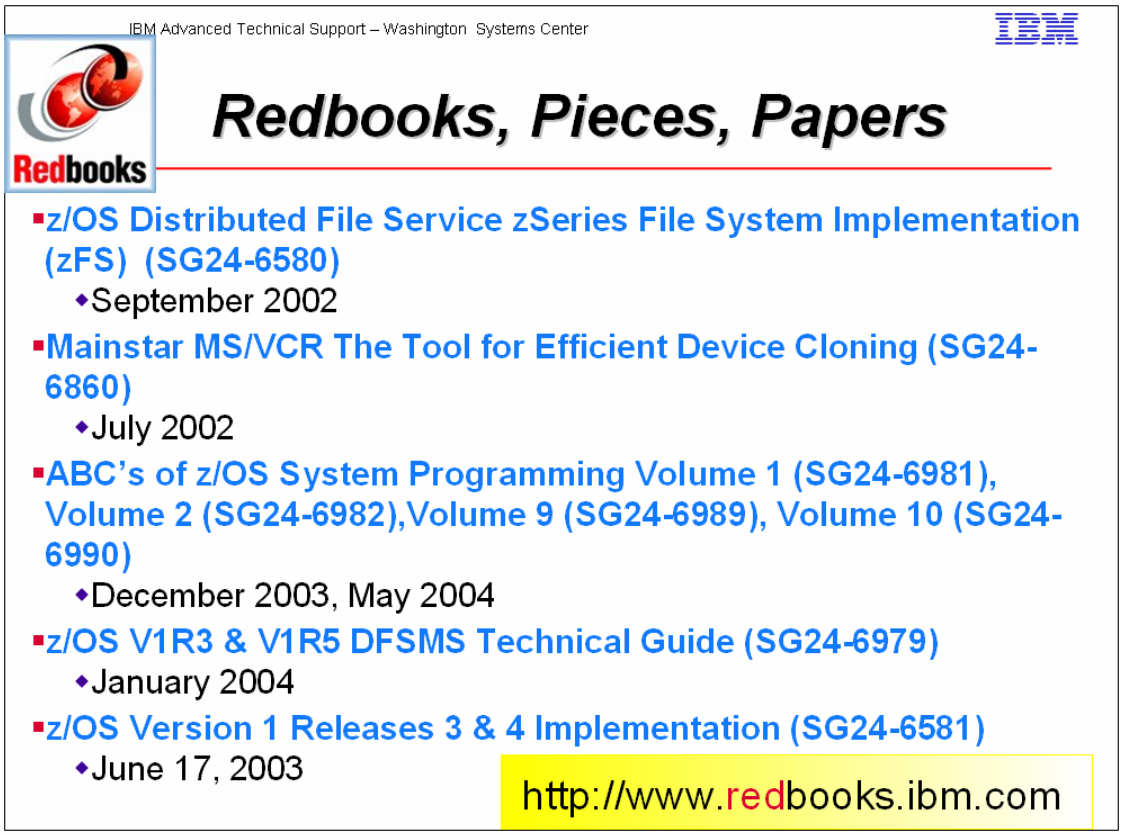


Notes:

zFS

This redbook will help you install, tailor, and configure these new file systems. This information can be used by system administrators that work with the zSeries File System component of the IBM z/OS Distributed File Service base element.. Also, it will help you create a solution to migrate to zSeries file systems and understand the performance differences between HFS and zSeries File System.

MS/VCR

MS/VCR provides a fast, reliable facility with high integrity for the renaming and recataloging of data sets on target volumes after a FlashCopy or Snapshot volume copy, solving the cloned data access dilemma. This facility enables the immediate use of the data from the same system as the original copy.

ABCs of z/OS System Programming Volume 1

Volume 1 provides an understanding of the software and zSeries architecture and how it is used together with the z/OS operating system. This includes the main components of z/OS needed to customize and install the z/OS operating system.

Specific topics covered in this volume are:

- Introduction to the products and components that make up a z/OS system
- z/OS storage concepts
- The main components needed to install and customize z/OS: TSO/E, ISPF, JCL, and

SDSF
- The z/OS delivery options and the download process using the ServerPac option

ABCs of z/OS System Programming Volume 2
Volume 2 describes the basic system programming activities related to implementing and maintaining the z/OS installation, and provides details about the modules used to manage jobs and data. The topics covered are:
- Overview of the parmlib definitions and the IPL process. The parameters and system data sets necessary to IPL and run a z/OS operating system are described, along with the main daily tasks for maximizing performance of the z/OS system.
- Basic concepts related to subsystems, how to use the subsystem services provided by IBM subsystems, and planning considerations for setting up and writing your own subsystem.
- Job management in the z/OS system using the job entry subsystems JES2 and JES3. Details about how JES2 and JES3 are used to receive jobs into the operating system, schedule them for processing by z/OS, and control their output processing.
- The link pack area (LPA), LNKLST, authorized libraries, and the role of VLF and LLA components.
- Catalogs and data set attributes.

ABCs of z/OS System Programming Volume 9
This IBM Redbook describes UNIX System Services (z/OS UNIX). It will help you install, tailor, configure, and use the z/OS Version 1 Release 4 version of z/OS UNIX. Topics covered in this volume are the following:
- Overview of z/OS UNIX, products and components used with z/OS UNIX
- z/OS UNIX pre-installation requirements, step-by-step installation of UNIX System Services using the ServerPac
- The z/OS UNIX shell and utilities
- z/OS UNIX security customization using RACF
- The Hierarchical File System (HFS) and zFS
- TCP/IP overview and customization; TCP/IP applications
- z/OS UNIX parmlib Member definitions
- How to install maintenance
- Using z/OS UNIX operator commands
- The z/OS UNIX shell and programming tools
- Using the workload manager; performance and tuning considerations
- z/OS UNIX printing options

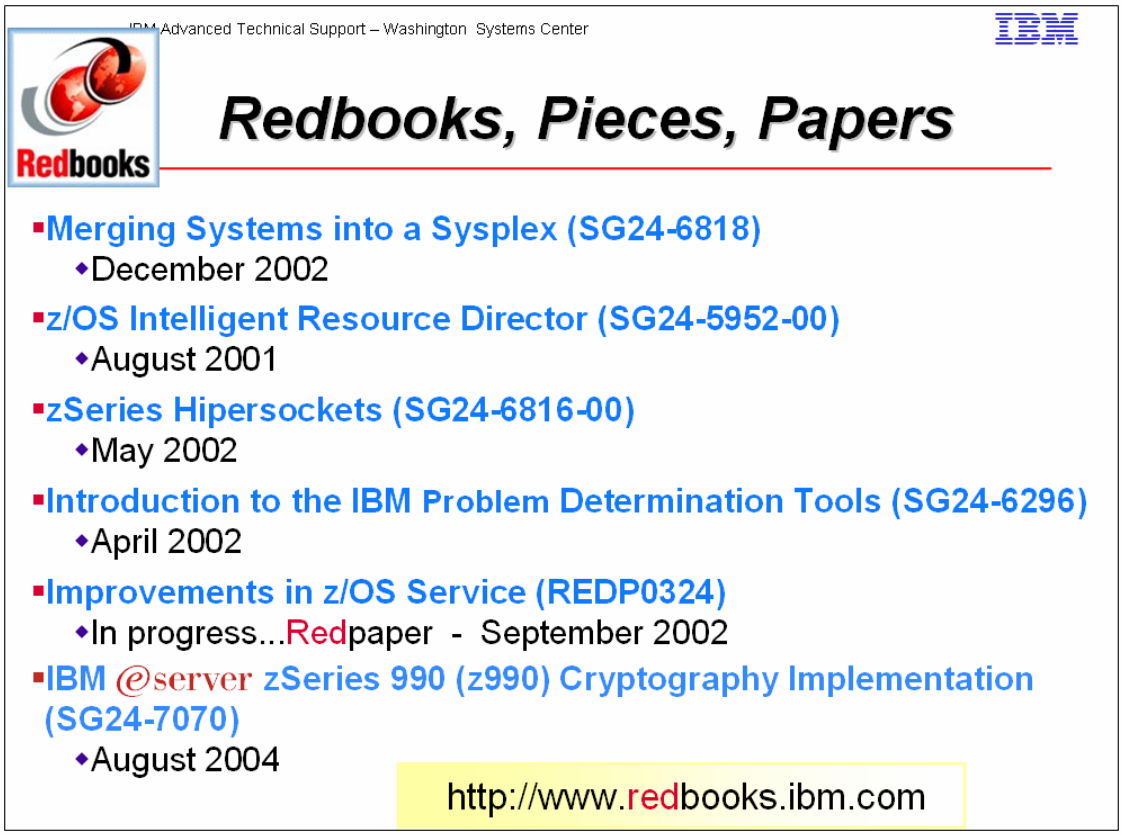
ABCs of z/OS System Programming Volume 10 (May 2004)
Volume 10 provides an introduction to z/Architecture, zSeries processor design, zSeries connectivity, LPAR concepts, and the Hardware Configuration Dialog (HCD).

z/OS V1R3 DFSMS
This IBM Redbook provides a technical overview of the functions and enhancements in z/OS V1R3 DFSMS. It provides you with the information you need to understand and evaluate the content of this DFSMS release, along with practical implementation hints

and tips. Also included are enhancements that were made available prior to this release through an enabling PTF which is integrated into this release.

z/OS V1R3 & R4 Implementation

This IBM redbook highlights many enhancements made in z/OS Version 1 Releases 3 and 4. You can use this redbook to help you install, tailor and configure the z/OS Version 1 Releases 3 and 4. This redbook gives a broad overview of z/OS Version 1 release 3 and Release 4. It provides discussions on how to install and taylor z/OS and the many components that have been enhanced. The following components that are enhanced are: the z/OS base control program (BCP), Parallel Sysplex and system-manged CF structure duplexing, msys for Operations, Workload manager (WLM), zSeries File System (zFS), Security functions such as Security Server (RACF), PKI services, LDAP server, Network Authentication service and Cryptographic services.
This redbook is intended for system programmers and administrators responsible for customizing, installing and migrating to these newest levels of z/OS.



Notes:

Merging Systems into a Sysplex

This book provides information to help Systems Programmers plan for merging systems into a sysplex. zSeries systems are highly flexibile systems capable of processing many workloads. As a result, there are many things to consider when merging independent systems into the more closely integrated environment of a sysplex. This book will help you identify these issues in advance and thereby ensure a successful project.

IRD

The Intelligent Resource Director (IRD), introduced as part of the IBM® z/Series and z/OS, is designed to give your installation an enhanced ability to dynamically move resources to your most important work. IRD is part of the zSeries implementation of Project eLiza, IBM's strategy for a self-managing IT infrastructure.

zSeries Hipersockets

This IBM Redbook positions the zSeries HiperSockets function. It offers a broad description of the architecture, microcode function, and operating systems support. This document will help you plan and implement zSeries HiperSockets, and it provides information that focuses on the definitions needed to configure HiperSockets for the supported operating systems.

Introduction to the IBM Problem Determination Tools

This IBM Redbook describes the IBM Problem Determination Tools and includes scenarios which show how to use the tools to recognize, locate, and fix applications. The products included in this suite of tools are:

IBM Fault Analyzer, which helps you find the cause of abends in application programs. You can use it for problem determination while developing application programs or while they are in production.

IBM File Manager, which provides powerful functions for you to use as an application developer or system support person. Utilities provide the ability to:
-Browse or update VSAM data, tape, or disk volumes.
-Define, display, change, and delete catalog entries.
-Search data sets and records for specific data.
-Manipulate DB2 data and IMS data.

IBM Debug Tool, which is a robust, interactive source-level debugging tool. It helps you examine, monitor, and control the execution of programs written in C/C++, COBOL, PL/I, or Java (each compiled with the appropriate IBM compiler) on a z/OS, OS/390, MVS, or VM system. Debug Tool supports debugging of applications in various subsystems including CICS, IMS, and DB2.

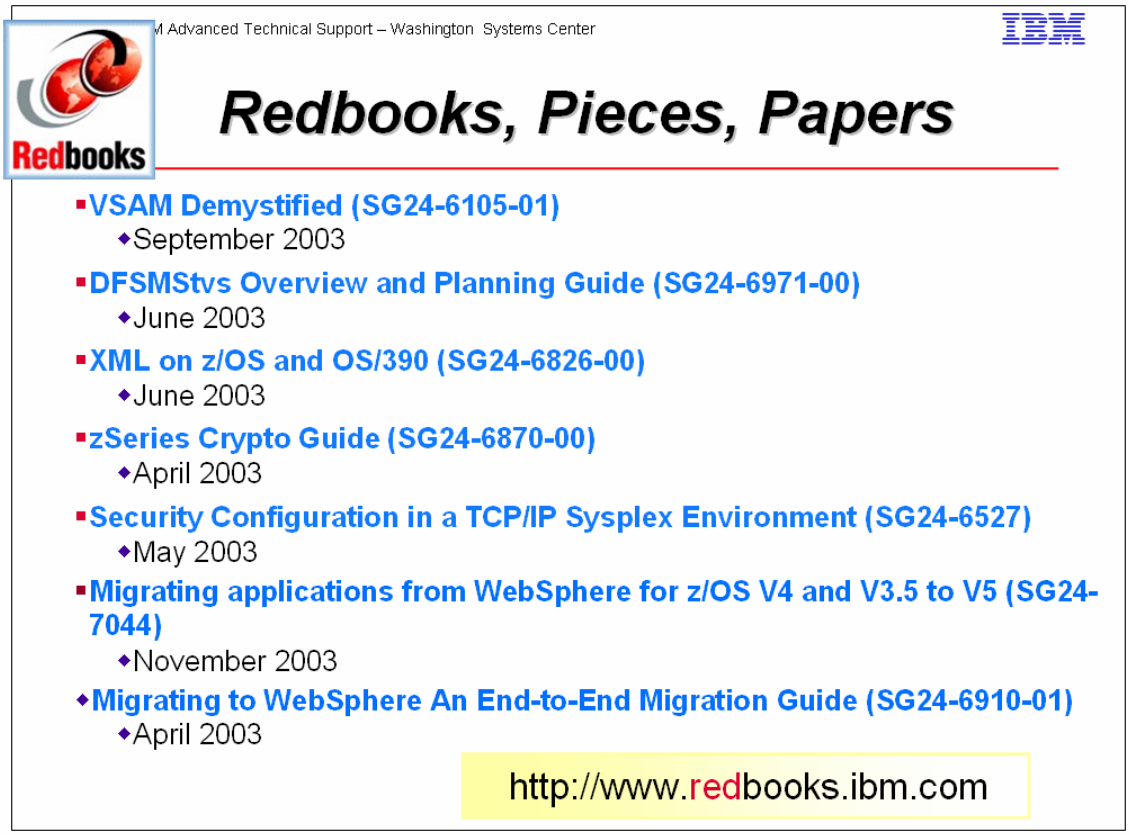
Improvements in z/OS Service

This Redpaper contains a detailed description of improvements to the z/OS service process. It discusses new functions in SMP/E, new ways of obtaining service from IBM, and describes how changes in the IBM software testing process impact how and when you should select and apply service to z/OS and its subsystems.

IBM @server zSeries 990 (z990) Cryptography Implementation

The IBM z990 includes both standard cryptographic hardware and optional cryptographic features, to give flexibility and growth capability. IBM has a long history of providing hardware cryptographic solutions, from the development of Data Encryption Standard (DES) in the 1970s to delivering the only integrated cryptographic hardware in a server to achieve the US Government's highest FIPS 140-2 Level 4 rating for secure cryptographic hardware.

This IBM Redbook is designed to help you understand and implement the z/OS Cryptographic PCIXCC and PCICA cards. Although this book focuses on the enablement of the z/OS PCIXCC and PCICA products, cryptography and the available services on z/OS are also discussed and explained, with special attention given to the new Trusted Key Entry (TKE V4) workstation.
This book also reviews the tools that are available on z/OS for monitoring of the z990 cryptographic hardware utilization plus the analysis of performance.



Notes:

VSAM Demystified

Virtual Storage Access Method (VSAM) is one of the access methods used to process data. We all have used VSAM and work with VSAM data sets daily, but exactly how it works and why we use it instead of another access method is a mystery.

This book will give you the information required to understand, evaluate, and use VSAM properly. It will clarity VSAM functions for application programmers who will be working with VSAM. The practical, straightforward approach should dispel much of the complexity sometimes associated with VSAM. Wherever possible an example is used to reinforce a description of a VSAM function.

This redbook is intended as a supplement to existing product manuals. It is intended to be used as an initial point of reference for VSAM functions.

This book also builds upon the subject of Record Level Sharing and the new z/OS feature called DFSMStvs.

DFSMStvs Overview and Planning Guide

This IBM Redbook describes how DFSMStvs works, how and when you might use it, and what you need to consider in your plans. This book should be of interest to you if you want to understand how you can increase the service hours of a CICS/**VSAM** system by reducing or eliminating the batch window, or if you want to run multiple concurrent batch jobs updating common **VSAM** data sets.

This book is written for readers who have some knowledge of CICS, **VSAM**, and

VSAM Record Level Sharing, and who wish to understand more about DFSMStvs.

The book reviews how existing products work. It introduces DFSMStvs, offering more detail on how it works, how you might migrate to it, and how you can change your applications or write new applications to exploit it.

This is a companion volume to the DFSMStvs Application Migration Guide, SG24-6972, which contains practical examples of migrating programs to run in a DFSMStvs environment, and the DFSMStvs Presentation Guide, SG24-6973, which contains an overview presentation of DFSMStvs.

XML on z/OS and OS/390

This IBM Redbook describes the use of XML on IBM servers running z/OS or OS/390, and how it can be extended to modernize legacy applications. It provides both a high-level discussion of service-oriented architecture along with practical, detailed information about XML.

In addition to an overview of XML concepts, the first part of the book provides detailed instructions for installing the XML Toolkit for z/OS and OS/390 V1.4 and running the sample programs bundled with it. It describes how to use various tools that are part of the services development environment, details the support for XML in Enterprise COBOL, and provides an overview of the IBM WebSphere Application Server. This material is of interest mainly to system programmers and application programmers.

The second part of the book is geared more to the needs of application developers and architects. It provides a comprehensive introduction to service-oriented architecture (SOA) and Web services, and describes in detail some service-based topologies for both legacy systems and new applications. Finally, this book presents some important design concepts to enable the reader to build robust SOA-based solutions rapidly. This includes an introduction to the IBM Patterns for e-business, as well as XML-based message design, and the principles of design by contract and service design.

zSeries Crypto Guide

This IBM Redbook is designed to help you understand and implement the z/OS of the z/OS PCICC and PCICA products, cryptography and the available services on z/OS are also discussed and explained, with special attention given to the new Trusted Key Entry (TKE 3.1) workstation.

In addition, we look at how Linux for zSeries supports the exploitation of the PCICC and PCICA cryptographic coprocessors by using a generic device driver called z90crypt, which routes the cryptographic work to the PCICC or PCICA cards.

We also describe UDX, which is the facility offered by the S/390 and zSeries PCICC, when running under control of ICSF, to enable users to design and implement their own cryptographic services to be executed in the PCICC itself. This provides maximum flexibility to the PCICC user, along with all the protection that the card can offer.

Security Configuration in a TCP/IP Sysplex Environment

This IBM Redbook will help those Parallel Sysplex installations that are considering serving users over non-secure TCP/IP networks, such as the Internet, to achieve a broad understanding of the threats to their security. It offers configuration design considerations to keep the related risks at a minimum. The following areas are discussed:

- Utilization of z/OS® UNIX System Services and the relevant security setups
- The Parallel Sysplex physical configurations as scrutinized from the security aspect
- Exploitation and protection of the sysplex coupling mechanisms
- Utilization of TCP/IP in a sysplex and the associated security exposures
- Topography of an Internet connection and security measures

Migrating applications from WebSphere for z/OS V4 and V3.5 to V5

This redbook will help you install, tailor and configure the new WebSphere for z/OS V5. It has two parts: infrastructure and application. In the first part we start with a migration strategy. Then we cover installation issues related to Network Deployment, we introduce a naming standard and show how to roll out WebSphere V5 in a sysplex. After that we deal with systems management, as it is different from WebSphere V4. In the second part we cover application migration issues. First we roll out an application in the V5 sysplex environment. Then we explain migration issues related to V3.5 and later V4. We detail problems related to packaging, JDBC/SQLJ, security, deployment, connectors and code pages. Finally we show you how to migrate an application from CCF to J2C connectors.

Migrating to WebSphere an End-to_End Migration Guide

This IBM Redbook will assist you in the end-to-end migration of a WebSphere Application Server installation. The end-to-end migration path includes the migration of the development environment, test/integration environment, and production environment using software-engineering methodologies. This guide presents the best practices in migration strategy and planning, migration tools, and practical migration examples.

The development environment migration topics include migration from VisualAge for Java and WebSphere Studio “Classic” to WebSphere Studio Application Developer V5 as well as API migration tools. Step-by-step instructions for many practical migration examples are provided.

This guide was written and tested with the WebSphere Studio Application Developer V5.0 Early Availability (EA) edition.

The WebSphere Application Server migration paths include Version 3.5 to Version 5.0 and Version 4.0 to Version 5.0. The WebSphere Versions 3.5 and 4.0 Single-Server Edition and Advanced Edition are mapped to Version 5.0 Base package and Network Deployment package respectively. The WebSphere system and configuration migration topics include the WebSphere system migration, HTTP Server Plug-in migration, migration of XMLConfig and wscp to wsadmin scripts, and migration examples using coexistence and interoperability.

Notes:

Starting with LookAt V2.12 a new feature has been added to give you even more function with this S/390 message portal. In the event the message ID for which you are seeking more information is not found by LookAt, an automatic bookshelf search will be conducted on the Messages and Codes Bookshelf at the version/release level that you selected from the pulldown on the LookAt main page.

LookAt support includes OS/390 R10, z/OS1.2 through the latest release, z/VM V4R2 through the latest release, and VSE/ESA V2R5 through the current release. If you select a release prior to the level listed, you will be passed directly to a bookshelf search at that version/release level for your message ID. If you select a level in the list, LookAt will attempt to pinpoint your message ID in the correct publication and open to the exact spot.

Some publications in the early stages of LookAt support may not be LookAt-enabled. This is why the bookshelf search is offered - to help you find the information you need whether or not the publication is LookAt enabled.

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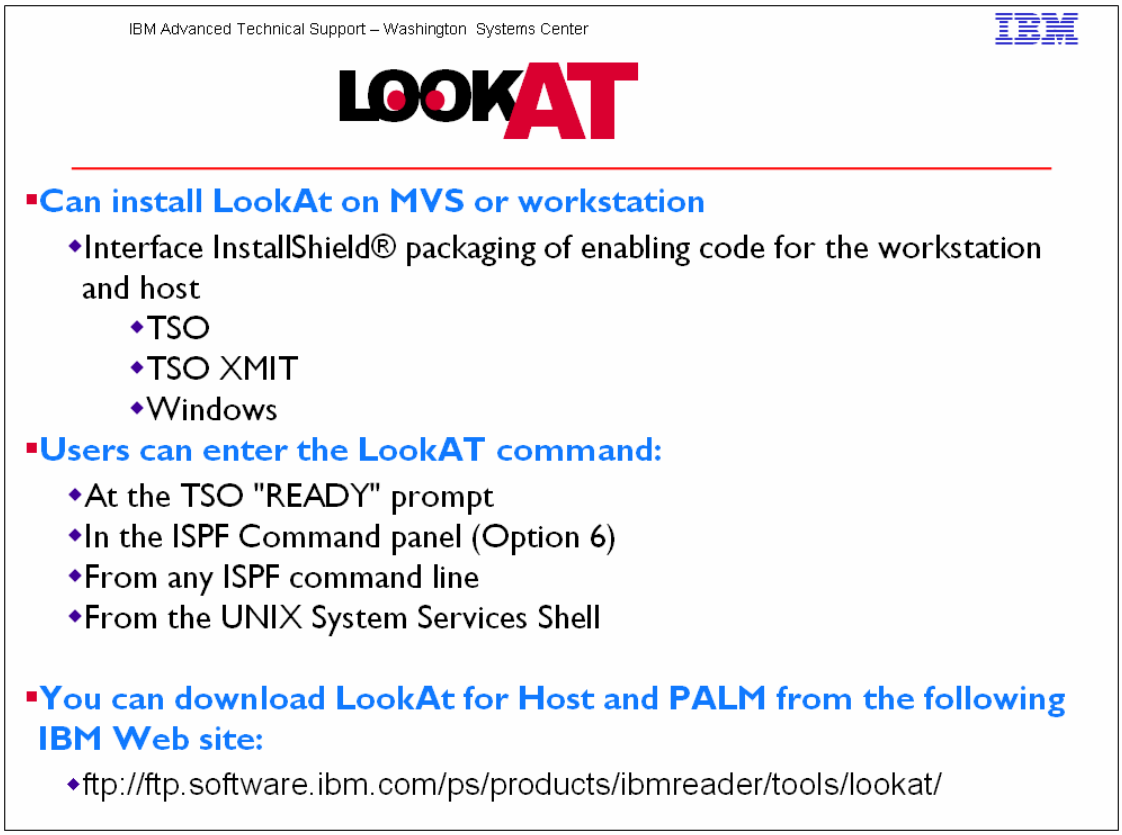


Notes:

LookAt, is a tool that lets you look up IBM messages quickly and easily on Microsoft Windows, z/OS, OS/390, Palm™ VIIx, and the Web, without having to know their origins. (See z/OS Hot Topics Newsletter #5, August 2001,GA22-7501-01 and z/OS Hot Topics Newsletter #6, February 2002,GA22-7501-02.)

Using the simple command, LOOKAT, on your host system, you can retrieve the explanation and any other information associated with any message you might receive on the host. It uses BookManager READ/MVS and the messages and codes books to locate and display message information. LOOKAT is a Rexx EXEC that runs under TSO.

Locate the LookAt code. You can find it in either of the following locations:

A direct link to the LookAt FTP site has beed added to the LookAt home page. This should help you access this site to download the LookAt code that will run on your OS/390, z/OS, or z/VM host systems.
From this IBM Web site:

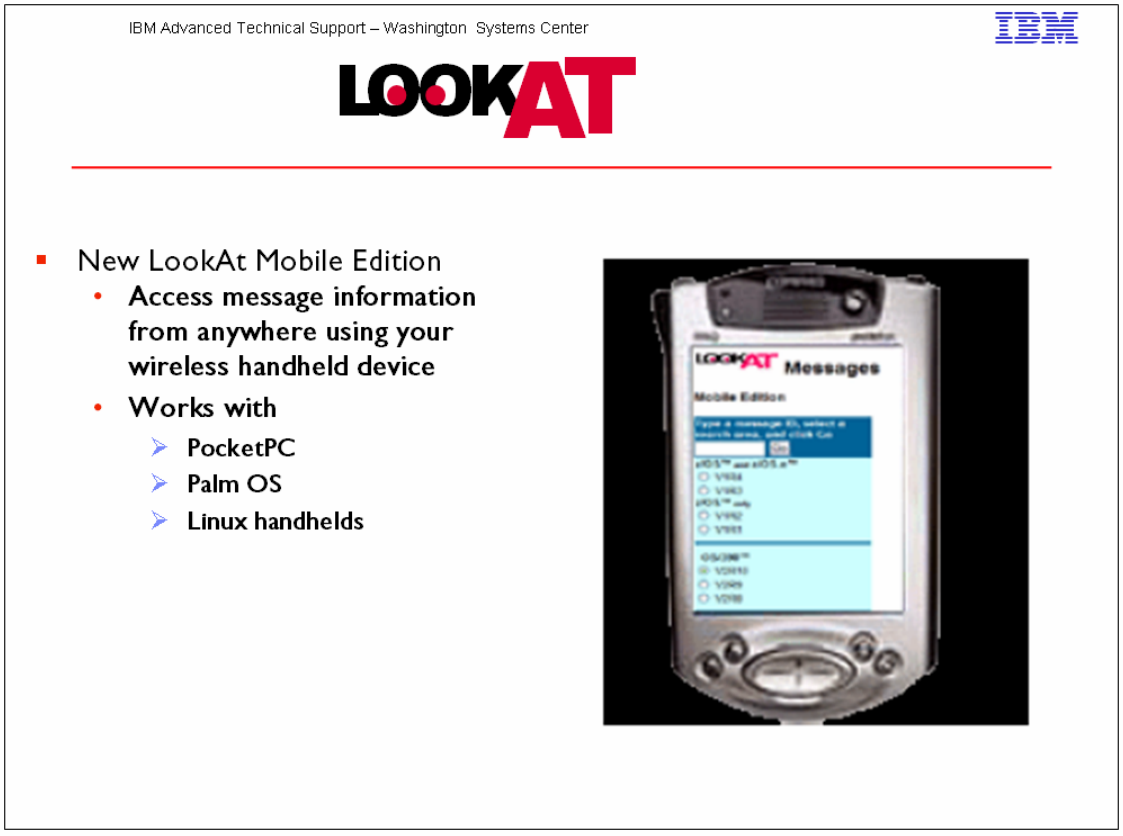
ftp://ftp.software.ibm.com/ps/products/ibmreader/tools/lookat

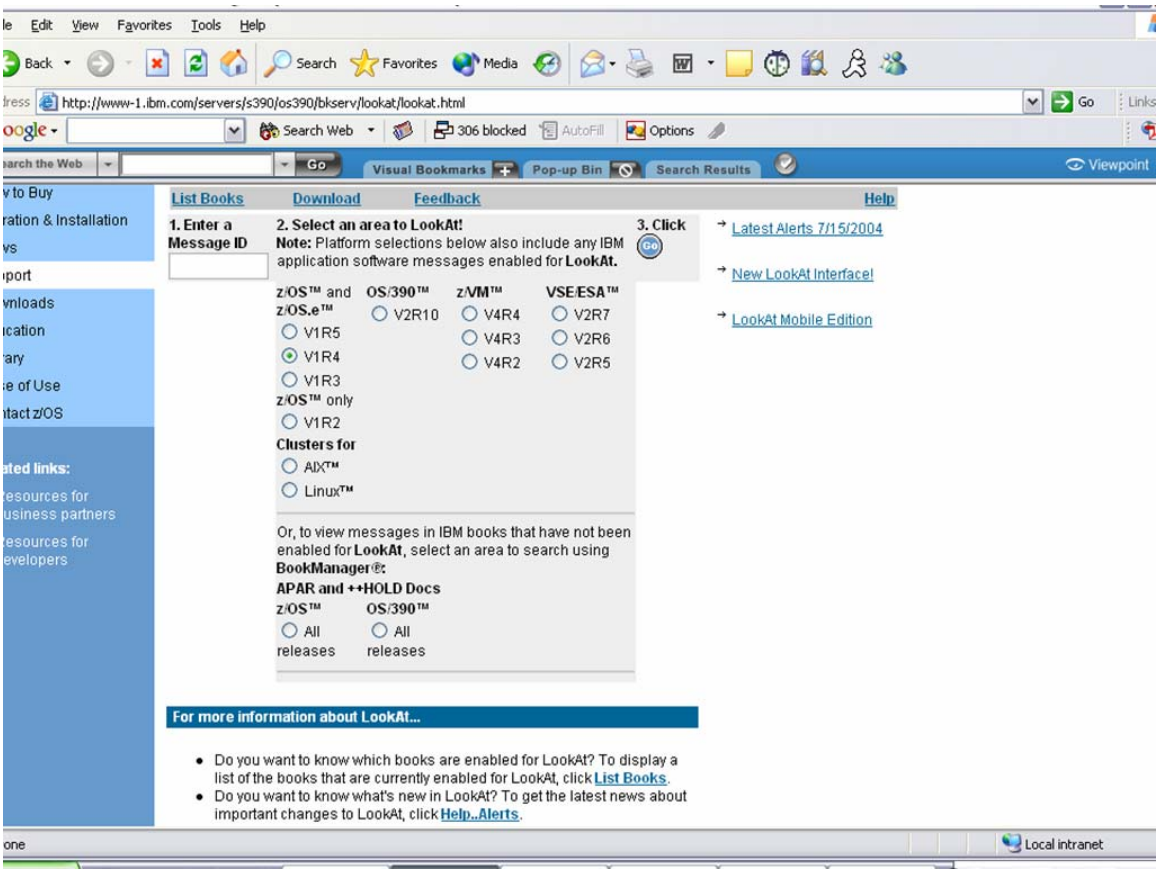
Don't have a Web connection nearby? It doesn't matter! Have a Palm™VIIx in your pocket? Great! Because now you can LookAt messages wherever you happen to be.

LookAt is now easier to install!

LookAt now includes an InstallShield® interface that installs the program files on your workstation and customizes your LookAt profile. It also keeps track of the files for you, and automatically replaces them when you install an updated version of LookAt. So, instead of copying and updating files by hand, the installation program does it for you in a fraction of the time. The Windows version even checks to see whether you are running the IBM Object REXX for Windows Runtime Library, and can launch the REXX Runtime Library installation program for you.

You can install LookAt on your MVS system or on your workstation. In both cases, the installation program copies the LookAt program files to your workstation. There are three versions of the installation program: TSO, TSO XMIT and Windows. They are available on the disc containing the LookAt code in IBM's Online Library Collection for OS/390 for March 2003 or later, or z/OS for June 2003 or later. You can also find them on the LookAt FTP site: ftp://ftp.software.ibm.com/ps/products/ibmreader/tools/lookat/.





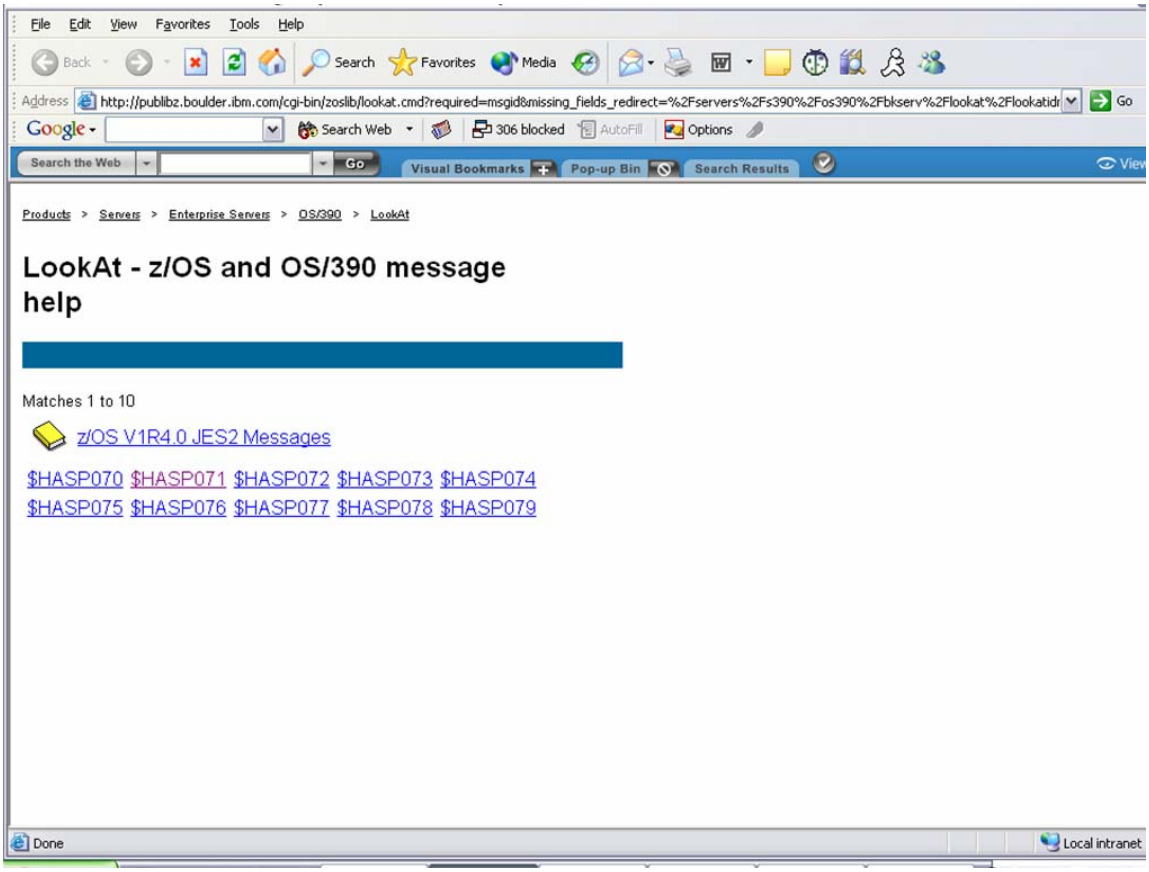
Notes:
In the event the message ID for which you are seeking more information is not found by LookAt, an automatic bookshelf search will be conducted on the OS/390 Messages and Codes Bookshelf at the version/release level you selected from the pulldown on the LookAt main page.

The "message ID" entered can be one of the following:
The complete message ID for a message to see a specific message.

Part of a message ID with an asterisk (*) as a wild-card character if you don't know the entire ID or if you want to see a set of related messageIDs. The "*" can represent zero or more character positions. You can place a wild-card at the beginning, in the middle, or at the end of a message ID. However, we do not recommend putting an "*" at the beginning of an ID as it will probably return a very large number of possible combinations. You can use more than one wild-card character in a message ID. As an example, try: $HASP*71

A "Latest Alerts" box will appear on the LookAt home page whenever there is a significant change or addition to LookAt that requires special attention on your part. These alert boxes will include the date the alert was originally issued and a link to a "LookAt Alerts" page, which will describe the changes. Alert boxes will be retained for a

period of 30 days from the date of issue and then be removed. The information in the alerts will be retained in "LookAt News" for future reference.



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Publication News

- **z/OS**
  - *z/OS V1R6.0 MVS Planning: Global Resource Serialization, SA22-7600*
    - Rewritten
    - Substantially improved diagnosis and configuration information
  - New for August 2003: Shelf support and management for PDF files
    - Collections include extended shelves (XKS files) for PDFs
- **Latest Publications**
  - http://www.ibm.com/servers/eserver/zseries/zos/bkserv/
  - Links to the latest editions of publications when an edition of a publication becomes available superseding the edition available on a current CD collection kit bookshelf
- **z/OS and OS/390 Hot Topics Newsletter**
  - New with OS/390 R8
  - Obtain from OS/390 or z/OS Library
  - Published once per release
  - New issue August 2004

How to Obtain Licensed Pubs

- **Licensed books are not available in hardcopy format**
  - Available on an orderable CD for a fee
  - Available for **free**, to licensed users in PDF format on the *IBM Resource Link Web site*
  - Requires a key provided with the product and by self-registering for a user ID and password
    - Key code is provided in the Memo to Licensees
    - Installation Guide delivered with z/OS and z/OS.e orders
      - ServerPac Installing Your Order
      - CBPDO Memo to Users Extension
      - SystemPac Installation Guide

- **Lost your key**
  - Send a note to **Planner@us.ibm.com**
    - Include customer number
    - Your name
    - E-mail address

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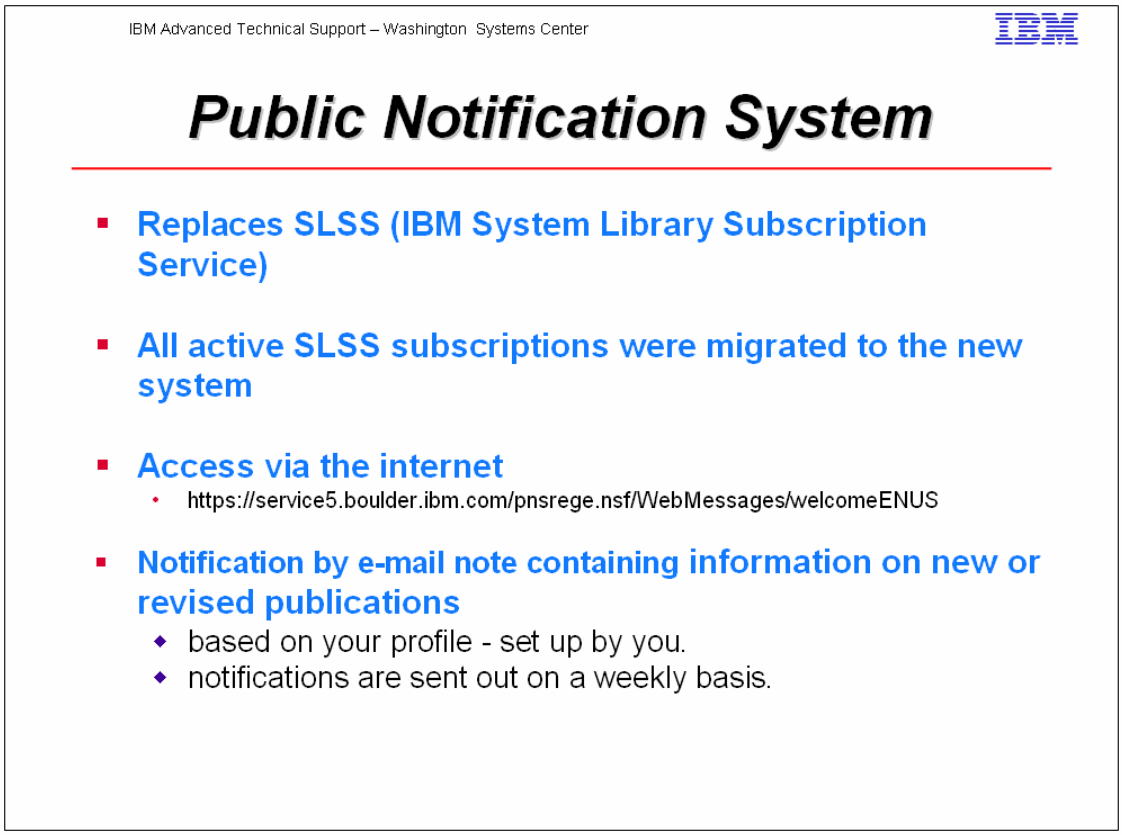
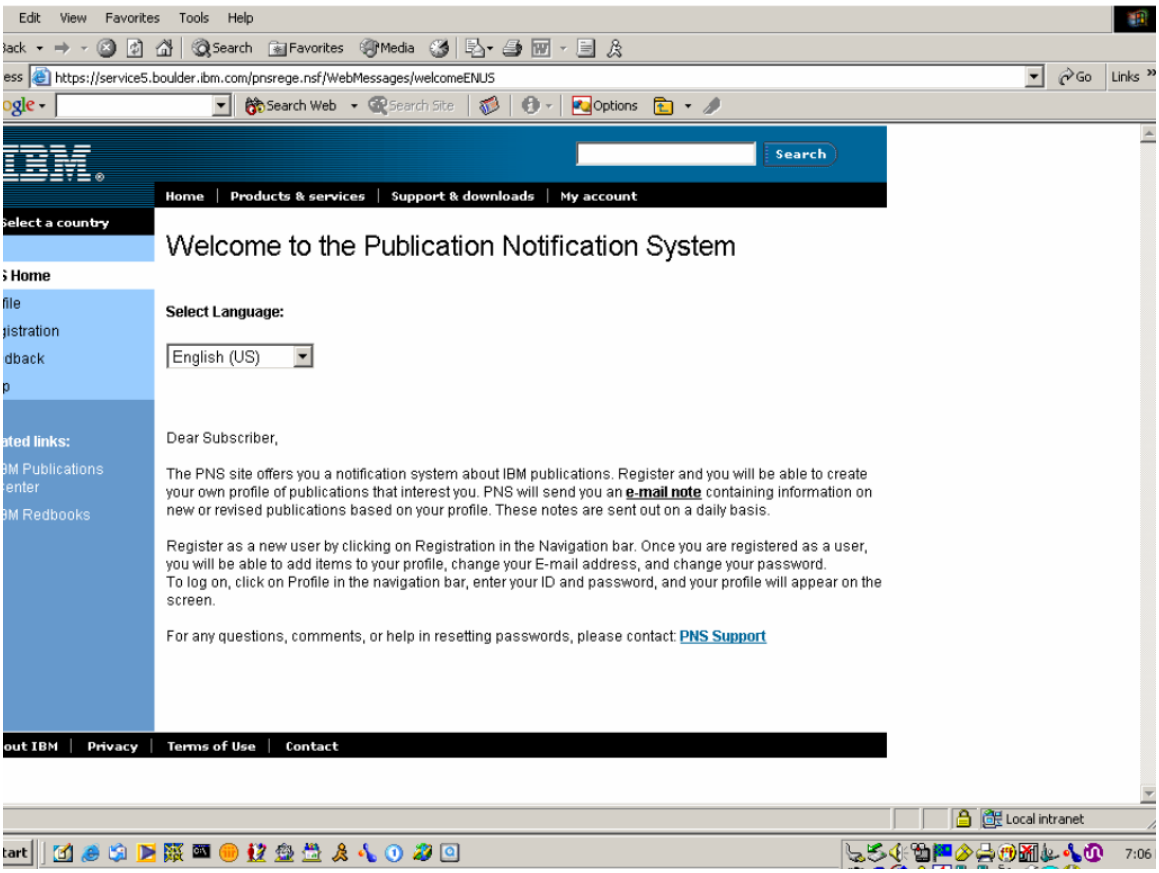


Notes:
PNS makes it easy for you to keep informed about IBM publications that interest you. All you need to do is to register your personal profile, and each week, PNS will automatically e-mail information about new and revised publications based on your profile.

Registration:
Register as a new user by clicking on Registration under the Goto heading on the left of this page. After registering as a user, you can always add items to your profile, change your e-mail address, and change your password.

To log on, click on profile, type your ID and password, and your profile will be displayed.

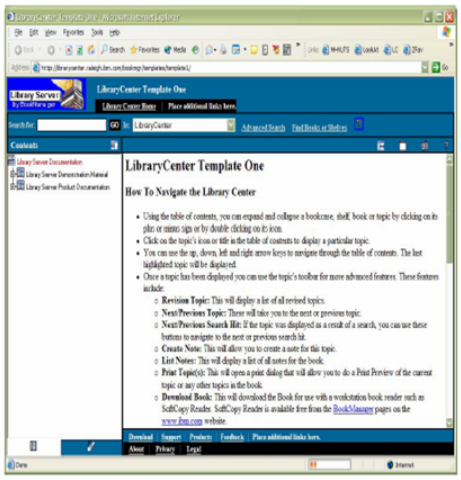
Former SLSS subscribers:
To enter your profile, type your SLSS subscription number plus letter R in upper case at the end. This will give you your new PNS ID andPassword.


Edit View Favorites Tools Help
Search Favorites Media
https://service5.boulder.ibm.com/pnsrege.nsf/WebMessages/welcomeENUS
Go Links
Search Web Search Site Options
Search
Home | Products & services | Support & downloads | My account
Select a country
Home
Welcome to the Publication Notification System
Select Language:
English (US)
Dear Subscriber,
The PNS site offers you a notification system about IBM publications. Register and you will be able to create your own profile of publications that interest you. PNS will send you an e-mail note containing information on new or revised publications based on your profile. These notes are sent out on a daily basis.
Register as a new user by clicking on Registration in the Navigation bar. Once you are registered as a user, you will be able to add items to your profile, change your E-mail address, and change your password.
To log on, click on Profile in the navigation bar, enter your ID and password, and your profile will appear on the screen.
For any questions, comments, or help in resetting passwords, please contact: PNS Support
Privacy | Terms of Use | Contact
Local intranet
7:06

IBM Advanced Technical Support – Washington Systems Center

IBM Library Server

- **New way to access z/OS and OS/390 product information**
  - Formerly BookServer
- **Will serve as a single repository for all product information**
- **Available in z/OS V1R5**
- **Based on BookServer technology**
  - Customizable
  - Improved end user Interface
  - Enhanced Bookshelves and Bookcases
  - Enhanced tables
  - Enhanced bookshelf (XKS) support
  - Handheld device support
  - LibraryServer is a multi-platform product (z/OS, Windows, AIX, Linux)
- **Will be basis for Library Centers**
- **Will no longer need to know which bookshelf to search**



Notes:

Customizable Look and Feel
– You can choose to have the "Traditional BookServer" look and feel
– Or you can select one of three new templates
  – Modify one of the templates to suit your needs

PDF extended shelves have arrived, along with extended shelf support in the following IBM softcopy tools and products:
• Softcopy Reader V3.0 or later to access groups of PDFs and to create and modify extended shelves
• SoftCopy Librarian V4.2 to download and manage PDFs
• Library Server for z/OS V1R5 (previously known as BookManager BookServer) to access groups of PDFs on the Internet or intranets
• Program for setting autorun preferences on the softcopy collections to accommodate selections for PDF extended shelves.

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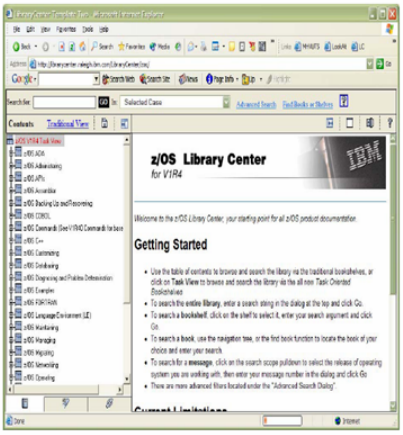
Library Center

- New view of IBM's z/Series Internet Library
- Uses the new IBM Library Server product
- One Library Center for each new release of z/OS (all books on DVD)
  - **Based on z/OS DVD collections**
  - **Over 2000 manuals under one umbrella**
- Provides an "Explorer-like" view of BookManager and PDF repositories
- Provides advanced searches based on type of information
  - **Messages**
  - **Commands**
  - **Examples**
- Single frame mode for accessibility for IBM Homepage Reader
- Integrated PDF download
- Ability to launch external searches such as Google
- Integrated Hand-held support for wireless users



Interactive Demonstration

http://publibz.boulder.ibm.com/bookmgr_OS390/libraryserver/zosv1r5/

Notes:

Starting with z/OS V1R5, you have an alternative way to navigate the z/OS Library on the Web. It's called the Library Center and uses BookServer technology, supporting all the functions that exist in BookServer today, including PDF download and handheld support. The Library Center will serve as a single repository for all product information you need for a release of z/OS. Here's a peek at some of the key features, ones that should will help you locate the information you want quickly. You will not need to "know" what bookshelf to search because you will be able to search the entire repository.

The Library Center provides a new function that lets you search information that has been classified by type. Initially, IBM is working to classify its information to help you find messages, commands, examples, tasks, and concepts.

The z/OS V1R5 Library Center provides a Microsoft Windows Explorer-like view of the contents of the entire *z/OS V1R5 and Software Products DVD Collection*. The Library Center uses the new IBM Library Server with new advanced search functions.

Read all about it in the February 2004 Hot Topics Newsletter.

IBM Advanced Technical Support – Washington Systems Center

Links and Downloads

- **Internet Library for and LibraryCenter for V1R5**
  - http://www.ibm.com/servers/eserver/zseries/zos/bkserv/v1r5books.html
- **LookAt**
  - http://www.ibm.com/servers/s390/os390/bkserv/lookat/lookat.html
- **Softcopy Website**
  - http://www.ibm.com/servers/eserver/zseries/softcopy/
  - What's New
  - Known problems
- **Softcopy Reader V3**
  - http://www.ibm.com/software/office/bkmgr/softcopyread.html
- **Softcopy Librarian V4**
  - http://publib.boulder.ibm.com/epubs/df/ebrsclwj.exe
- **Adobe Acrobat**
  - http://www.adobe.com/support/downloads/main.html

IBM Advanced Technical Support – Washington Systems Center

Technical Documentation

Flashes
White Papers
Technical Documents

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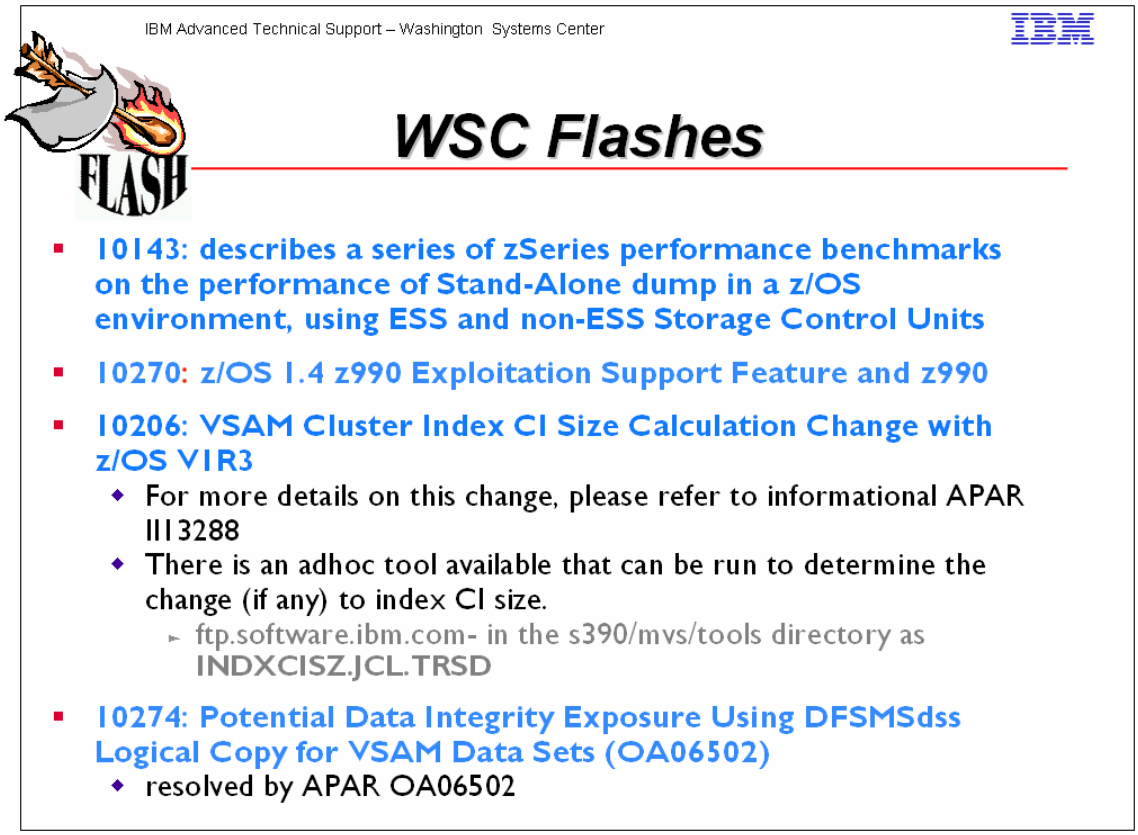
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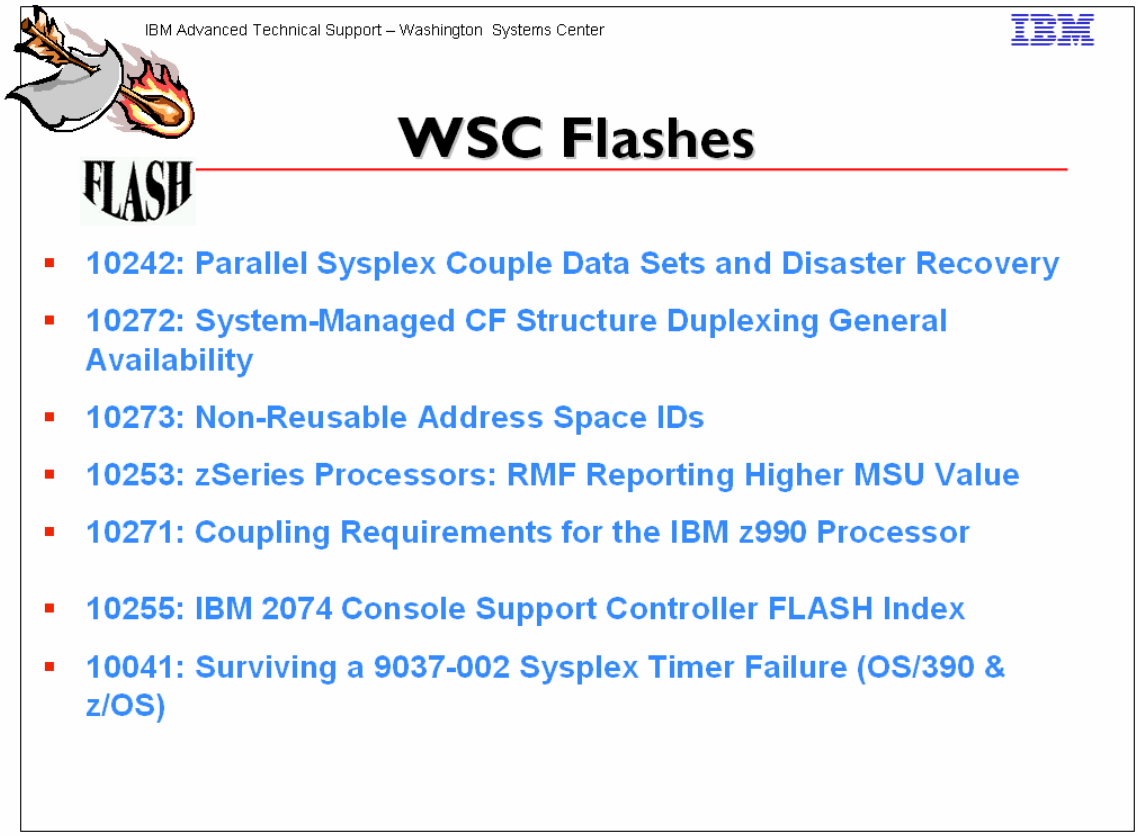
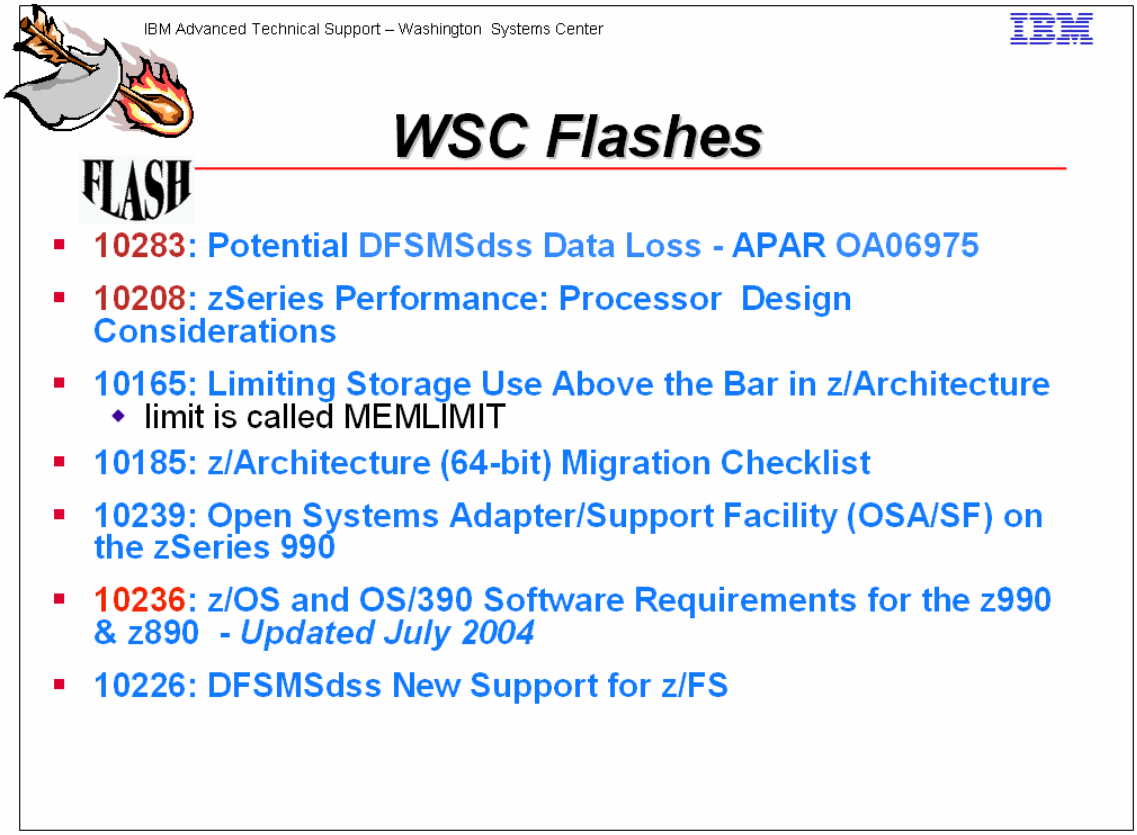
IBM
FLASH
WSC Flashes
10143: describes a series of zSeries performance benchmarks on the performance of Stand-Alone dump in a z/OS environment, using ESS and non-ESS Storage Control Units
10270: z/OS 1.4 z990 Exploitation Support Feature and z990
10206: VSAM Cluster Index CI Size Calculation Change with z/OS V1R3
For more details on this change, please refer to informational APAR II13288
There is an adhoc tool available that can be run to determine the change (if any) to index CI size.
ftp.software.ibm.com- in the s390/mvs/tools directory as INDXCISZ.JCL.TRSD
10274: Potential Data Integrity Exposure Using DFSMSdss Logical Copy for VSAM Data Sets (OA06502)
resolved by APAR OA06502


IBM Advanced Technical Support – Washington Systems Center
IBM
FLASH
WSC Flashes
10242: Parallel Sysplex Couple Data Sets and Disaster Recovery
10272: System-Managed CF Structure Duplexing General Availability
10273: Non-Reusable Address Space IDs
10253: zSeries Processors: RMF Reporting Higher MSU Value
10271: Coupling Requirements for the IBM z990 Processor
10255: IBM 2074 Console Support Controller FLASH Index
10041: Surviving a 9037-002 Sysplex Timer Failure (OS/390 & z/OS)



How to Subscribe to Flashes:
IBM will publish an e-mail to you based on the product selections made within the MY SUPPORT profile.

The pre-req is that you will need to obtain an IBM Registration (IR) ID and password in order to use this facility. So if you do not have one, you will be guided through obtaining one after you access the website location below, click on MY SUPPORT and/or try to use its "profile" update process.

After logging into My Support at http://www.ibm.com/support/mysupport :

1. select "Customize content" in the left hand navigation bar. This is where you decide on which products you would like see a FLASH notice on.
2. select product family from the "Select a product family" pull down in the center of the page
3. next, select one or all (but at least one), of the topics found under the product family you selected (make the selection by putting a check in the box beside it).
4. scroll to the bottom of the page and click on "Save & return"
5. go to the bottom of the page that you returned to, under the blue bar header of "Select mail preferences", and check the box beside "Yes, you may send me this information by e-mail"
6. click on "Submit"

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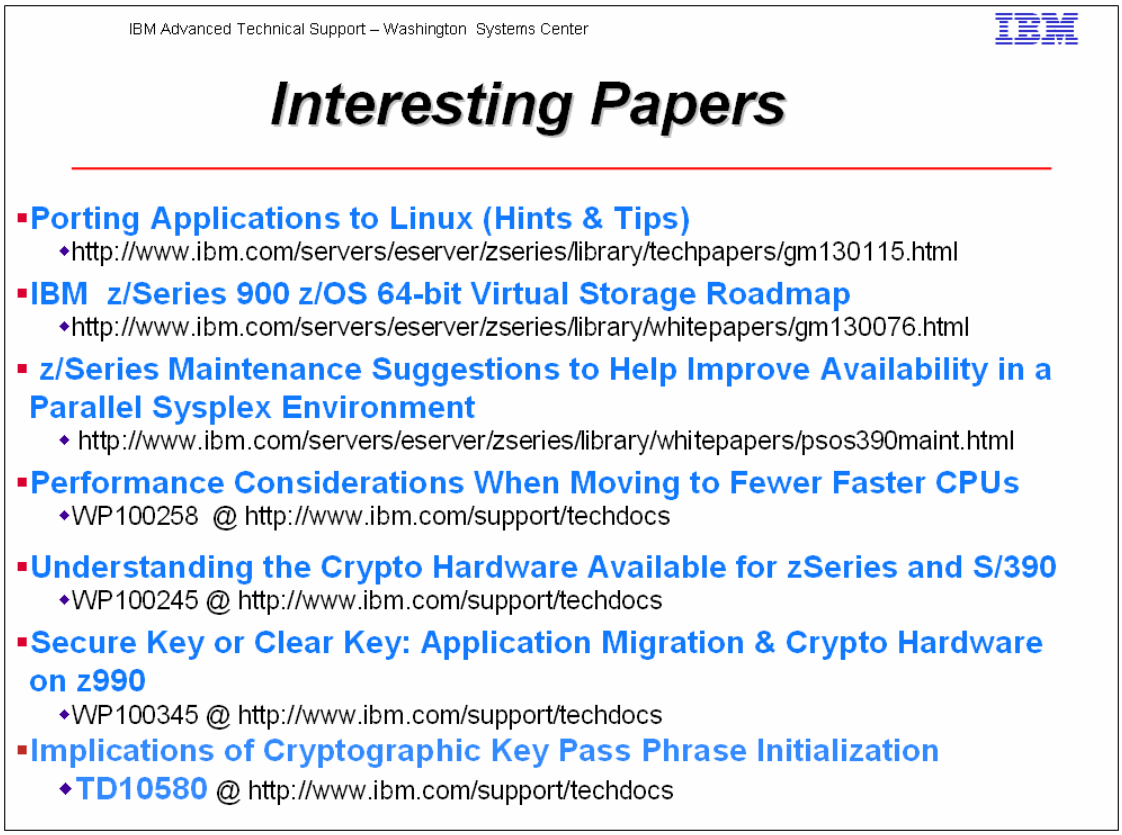


Notes:

Porting Applications to Linux

This paper is intended to give you hints and tips and describes a roadmap on how you can port applications to Linux. It is based on the experiences of software engineers from Independent Software Vendors (ISVs) and from the worldwide IBM labs, who have been involved in many projects porting applications to Linux.

IBM z/Series 900 z/OS 64-bit Virtual Storage Roadmap

In z/OS V1.2, IBM will deliver the initial basic 64-bit virtual storage management support. This is a major milestone of the new z/OS 64-bit operating environment. With this basic 64-bit virtual storage support, an application address space can have 264 virtual addresses with backing by real storage as needed. Over the next two years, z/OS will deliver the rest of the 64-bit virtual storage functions to meet the needs of growing e-business application environments. The objective of this white paper is to describe for our software vendors and customers how IBM will provide 64-bit virtual storage support through a multi-stage plan.

Resource Sharing

Describes Resource Sharing in z/OS and OS/390, and the value obtained from it as additional benefits to Parallel Sysplex. This value is seen in better system management, reduced H/W, performance, single system image, and better recoverability.

Faster Fewer CPUs

Current processor design continues to deliver more CPU capacity with the same or less number of central processors (CPs). This environment results in some customers running their workloads on configurations with less Cps. While this migration can be very successful with the workloads enjoying equal or better performance after the move, there are some planning and tuning issues to consider. This paper will discuss the issues involved with reducing the number of processors and provide guidelines to ensure a successful migration. The information presented is the result of tuning experience at the IBM Washington Systems Center as well as the results of several tests run in a controlled environment.

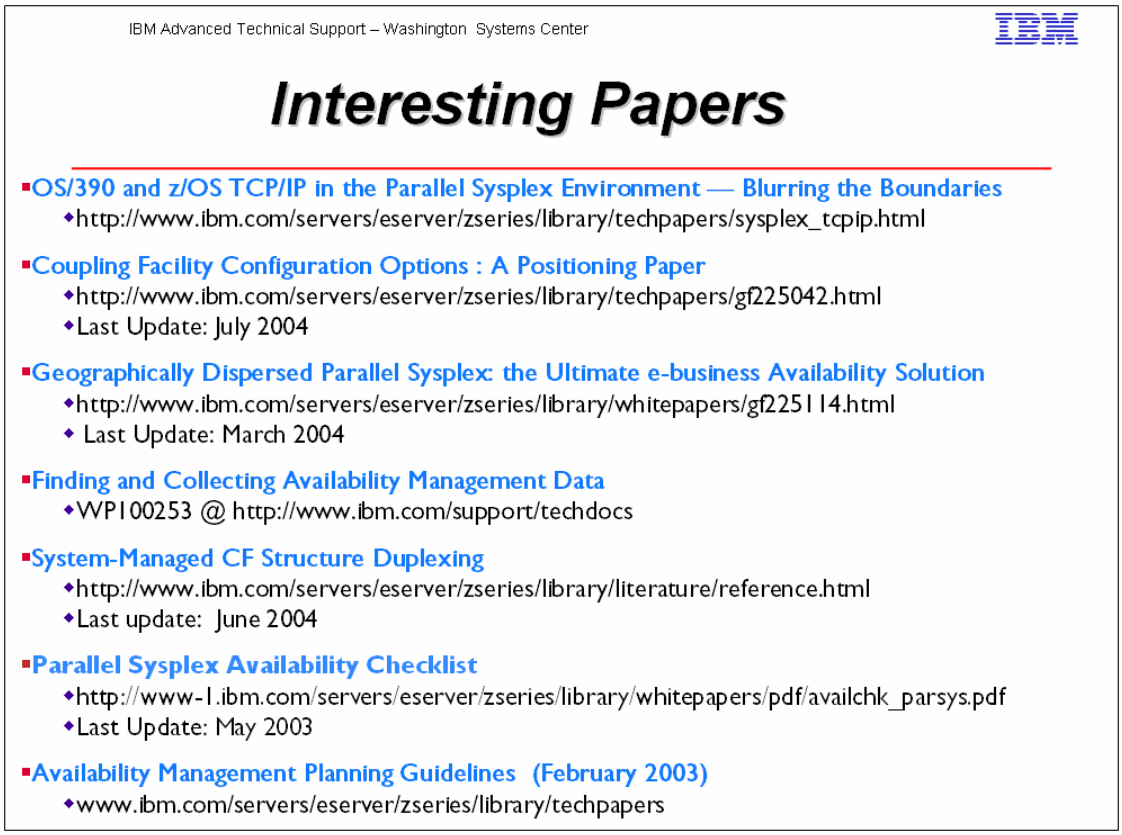
Crypto

The z990 introduces a change in the basic crypto hardware available in June 2003 and thus, can impact applications using crypto that may be migrated to a new z990. The announcement of the z990 clear key only support on crypto hardware is confusing in that many crypto functions were transparent to users. This white paper and its companion items were created to clarify the meaning of secure key vs clear key and the impact of clear key only crypto at z990 GA1. For planning purposes the document also includes a planning questionnaire/checklist and a methodology for determining if secure keys are being used within any mainframe applications. This document contains a table of contents due to its length. The reader should find it worthwhile to read the entire paper.

Implications of Cryptographic Key Pass Phrase Initialization

Until Master Keys have been loaded into a zSeries server, no secure crypto functions can be performed. Three methods exist to allow entry of these Master Keys. Here we explain the implications of choosing this apparently quick-and-dirty technique.

As shipped, the S/390 and zSeries processors provide three methods of initializing the cryptographic adapters with Master Keys. Until the imbedded adapters (CCF's) or add on PCIxCC (z990) are initialized, no cryptographic functions can occur.
The three provided methods of initialization are:
1. Clear Master Key entry via ISPF/ICSF panels.
2. Clear Master Key entry via a Trusted Key Entry (TKE) workstation.
3. Pass Phrase Initialization (ISPF or batch JCL based)



Notes:

TCP/IP in the Parallel Sysplex Environment

This paper reviews the function and benefits of the TCP/IP support provided to leverage the Parallel Sysplex. Particular focus on the areas of VIPA (Virtual IP Address) for high availability of the TCP/IP stack and TCP/IP applications. Other focus areas include load balancing, use of XCF among TCP/IP stacks, and the progression of TCP/IP enhancements to leverage the Parallel Sysplex environment. This paper includes enhancements in z/OS V1R2.

Coupling Facility

This paper will examine the various Coupling Facility technology alternatives from several perspectives. It will compare the characteristics of each CF option in terms of function, inherent availability, performance and value. It will also look at CF structure placement requirements based on an understanding of CF exploitation by z/OS and OS/390™ components and subsystems.

GDPS

This paper discusses in detail how GDPS provides not only all the resource sharing, workload balancing, and continuous availability benefits of a Parallel Sysplex environment, but it significantly enhances the capability of an enterprise to recover from disasters and other failures and to manage planned exception conditions. GDPS allows a business to achieve its own continuous availability and disaster recovery goals. Through proper planning and exploitation of IBM's Geographically Dispersed Parallel

Sysplex technology, enterprises are now able to fully protect their critical business applications from any unplanned or planned outage event.

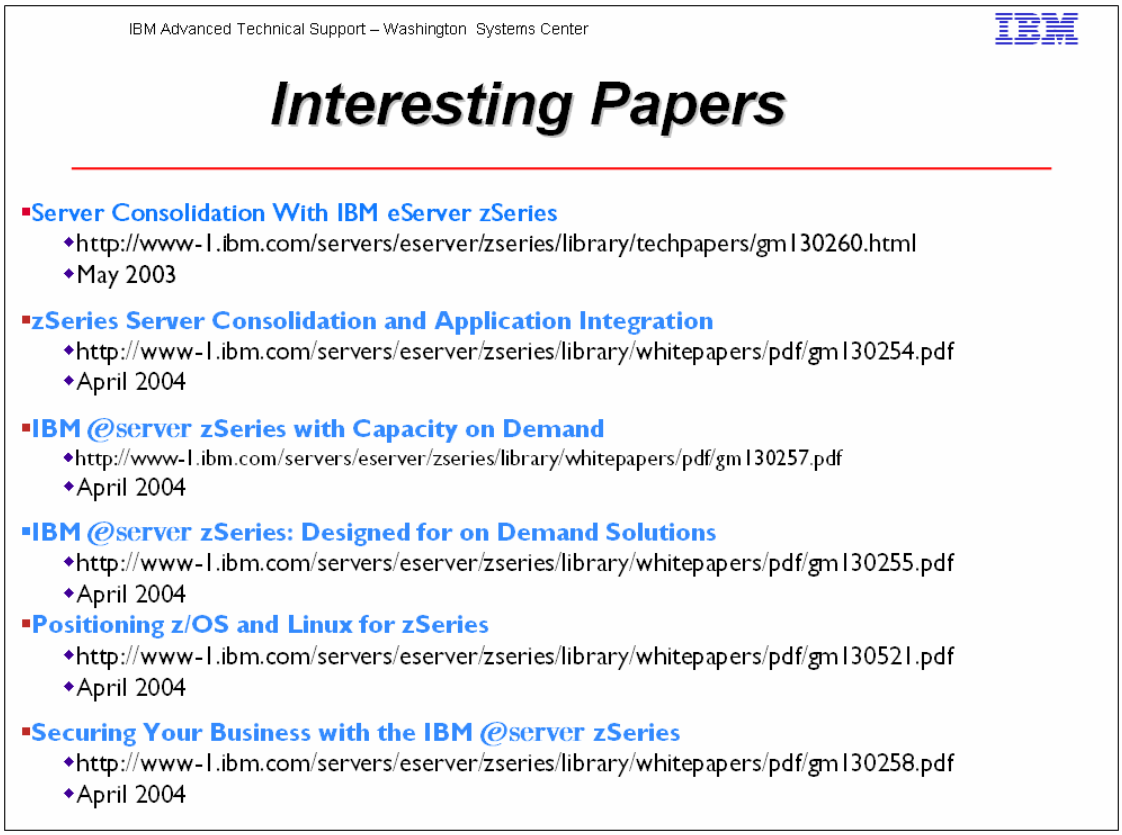
Finding and Collecting Availability Management Data
This paper describes how to locate and collect data for use in creating availability measurements. It describes existing sources of data, and monitoring techniques to create data, that are available across operating system platforms and networks. It also illustrates methods of using automation to collect and normalize the data, to create an efficient process for creating measurements.

Availability Management Planning Guidelines

Parallel Sysplex by itself does not guarantee availability. The most availability benefits come from good system management processes. This paper discusses guidelines to design processes for application development and testing, change management, problem and crisis management, automation, and operations.

Parallel Sysplex Availability Checklist
Continuous application availability for zSeries applications cannot be achieved without the use of Parallel Sysplex. However, Parallel Sysplex on its own cannot provide a continuous application availability environment. Continuous or near-continuous application availability can only be achieved by properly designing, implementing, and managing the Parallel Sysplex systems environment. This document provides a checklist of items for achieving near-continuous application availability and should be used as a guide when creating a high availability Parallel Sysplex.

System-Managed CF Structure Duplexing
System-Managed Coupling Facility (CF) Structure Duplexing is designed to provide a general purpose, hardware assisted mechanism for duplexing CF structure data. This provides a recovery mechanism for failures through rapid failover to the other structure instance of the duplex pair. A cost/benefit analysis should be performed for each structure prior to enabling it for System-Managed CF Structure Duplexing. This paper presents the background information and a methodology necessary for performing such an analysis.



Server Consolidation With IBM eServer zSeries

Consolidation is a lot more than simply replacing a lot of small servers with fewer, bigger, more powerful servers. Consolidation is about finding ways to better align and manage your existing IT infrastructure to better support the business model, while establishing a flexible foundation designed to handle future requirements.
This technical paper explores the following topics:

- What is server consolidation and what are its benefits?
- How can you choose the right approach to server consolidation?
- Consolidating on IBM eServer zSeries servers
- Virtual machine technology
- Managing changing demands for server capacity
- Beyond single-server consolidation

Series Server Consolidation and Application Integration

A high level overview of "Consolidation", what is it, why you may need to do it and when you should do it as well as some of the hardware and software available from IBM to help you do it!

IBM eServer zSeries with Capacity on Demand

In the highly unpredictable world of on demand business, you should get what you need—when you need it. And you should pay for only what you use. Radical? Not to IBM. This article discusses the capability of the IBM eServer™ zSeries™ to provide

capacity upgrades during peak workloads and release the added capacity when the peak drops off. read about all of the eServer zSeries Capacity on Demand features.

IBM eServer zSeries: Designed for On Demand Solutions
The move toward on demand—and the reasons for making that move—takes many forms.Some small businesses aspire to on demand to gain economic scale, while some large companies wish to become as nimble and responsive as a small business. It doesn't matter whether you're a small business or a major corporation. And it doesn't matter whether your current on demand infrastructure is somewhat basic or highly sophisticated. What does matter is that you arm yourself with the right tools to grow your business in the on demand age, and that you put in place the right infrastructure to help you manage this increasingly complex new environment.

Positioning z/OS and Linux for zSeries
This white paper discusses the strengths of Linux on zSeries and z/OS and provides guidance in choosing the appropriate platform for various types of applications.

Securing Your Business with the IBM eServer zSeries
What does security mean to your company? Do you take the security of your systems and infrastructure as seriously as you should? Are you investing now to secure your business for the future? IBM eServer zSeries is in a position to help you protect your systems from intrusion, secure them to enable financial transactions and secure them for Web commerce. This 10-page document highlights the many built-in security features IBM eServer zSeries.

IBM Advanced Technical Support – Washington Systems Center

Downloads

Health Checker
CFSIZER / SIZER
Logrec Viewer
Cryptographic Support
Z990 & z890 Compatibility
Bimodal Migration Accommodation
Consoles 1-byte tracker Exclusion List
Dumpwrite Utility
SMF "at a glance"

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

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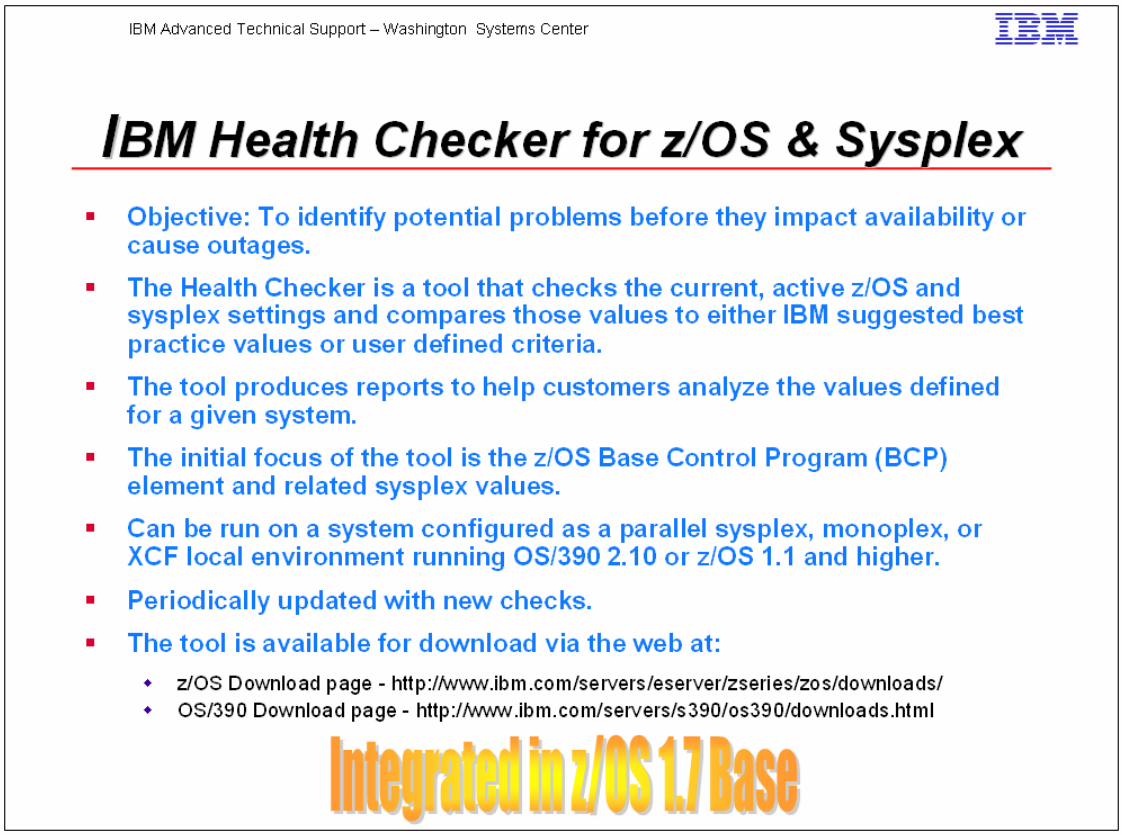


Notes:

The **IBM Health Checker for z/OS and Sysplex** is a tool that checks the **current active** z/OS and sysplex settings and definitions for an image and compares their values to either those suggested by IBM or defined by you. The objective of the IBM Health Checker for z/OS and Sysplex is to identify potential problems before they impact your availability or, in worst cases, cause outages. The tool produces reports (snapshots of your system) to help you analyze the values defined for this system.
This tool runs on all z/OS releases and OS/390 V2R10.0.

Best practices: The basis for the values used by the Health checker include: Parallel Sysplex and z/OS publications such as z/OS MVS Setting up a Sysplex, z/OS MVS Planning: Operations, and z/OS MVS Initialization and Tuning Reference.

Parallel Sysplex Availability Checklist found at
http://www.ibm.com/servers/eserver/zseries/pso

ITSO Redbooks such as OS/390 Parallel Sysplex Configuration, Volume 1: Overview, OS/390 Parallel Sysplex Configuration, Volume 2: Cookbook, OS/390 Parallel Sysplex Configuration, Volume 3: Connectivity. The redbooks can be found at www.redbooks.ibm.com/.

z/OS Parallel Sysplex Test report found at
www.ibm.com/servers/eserver/zseries/zos/integtst/.
Washington System Center Flashes found at www.ibm.com/support/techdocs/.

Examples of checks made by the Health Checker:
Best practice: The primary sysplex, CFRM, and LOGR couple data sets should not reside on the same volume due to the amount of I/O activity for each of these data sets. This check also ensures that the primary and alternate datasets reside on separate volumes.

Best practice: If multiple XCF signalling structures are in use, then all of them should not reside on the same coupling facility (avoids single point of failure).

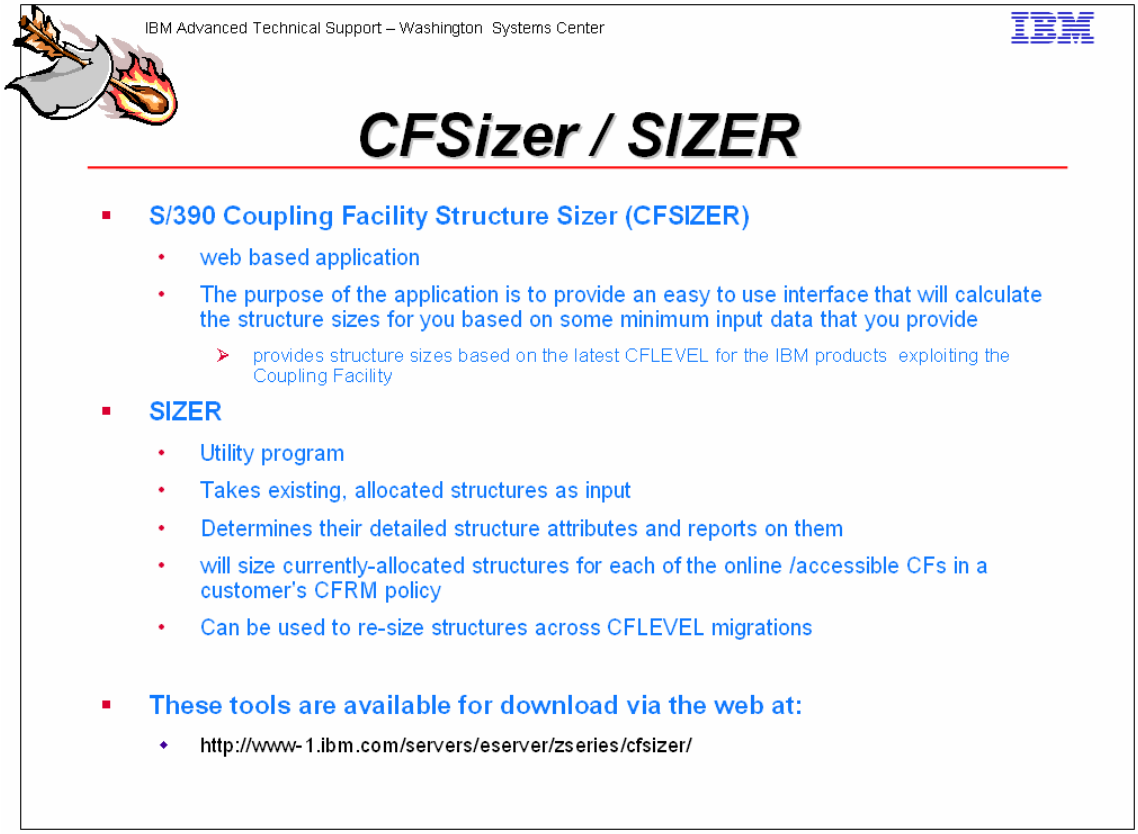
Best practice: MCS, SNA_MCS, and subsystem consoles are assigned names; this reduces the number of console IDs to help address the limit of 99 consoles per sysplex.
Best practice: IBM suggests that you use sysplex failure management (SFM) to define actions to be performed in the event of system failures and signalling connectivity failures in the sysplex.
Best practice: IBM recommends a GRS STAR configuration due to the advantages that it provides with regard to availability, real storage consumption, processing capacity, and response time.

Version 3, October 2003
New information:

- added information on the following new checks:
  - checks for duplicate member names in linklist and LPA List data sets
  - a new secondary extent has been created in the current linklist
  - checks if APF data sets accessible on the volume defined in the APF List
  - checks if data sets in the LinkList have secondary space allocated or in use
  - GRS: synchronous reserve processing should be enabledv
  - 0 added an appendix of messages and return codes.

Changed information:

- updated information on WTO parameter v updated information on IBM Resource Link
- updated information on the following checks:
  - Available_Frame_Queue_Threshholds
  - EMCS checks
  - Storage checks
  - updated verbose and exception reports



Notes:
CFSIZER is a web based application that will return the structure sizes based on the latest CFLEVEL for the IBM products that exploit the Coupling Facility.

The purpose of the application is to provide an easy to use interface that will calculate the structure sizes for you based on some minimum input data that you provide.

If your intention is to upgrade your CFCC microcode on one or more CFs and you would like to use the sizes of your current structures to calculate the size needed for your new structures, any one of the following three methods can be used to calculate the required structure sizes**:**

1. The following 'Rule of Thumb' Formulas may be used to estimate the required sizes based on the current entry:element ratio (obtained from a RMF CF report) if migrating from CFCC level 10 or 11 to CFCC level 12. The thumbrules are only rough approximations, and should only be used if methods 2 and 3 are not applicable.

   CF level 12 structure size = CF level 10 (or 11) structure size PLUS the following based on type of structure and entry:element ratio:
   - Lock structure
     - Without record data: 0
     - With record data: 20% of level 10 or 11
   - List or cache structure:
     - No data (no elements): 0

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- Entry:element ratio = 1:1 : 2 MB + 10%
- Entry:element ratio >= 100:1(scale % factor for ratios in between): 2 MB + 50%

Example: DB2 GBP structure, given CF level 10 size = 100 MB and entry:element ratio 5:1

then CF level 12 size = 100 + 2 + 12% x 100 = 114 MB

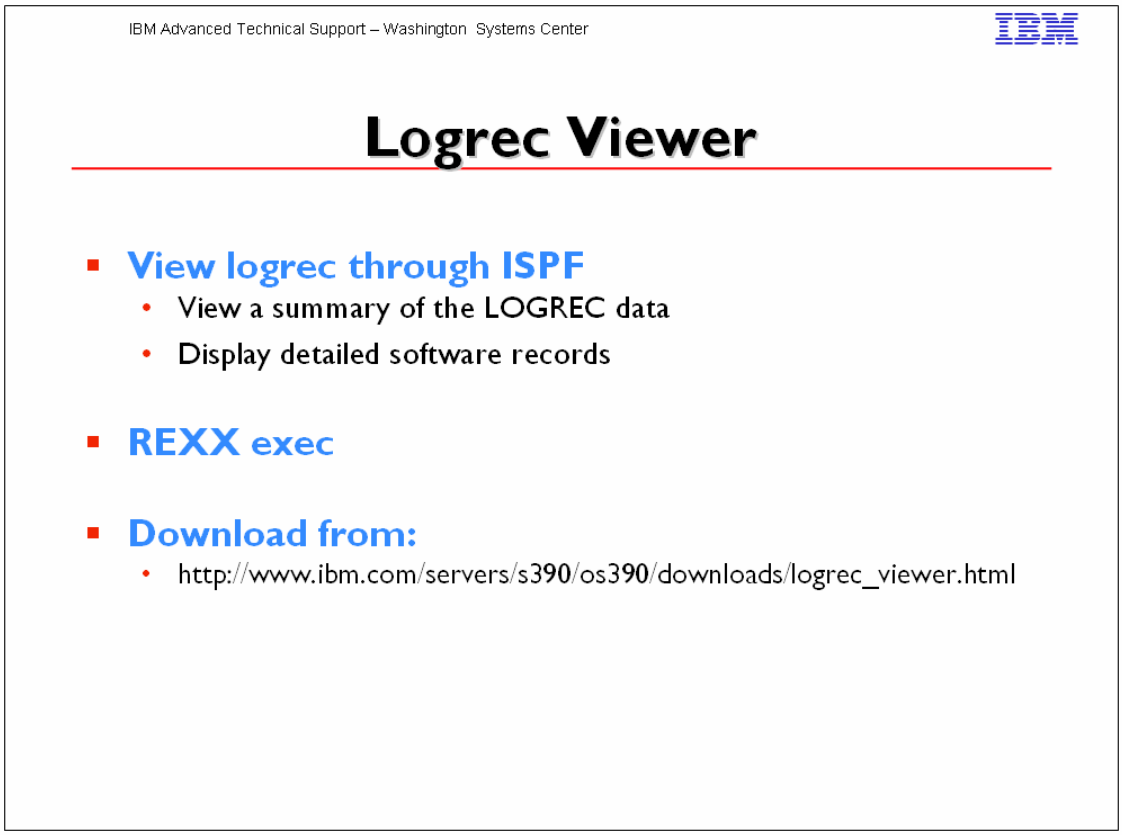
2. If the higher level CF is accessible in your configuration and is defined in the CFRM policy ,and OW54685 is applied, then structure rebuilds from lower level CFs to higher level CFs will re-size the structure automatically based on its current structure object counts. The CFRM policy can then be adjusted according to the size of the structure when it is actually allocated in the higher level CF.

   Note that rebuild will not re-size the structure (i.e., will attempt to allocate it at the size specified in the CFRM policy or by the structure connectors)under the following circumstances:
   - When a CFRM policy change is pending
   - When a connector has changed the structure attributes on its IXLCONN REBUILD request.

3. There is a utility called SIZER that is available for download* as a zipped package containing the following files:

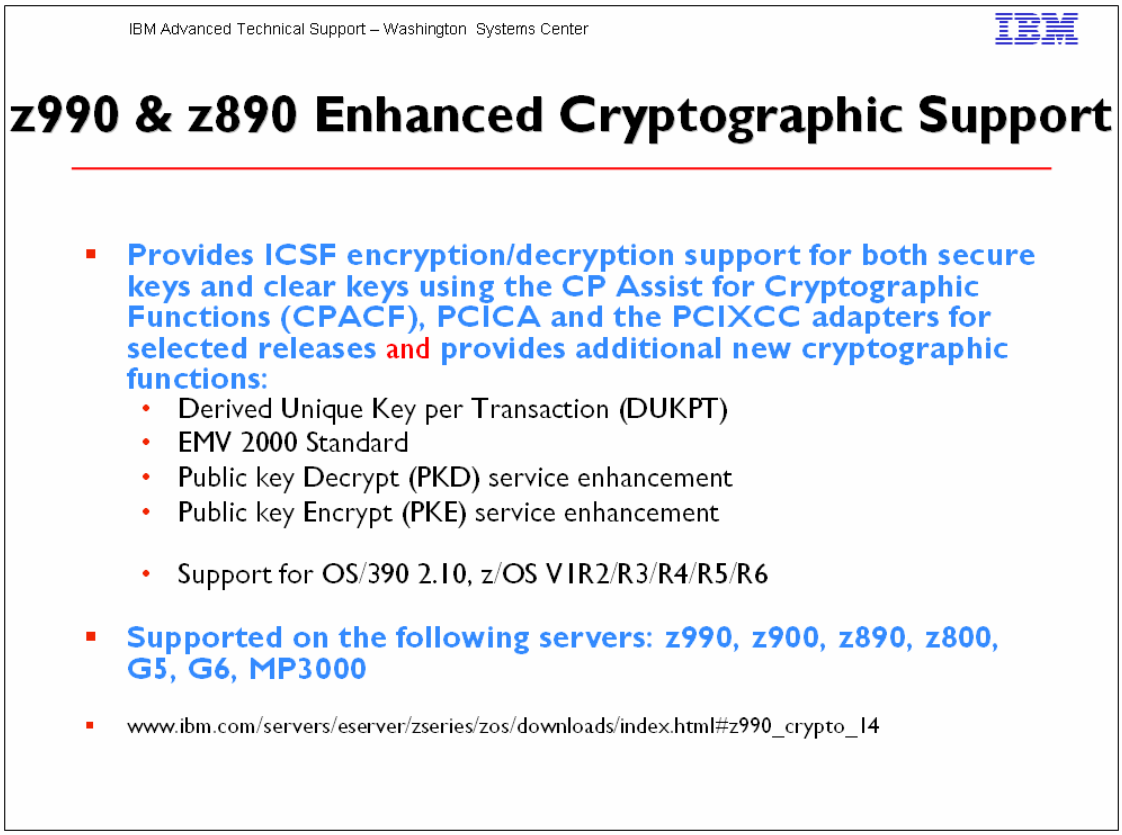
sizer.obj	Sizer utility executable (binary, FB 80)
runsize.jcl	JCL to invoke the utility, as a started task (binary, FB 80)
linksize.jcl	Linkedit JCL (binary, FB 80). Update this JCL to install the utility in an authorized library.
The Sizer Utility Program.doc	Utility documentation (Microsoft Word document)

This utility, provided as is and not supported by IBM, will size currently-allocated structures for each of the online /accessible CFs in a customer's CFRM policy.



Notes:
The Logrec Viewer is an ISPF application that obtains an EREP report for the Logrec stream (for a Logger-resident stream, or SYS1.LOGREC). From the panel, you can navigate to view a summary of the LOGREC data, or display detailed software records. The logrec source is based on the EREP JCL (SERLOG DD statement). From the ISPF panel, you can enter one of the following options:

S = Summarize LOGR LOGREC data
D = Detailed LOGR Software Records
I = LOGR Logrec Inventory
O = User EREP Input from dataset



Notes:

This download provides ICSF encryption/decryption support for both secure keys and clear keys using the CP Assist for Cryptographic Functions (CPACF), PCICA and the PCIXCC adapters for selected releases.

This download applies to z/OS 1.6, z/OS 1.5, z/OS 1.4, z/OS 1.3, z/OS 1.2, z/OS.e 1.6, z/OS.e 1.5, z/OS.e 1.4, z/OS.e 1.3, and OS/390 2.10.

A program directory is available:

z990 and z890 Enhancements to Cryptographic Support Program Directory

Related documentation is available from the Technical Sales Library and will be updated on an on-going basis. We recommend that you use search criteria of: "z990 AND crypto" to identify the most current documentation.

Cryptographic Hardware Available with the z990 (from WP100245 by Marilyn Allmond)

The June 2003 introduction of the z990 server introduces a new set of cryptographic hardware. With the z990 the standard Cryptographic Coprocessor Facility (CCF) has been removed. The cryptographic hardware available on the z990 will be available in staged releases and require specific operating system levels. The cryptographic hardware built in the z990 is the Central Processor Assist for Cryptographic Functions, CPACF. Implementation and function of the CPACF is similar to the CCF and to the PCICA. The similarity to CCF is that a configuration

must be loaded to activate the use of the CPACF. The configuration or enablement diskette is an optional, charged feature. The similarity to the PCICA is that
there are no master keys associated with CPACF. The two major implementation/usage differences between the CPACF and the CCF are that the:

- CPACF performs a restrictive set of functions, limited to use with clear key values and supporting only the DES and Triple-DES algorithms and
- Enablement diskette loading is a non-disruptive task.

The existing PCI Cryptographic Accelerator (PCICA) is available for use and order with the z990 at general availability. On the z990 the PCICA feature does not require a CHPID. This requirement still exists on the z900.

In September of 2003, a second new cryptographic hardware feature will be available for shipment. This new feature is the PCIxCC. This feature is the replacement hardware for most of the secure key functions previously available with the CCF and PCICC hardware features. Implementation is similar to that performed for the PCICC on z900. There are two major implementation differences between the PCIxCC and the PCICC:

1. PCIxCC has no enablement diskette or FCV load requirement. The configuration information will be obtained from the CPACF which is a prerequisite feature.
2. PCIxCC has no requirement for CHPID.

ICSF is still the interface to the cryptographic hardware. For the z990 support, additional changes to the z/OS 1.4 operating system code and ICSF code have been made to recognize and interface with the new hardware. This code will be availability as part of the z/OS V1.4 z990 Compatibility Support optional feature. Secure key (PCIXCC support) will be provided by the z990 Cryptographic Support web deliverable (planned availability September 19, 2003). z/OS V1.3 clear key support is provided by the z990 Cryptographic CP Assist Support for z/OS V1.3 web deliverable. Secure key support for z/OS 1.3 is planned to be available 4Q2003. Clear key and secure key support for z/OS 1.2 is provided by the z990 Cryptographic Support web deliverable (planned availability September 19, 2003). Clear key and secure key support for OS/390 V2R10 will be provided by the z990 Cryptographic Support web deliverable (planned to be available 4Q2003).

There are new and updated technical documents on the ATS TechDocs web site (*http://www.ibm.com/support/techdocs/atsmastr.nsf/Web/Techdocs*) related to the new crypto hardware.

- Secure Key or Clear Key: Application Migration & Crypto Hardware on z990 or The Basics of What You Need to Understand about zSeries Crypto Hardware and Applications (WP100345)
- Ordering Crypto for S/390 and zSeries Processors (PRS217)
- Reference for Number of Crypto Coprocessor Available to a Server by Model (TD100158)
- Crypto for VTAM and TCP/IP Applications on the z990 Platform (PRS698)
- zSeries z990 Hardware Cryptography Considerations (TD101100)

The new TechDoc listed first in the list has a long title that reflects the depth of content in the white paper. If you always wanted to better understand:

- What keys are and how they are used
- How cryptographic functions can be performed on one device and reversed on another
- What the implications are for doing cryptographic processes across different applications
- How communications standards like SSL and TLS use cryptographic functions
- How IBM products might use the crypto hardware to with SSL

Install Cryptographic Software

If you currently use cryptographic services, you should plan your migration to a z990 server carefully because the availability of cryptographic functions is dependent on the operating system release you are running and when you plan on migrating to a z990 server.

If you are running z/OS V1.3 or z/OS V1.4 and only need clear key cryptography (SSL/TLS functionality) using the PCI Cryptographic Accelerator (PCICA) and CP Assist for Cryptographic Functions hardware features, then you can migrate your workload to a z990 server at any time (assuming the proper hardware and software is installed).

- For z/OS V1.3, you must download and install the z990 Cryptographic CP Assist Support for z/OS V1.3 Web deliverable.
- The PCICA hardware feature is only required if you want or need improved performance (such as for SSL "handshakes") using the cryptographic accelerator.

Note: If you are running OS/390 V2R10 or z/OS V1.2 and need clear key cryptography, you must install the z990 Cryptographic Support Web deliverable.

If you require secure key cryptography, then you will require the PCIX Cryptographic Coprocessor (PCIXCC) hardware feature, and the z990 Cryptographic Support Web deliverable.

Note: The following infrequently used cryptographic functions are removed from z990 cryptography:

- Digital Signature Algorithm support
- ANSI x9.17 services and key types
- Cipher_Text Translate (CSNBCTT)
- German Bank Pool - Pin Offset
- CSFUDK (replaced with CSNBDKG)
- Commercial Data Masking Facility (CDMF) - 40-bit Encryption

The following is a press release from July 31, 2003:

IBM to Deliver Key Security Features on IBM eServer z990

Thursday July 31, 8:00 am ET

Cryptographic Functionality and Trusted Key Entry Available One Month Ahead of Schedule on World's Most Sophisticated Server

ARMONK, NY--Jul 31, 2003 -- IBM today announced that full-feature cryptography on the new IBM eServer zSeries 990 will be available one month ahead of schedule. Full-feature cryptography is designed to allow customers the choice of "clear key" or "secure key" encryption, which are advanced security capabilities commonly used across industries, especially in banking and financial services.

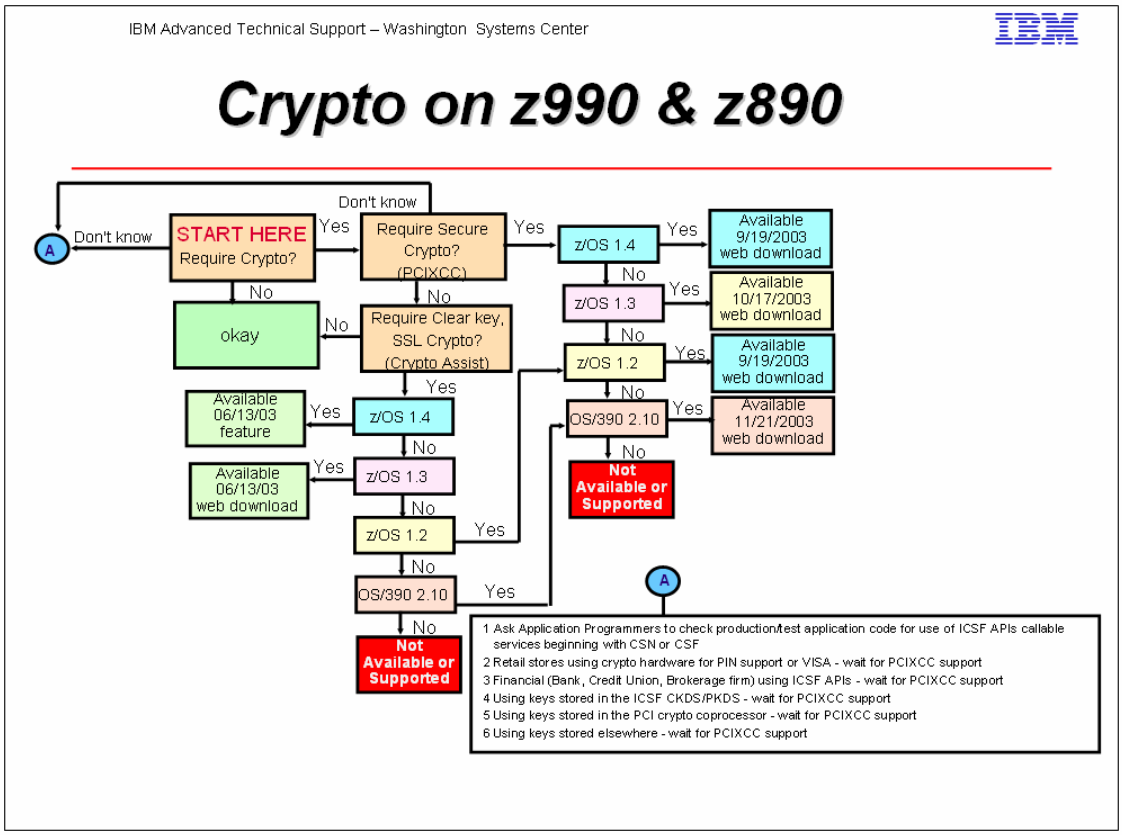
Today's announcement further strengthens the encryption capabilities of the z990 for those applications requiring the highest levels of data protection. When used with z/OS, the mainframe's flagship operating system, the z990 will offer customers enhanced cryptographic functionality beginning September 19, 2003.*

The z990 was introduced in May. It sets a new standard for enterprise-class computing, featuring industry leadership in virtualization, automation, scalability, security and reliability. Designed from the ground up to help thwart intrusion into the system, the IBM mainframe is one of the most secure servers on the market. A 16-way z990 running z/OS 1.4 can process up to 11,000 secure sockets layer (SSL) transactions/second.

"IBM is committed to aggressively deliver advanced zSeries functionality into the marketplace to help customers develop their on demand computing environments," said Erich Clementi, general manager, IBM eServer zSeries. "Accelerating the delivery of these key security capabilities on the z990 is especially important to IBM's customers in the financial services and retail industries who

are preparing for the upcoming surge in holiday season transactions and Web commerce." The z990's new PCIX Cryptographic Coprocessor (PCIXCC), which provides the mainframe's secure key cryptography, is a replacement for the PCICC and CMOS Cryptographic Coprocessor Facility that were implemented on previous zSeries platforms, such as the z900. All of the equivalent PCICC functions offered on the z990 PCIXCC are implemented with higher performance, and the z990 PCIXCC offers the functions of the CMOS Cryptographic Coprocessor Facility used by known applications. PCIXCC supports highly secure cryptographic functions, use of secure encrypted-key values, and user-defined extensions.

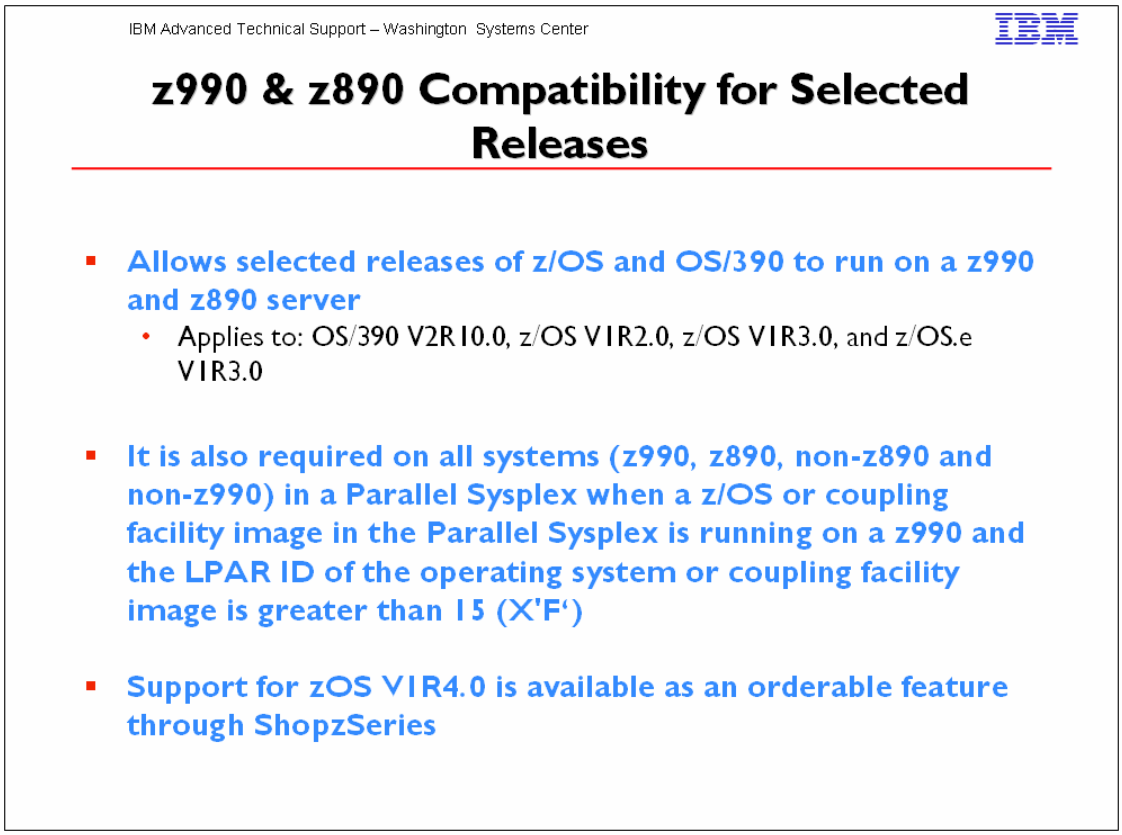
IBM is also moving up the delivery schedule of a new release of its Trusted Key Entry (TKE) Workstation for z990. TKE Version 4.0 is designed to provide customers with the capability to enter their Master Keys securely for the PCIXCC feature of the z990.



Notes:
This is just another view of crypto availability. Taking a look at the bottom right box depicted by the letter "A" will provide hits to assist in determining whether crypto is being used and whether it is secure key or clear key. Also the white paper referenced on the previous page will provide more detail discussion on this topic.

There are several crypto reference documents available. They are:

WP100345	Secure Key or Clear Key: Application Migration & Crypto Hardware on z990
PRS698	Crypto for VTAM and TCP/IP Applications on the z990 Platform
FLASH10234	Can You Use Crypto for VTAM and TCP/IP Applications on the z990 Platform?
TD101100	zSeries 990 Hardware Cryptography Considerations
WP100245	Understanding the Crypto Hardware Available for zSeries and S/390
FLASH10236	z/OS & OS/390 Software Requirements for the z990 and z890



Notes:
This feature allows selected releases of z/OS and OS/390 to run on a z990 and z890 server. It is also required on all systems (z990, z890, non-z890 and non-z990) in a Parallel Sysplex when a z/OS or coupling facility image in the Parallel Sysplex is running on a z990 and the LPAR ID of the operating system or coupling facility image is greater than 15 (X'F'). This download applies to: OS/390 V2R10.0, z/OS V1R2.0, z/OS V1R3.0, and z/OS.e V1R3.0.

Support for z/OS V1R4.0 is available as an orderable feature through ShopzSeries.

A program directory is available:

z990 Compatibility for Selected Releases Program Directory
(OS/390 V2R10.0, z/OS V1R2.0, z/OS V1R3.0, and z/OS.e V1R3.0)

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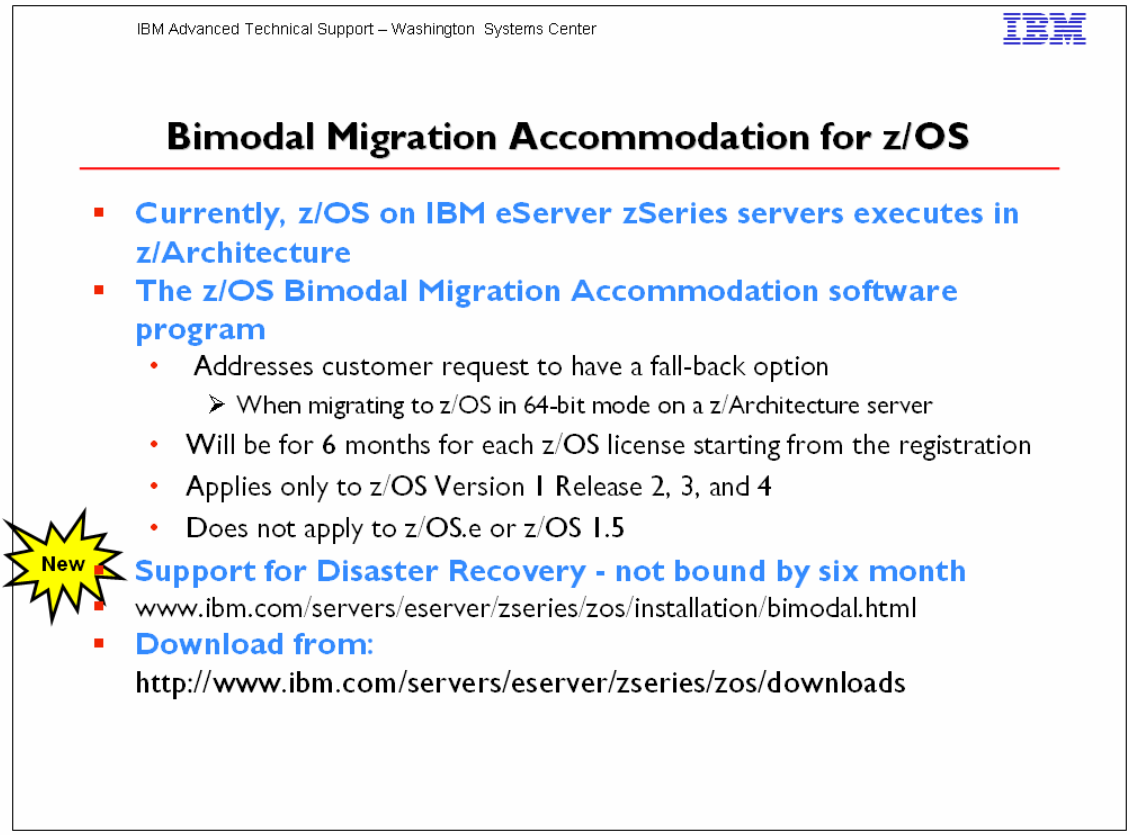
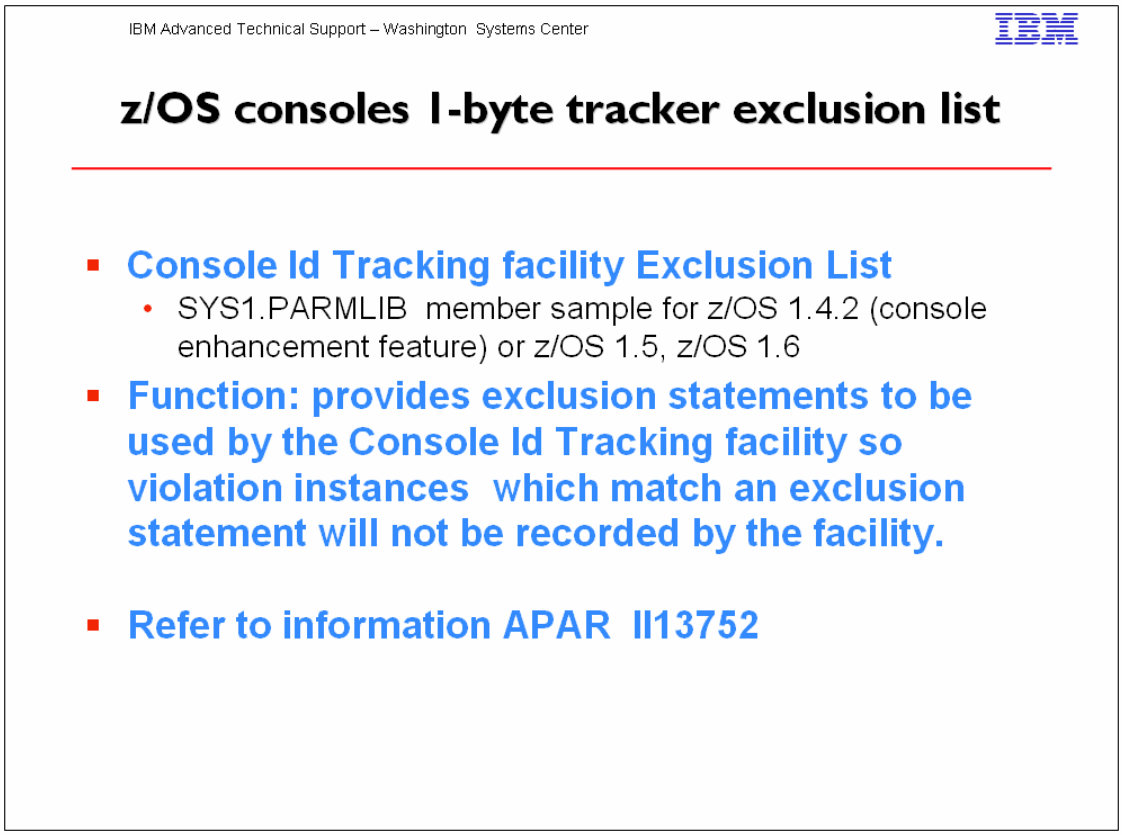


Notes:
The z/OS Bimodal Migration Accommodation software program (the "Program") is intended to provide fallback support to 31-bit mode in the event it is required during migration to z/OS in z/Architecture mode (64-bit).

The Program is available for each z/OS license for six(6) months only (Accommodation Period). The Accommodation Period begins when z/OS (5694-A01) is licensed to a zSeries server (z800 or z900) or equivalent. The Program may only be used for a single six (6) month period with each authorized copy of z/OS. At the end of the Accommodation Period, z/OS will be supported in 64-bit mode only, and your authorization to use the Program in connection with that z/OS license will no longer be valid and may not be renewed. Workload License Charges (WLC) are not a supported option for pricing and licensing of IBM software on the Machine on which the Program is licensed. If you have signed the Attachment for zSeries Workload License Charges - Pre-ILM (z125-6516), the terms of such attachment are suspended for the Machine to which the Program is licensed during the term of such license. If you elect WLC pricing for software on a Machine on which the Program is licensed, your license to use the Program on that Machine shall automatically terminate and may not be renewed. The Program may not be used in conjunction with z/OS.e (5655-G52).

IBM reserves the right to withdraw the Program at any time.



Notes:
Parmlib member samples are available for the z/OS consoles 1-byte tracker exclusion list for z/OS V1.4.2 , z/OS V1.5 and z/OS V1.6 at
http://www.ibm.com/servers/eserver/zseries/zos/downloads

APAR II13752 describes the console 1-byte tracker, its output, how to send it to IBM for analysis,, and how to pull the current parmlib member to aid in the amount of data the tracker collects.

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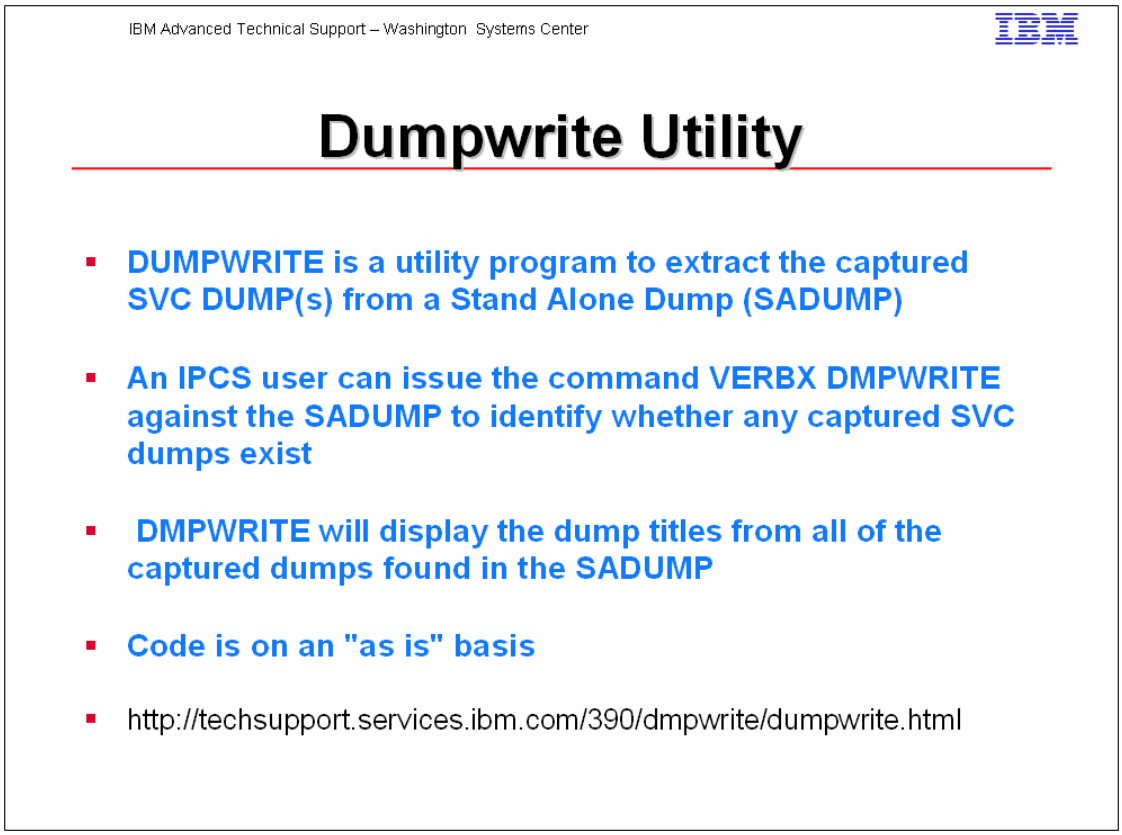

Notes:
DUMPWRITE is a utility program to extract the captured SVC DUMP(s) from a Stand Alone Dump (SADUMP).

There are two levels of DUMPWRITE depending upon your level of OS/390 or z/OS:
- DMPWRITE for systems prior to OS/390 Release 10.
- DMPWRIT2 for OS/390 Release 10 and z/OS.

There are two steps to required to use the DUMPWRITE utility:
1. Download file for the appropriate z/OS or OS/390 Release.
2. Install the utility.

Once DUMPWRITE (DMPWRITE or DMPWRIT2) is installed, you need to utilize a steplib, TSOLIB or LNKLSTxx to make this dataset accessible on the system.

Once the DUMPWRITE program is in the normal module serach list, an IPCS user can issue the command VERBX DMPWRITE against the SADUMP to identify whether any captured SVC dumps exist. DMPWRITE will display the dump titles from all of the captured dumps found in the SADUMP.

If one of the captured dumps is needed, the following steps should be used to extract the dump:

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1. Allocate a dataset with RECFM=FB LRECL=4160 BLKSIZE=4160 DSORG=PS with CYL PRI=100 SEC=100 (i.e &SYSUID..DUMPZn).
2. Associate the DDNAME DUMPDD to the dataset allocated in step 1. (i.e ALLOC FI(DUMPDD) SHR DA('&SYSUID..DUMPZn')).
3. Issue VERBX DMPWRITE 'n' where n is the nth dump entry listed in VERBX DMPWRITE output.

If more than one captured dump is needed, repeat the above steps changing the value for 'n'.

Disclaimer:
These programs contain code made available by IBM Corporation on an "AS-IS" basis. Any one receiving these programs is considered to be licensed under IBM copyrights to use the IBM-provided source code in any way he or she deems fit, including copying it, compiling it, modifying it, and redistributing it, with or without modifications, except that it may be neither sold nor incorporated within a product that is sold. No license under any IBM patents or patent applications is to be implied from this copyright license.

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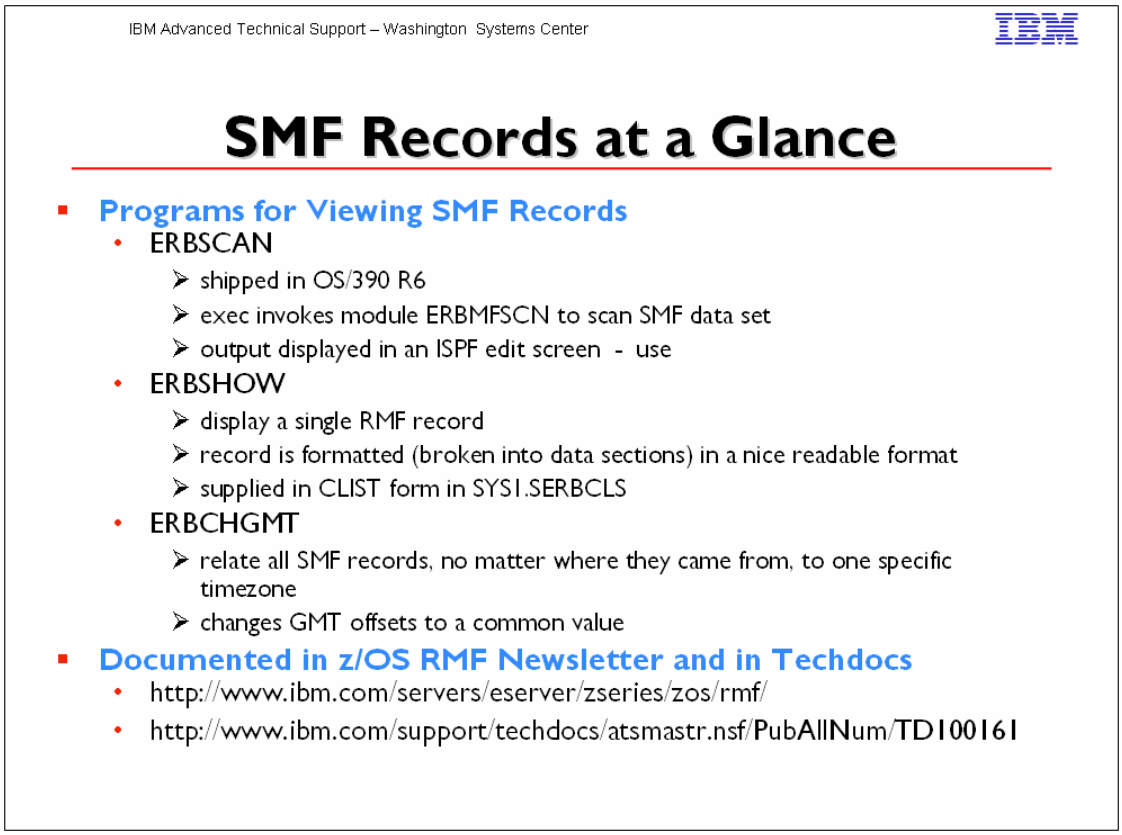

Notes:
The first program, **ERBSCAN** shipped in OS/390 Rel 6. The ERBSCAN exec invokes module ERBMFSCN to scan an SMF dataset. The output listing of ERBMFSCN is then displayed in an ISPF EDIT screen. The user may then display a single RMF record by entering the command "ERBSHOW recno" in the EDIT command line. In this case the ERBSHOW exec is invoked as an EDIT macro, which will then re-invoke this exec with the specified record number. The corresponding record is formatted (broken into its data sections) and displayed in another EDIT window. ERBSHOW in supplied in CLIST form in SYS1.SERBCLS.

ERBCHGMT
Found in SYS1.SAMPLIB. This program provides a function to change GMT offsets to a common value. This function is needed when you have systems in a sysplex with different timezones and want to create postprocessor Sysplex reports.

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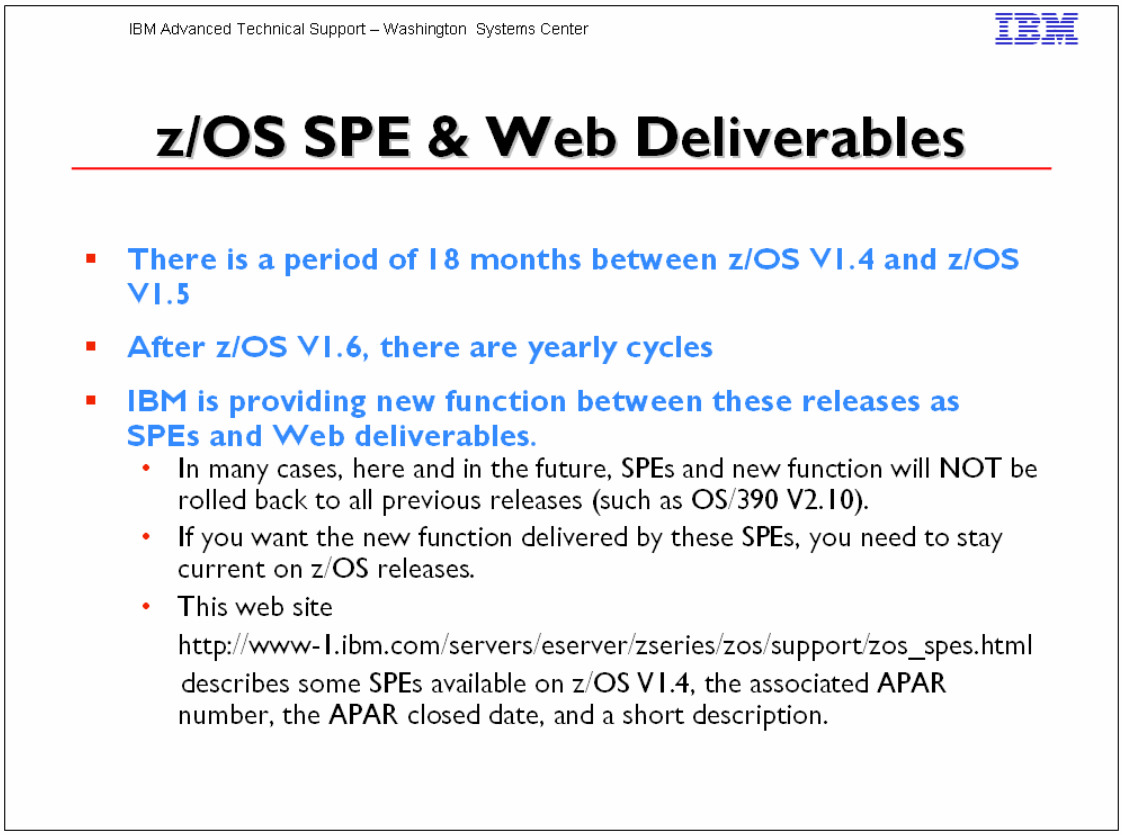

Notes:

Since there is a period of 18 months between z/OS V1.4 and z/OS V1.5 and, after z/OS V1.6, there are yearly cycles, IBM is providing new function between these releases as SPEs and Web deliverables.

In many cases, here and in the future, SPEs and new function will NOT be rolled back to all previous releases (such as OS/390 V2.10). If you want the new function delivered by these SPEs, you need to stay current on z/OS releases. The following describes some SPEs available on z/OS V1.4, the associated APAR number, the APAR closed date, and a short description.

- Enterprise Extender performance enhancements (OA02213)
- Sysplex remount (OA02584)
- Support of NOXPLINK Standard C++ Runtime Library (PQ75251)
- SJF support for new e-mail keyword (OA02478)
- USS Map Services (OW55134/PQ67433)
- Enhanced PTHREAD_QUIESCE (PQ60748/OW54362)
- WLM WebSphere Dynamic Application Environment API (OW54622)
- WLM importance-based initiator DP control (OW55344)
- WLM/SCRT (OW55509)
- LE enhanced ASCII (PQ63405)
- Enterprise Identity Mapping (EIM) for z/OS (OW57137)

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- New LE errnos and sterror messages to support EIM (PQ67523)
- 64 bit virtual conversion services unicode support (OW56073)
- Unicode iconv (OW56074)
- ICSF EMV support (OA03153)
- BPXCOPY extensions (OW57210)
- Support for 3590-H devices (OW53940)
- GDPS/PPRC HyperSwap Stage 2 (OW55532)
- DB2 V8 RACF MLS support
- New DB2 callable services (OA01627)

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Notes:

ShopzSeries Latest Release 8.2 – June 6, 2004

ShopzSeries now uses your IBM ID

You can now use your IBM ID to sign into ShopzSeries. If you already have an IBM ID, you can immediately migrate your ShopzSeries account to use it. If not, signing up is easy and your new IBM ID can be used to access a wide variety of IBM Web sites.

View the ShopzSeries product catalogs outside of the ordering process

Want to research software products, but you aren't ready to order? Now ShopzSeries lets you browse stand-alone software product catalogs outside of the ordering process. You don't even need to sign in to browse them!

Inactive draft orders automatically cleaned up

ShopzSeries now deletes draft orders after 60 days of inactivity so that they don't accumulate.

View the FMIDs associated with each product

If you've ever tried to figure out which FMIDs are associated with which products, ShopzSeries now makes it a whole lot easier. When viewing product catalogs or the contents of your product orders, you can now click a link to display the FMIDs associated with each product. FMIDs are only defined in the z/OS, z/OS.e and OS/390 environments.

Compare the FMIDs in your ServerPac orders to your installed systems

When building a ServerPac order based on an existing installed system, you can now view a comprehensive report showing which FMIDs are installed but not in your order, which FMIDs are in your order but not installed, and which FMIDs are both installed and in your order.

Subscribe for periodic preventive service
Subscribe for preventive service for your z/OS, z/OS.e and OS/390 systems to keep your systems up to date on a schedule of your choosing. You'll be notified when your preventive service orders are ready to be downloaded.

Split Internet service orders into smaller files
ShopzSeries now allows you to split most Internet delivered z/OS, z/OS.e and OS/390 service orders into smaller files. If you are subject to file size or time limits on Internet downloads, or if you experience unreliable download connections, this option may improve your download success.

Higher Internet delivery threshold for service orders
The size limit for Internet delivered service orders has been increased to 5 GB.

ShopzSeries Release 8.1 – February 23, 2004

Highlights:

- VM and VSE Internet delivery is now available
- Internet delivery of your ShopzSeries z/VM, VM/ESA and VSE/ESA orders is now available. With Internet delivery your orders are ready for download in a fraction of the time.
- FMID and product service now available
  You can now use ShopzSeries to order z/OS, Z/OS.e and OS/390 service for your installed FMIDs or products. This feature gives you the flexibility to service selected FMIDs or products found in your installed software reports. ShopzSeries tailors your service to compliment the service already installed.
- Other enhancements
  - Products in the ShopzSeries catalog now include an icon to indicate whether they are 100% enabled for Internet delivery. If you require 100% Internet delivery you can specify this when placing your order through ShopzSeries.
  - VSE is now orderable on CD-ROM.
  - The size limit for Internet delivered service orders has been increased to 4 GB

ShopzSeries Release 8.0 – October 6, 2003

Highlights:

Site "look and feel"

- ShopzSeries has received a "facelift" to provide more efficient navigation.
  - A new "top" page provides a quick overview of the major features of ShopzSeries.
  - Your orders are now organized into a set of folders; one for drafts, one for in-process orders and one for completed orders.
  - The ordering process is now presented as a sequence of simple steps, rather than one long order form.
  - The packages you can order are now categorized so you can quickly find the type of package you want to order.

  - A new personalization module in the right navigation column lets you manage your ShopzSeries user profile.
  - New user tips can also be found in the right navigation column.
  - The extensive integrated help facility is reorganzied for quicker access to the information you need.
- Ordering new licenses
  - When you order new products or new versions of products, you can now also request new licenses for these products and specify which hardware systems the licenses should be designated to. In addition, for new product versions you can indicate if you intend to migrate to the new version or run the old and new versions concurrently.
- Hardware systems
  - The hardware systems associated with your customer numbers are now extracted from IBM's internal databases, so you no longer need to specify them when you register or maintain them in your profile. If you like you can assign nicknames to your systems for quicker identification.
- Installed software
  - You now have many more options for managing your installed software reports in ShopzSeries. The new SMP/E consolidated software report is now supported in addition to the separate product and service reports, so you can upload one report that can be used to tailor both product and service orders. You can also upload a variety of reports based on how you manage your own SMP/E CSI, since ShopzSeries installed software reports are no longer tied to specific hardware systems. Because of these changes, previously uploaded reports are no longer usable by ShopzSeries, and you will need to provide new ones.
- Printable view of your order
- Printable versions of your order details are now provided.
- Pricing requests
  - When you create a product order which includes new licenses, it will initially be submitted for pricing only. Once your pricing results are available you will be able to submit your order for fulfillment or make a copy of your order which you can then modify for re-pricing.

IBM Advanced Technical Support – Washington Systems Center

IBM Strategic **ShopzSeries**

- Internet based for placing service, zSeries and S/390 software orders
- Can be tailored to your existing software configuration, including:
  - service installed on your systems
  - products installed on your systems
  - products licensed to your systems
- ShopzSeries uses this information to identify:
  - service already installed
  - missing requisite products
  - incompatible products
  - licensed release upgrades to your installed products
  - version upgrades to your installed products

https://www.software.ibm.com/shopzseries

Notes:
ShopzSeries provides customers a self-service capability for planning and ordering S/390 software upgrades over the Web. Customers can access it directly off the ShopzSeries Web site at: www14..software.ibm.com/shopzseries

ShopzSeries will significantly reduce the time customers spend completing the S/390 software ordering checklist for system/product refreshes and upgrades. Additionally, this application provides valuable functions customers can use as part of their system/product upgrade planning process. Highlights of this new application are:

- Offers a self-service capability to order S/390 software via ServerPac or CBPDO over the Web (includes all S/390 products supported in these offerings for OS/390, DBS, NCP and CICS).
- Significantly reduces the manual effort required to complete the software ordering checklist. ShopzSeries helps automate the task of completing the software ordering checklist by mapping the customer's installed (SMP/E) system inventory (of the system to be upgraded) to the latest IBM software product catalog and IBM's licensed inventory records. The analysis of the above is presented to the user as an intuitive view of the software ordering checklist including preselection of the latest release upgrades available (e.g. simplifies the task of determining/ordering upgrades available for a specific target system).
- Enables users to "filter" the IBM software product catalog based on what is already installed and/or what is licensed for (e.g. show me only the "entitled" upgrades available for my system).

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- Provides technical requisite checking capability (e.g. "what ifs").
- For orders containing Release Upgrades only (i.e. no new software licenses), ShopzSeries provides a fully automated solution). Orders containing "priced" upgrades (such as orders requiring new software licenses) will be routed through the IBM Sales Center. The customer will receive an e-mail "return receipt" indicating their order has been received by IBM. The customer will then be contacted by an IBM sales representative and given a price quote for the order. Then, the IBM sales representative will submit the order for processing.

"End to end" Order status is also provided through a link to the IBM Order Status homepage with your order number: service.boulder.ibm.com/software_order_status/. Customer software orders are saved within the ShopzSeries application for the customer's future reference.

Provides capability for customers to manage ShopzSeries application access and level of authority within their own enterprise (e.g. manage user access to ShopzSeries and control who has authority to submit orders).

Notes:

Software product orders are available for z/OS, z/OS.e, OS/390, z/VM, VM/ESA and VSE/ESA environments. Software service orders are available for z/OS, z/OS.e and OS/390 environments. Many software orders can even be delivered over Internet. You can also review your licenses for your zSeries and S/390 software.

Note: Not all features of ShopzSeries are available in all geographies.

ShopzSeries gives you access to an on-line snapshot of your software licenses for the z/OS, z/OS.e, OS/390, z/VM, VM/ESA and VSE/ESA operating environments.

Three types of reports are available:

- Software license overview shows you an overview of your software licenses for multiple hardware systems in a concise table. Licenses are displayed at the **entitlement** level.
- Software license details shows you a detailed list of your software licenses for a hardware system. It is strongly recommended to view details reports for only one system at a time, because the reports can be very large and may take a long time to render in your Web browser. Licenses are displayed at the **entitlement** level.

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Version chessboard shows you a quick overview of the version status for a selected set of strategic software products. Chessboard reports are available for z/OS, z/VM and VSE/ESA.

Each row of the chessboard describes a selected system and each column represents a strategic software product family, which is a group of identical software products in the previous and current versions (e.g Netview or DB2). Each cell of the chessboard identifies if the system is licensed for the current version or a backlevel version of the product, using the following indicators:

+1 Current version (e.g. DB2 V7)
-1 One version backlevel (e.g. DB2 V6)
-2 Two versions backlevel (e.g. DB2 V5)
-3 Three versions backlevel (e.g. DB2 V4)
-4 Four versions backlevel (e.g. DB2 V3)
-5 Five versions backlevel (e.g. DB2 V2)
-6 Six versions backlevel (e.g. DB2 V1)
-7 Seven versions backlevel

You can save these reports to files for later review, printing, etc. **Note:** Software license reports are not available in all countries.

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Notes:

Preventive service

You can select one of three types of preventive service:
Critical service includes only critical or HIPER/PE fixes applicable to your system.
Recommended service includes all recommended PTFs through the stated RSU level, plus all HIPER/PRP PTFs not yet assigned to an RSU level. ***All service*** includes all available PTFs. This is also known as PUT service. Since all preventive service orders are tailored to your system using your installed service inventory, you must upload an inventory before you can submit your order.

Including requisite service

This option is used with corrective service orders to include all of the requisites for the PTFs or APARs you added to your order. You must upload your service inventory to use this option. If you do not select this option, your order will include only those PTFs or APARs that you added to your order. Preventive service orders automatically include all requisite PTFs.

Eliminating superseded service

This option is used to remove superseded (replaced) PTFs from your order by other PTFs in your order. This decreases the size of the order, thus increasing the chances it can be delivered via the Internet. Even if it is not delivered over the Internet, you might have fewer tapes to manage. This option is only recommended if you plan to install your entire service order immediately upon receipt, because under some circumstances,

failure to do so could result in critical problems not being resolved on your system. For example, if you only install the HIPER PTFs (by specifying SOURCEID(HIPER) on the SMP/E APPLY command), the non-HIPER PTFs, including those superseding HIPER PTFs, would not be automatically selected for installation, potentially leaving a critical problem unresolved on your system. Likewise if a superseding PTF is marked in error (PE) before you installed it, the problem fixed by the superseding PTFs would remain unresolved on your system.

Corrective service
Enter the list of service SYSMODs you would like to order. First, you must select which type of service SYSMODs you are ordering (PTFs or APARs). Then you type (or paste from your clipboard) all of the SYSMODs you want into the left hand text area and when completed press the add button. All valid SYSMODs will appear in the right hand list box. Valid service SYSMODs are seven characters long and start with two letters, while the remaining characters are numbers. Invalid entries remain in the text area so you can correct and re-add them. If you enter any SYSMODs by mistake, select them and press the delete button. This removes them from the list and place them back into the text area on the left hand side. An order must contain at least one valid SYSMOD.

Internet Delivery
Your ShopzSeries order delivered over the Internet can be downloaded directly from the IBM server to your host, or downloaded and stored on a workstation and then uploaded to your host.
Host requirements

Internet delivery requires one of the following:
- z/OS V1R2 or higher
- z/OS.e V1R3 or higher
- OS/390 V2R9, OS/390 V2R10, or z/OS V1R1 with SMP/E V3R1 (5655-G44)

If you are also using the SMP/E RECEIVE FROMNETWORK function, the following are also required:
- SMP/E PTF UR53536 (SMP/E level 31.10)
- Integrated Cryptographic Service Facility (ICSF). ICSF is a base element of z/OS and OS/390. It provides data integrity by performing hash checking on the Internet package. SMP/E uses ICSF utilities to verify the hash values defined for the package by IBM. ICSF requires the Cryptographic Coprocessor hardware feature. Configuration of this feature requires that you order and install the cryptographic enablement diskette.

Downloading directly to a host

To download your order directly to your host system, use the customized JCL job provided with your order. This job invokes the **SMP/E RECEIVE FROMNETWORK** command to download your order using TCP/IP FTP from an IBM server to your GLOBAL CSI, and then performs the SMP/E RECEIVE for the order.

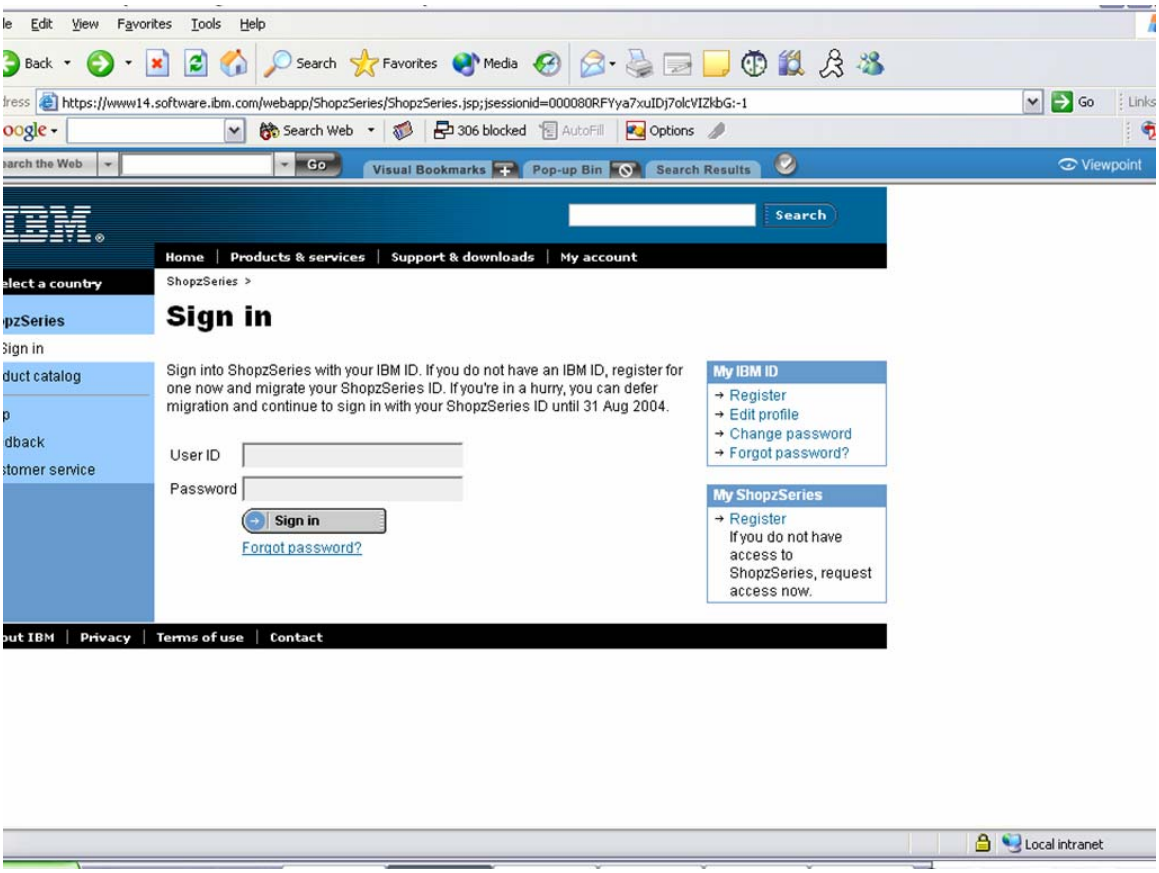
For corrective and preventive service orders, you may also choose to download the order directly to your host using the sample batch FTP JCL that is supplied with your order.

For corrective and preventive service orders, you may also choose to download the order directly to your host using the sample batch FTP JCL that is supplied with your order.

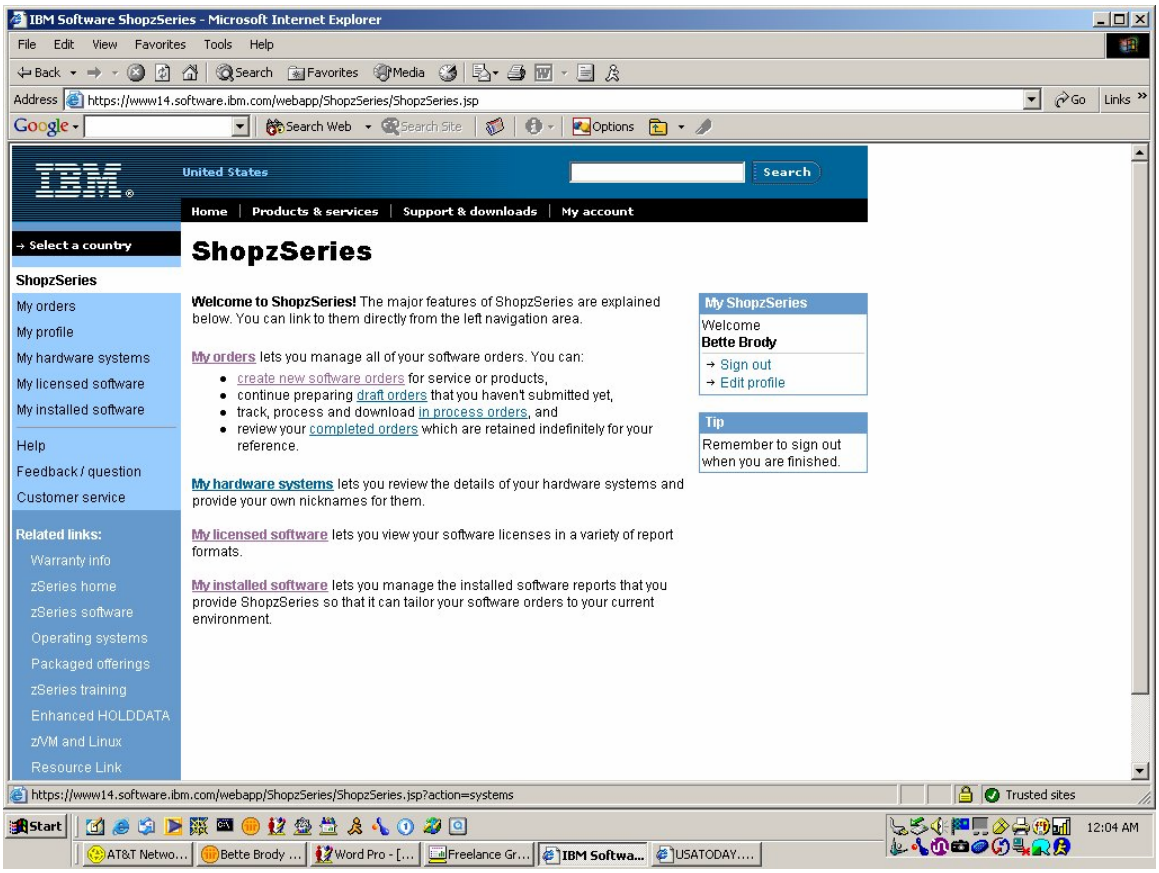
Downloading to a workstation

To download your order to your workstation, IBM recommends using Download Director which requires specific Web browser levels. For corrective and preventive service orders, you may also choose to download the order using TCP/IP FTP through your browser. In either case, the following requirements apply:

- The ability to share or transfer data to the host system where the order will be installed.
- Disk space for downloading files. The amount of disk space required varies by order. You need to have sufficient space for the compressed package. The package will be uncompressed on your host.
- If you use the RECEIVE FROMNETWORK command using the workstation as the server, you must run an FTP server on that workstation.



Sign into ShopzSeries with your IBM ID. If you do not have an IBM ID, register for one now and migrate your ShopzSeries ID. If you're in a hurry, you can defer migration and continue to sign in with your ShopzSeries ID until 31 Aug 2004.



Notes:
ShopzSeries can tailor your view of the product catalog and product requisites when you supply IBM your installed software inventory. Your inventory is associated with a specific customer number and system, and stored permanently in our database. You won't need to upload your inventory again unless it has changed. To create and upload your software inventory, following these three easy steps:

Step 1: Create a software inventory report
(OS/390 release 2.7 or later is required to create a product inventory using the list feature report)

Step 2: Download the inventories to your workstation

Step 3: Upload software inventories to ShopzSeries

Your installed inventories allow ShopzSeries to tailor your view of product catalogs and requisites. There are two types of inventories. *Product inventories* list the software products installed on your system. *Service inventories* list the fixes installed for those products. Your inventories are stored permanently by ShopzSeries, but you should upload new inventories whenever you install new software on your system, so ShopzSeries has access to the most up to date information.

Want to Learn More?

- Visit the ShopzSeries Web site
  - Read the online users' guide
  - Instructional video clips

https://www14.software.ibm.com/webapp/ShopzSeries/ShopzSeries.jsp

Notes:

You can learn more about ShopzSeries by reading the online users' guide, or better yet, relax and watch the instructional video clips.

Note: ShopzSeries requires that you enable JavaScript™ in your Web browser.

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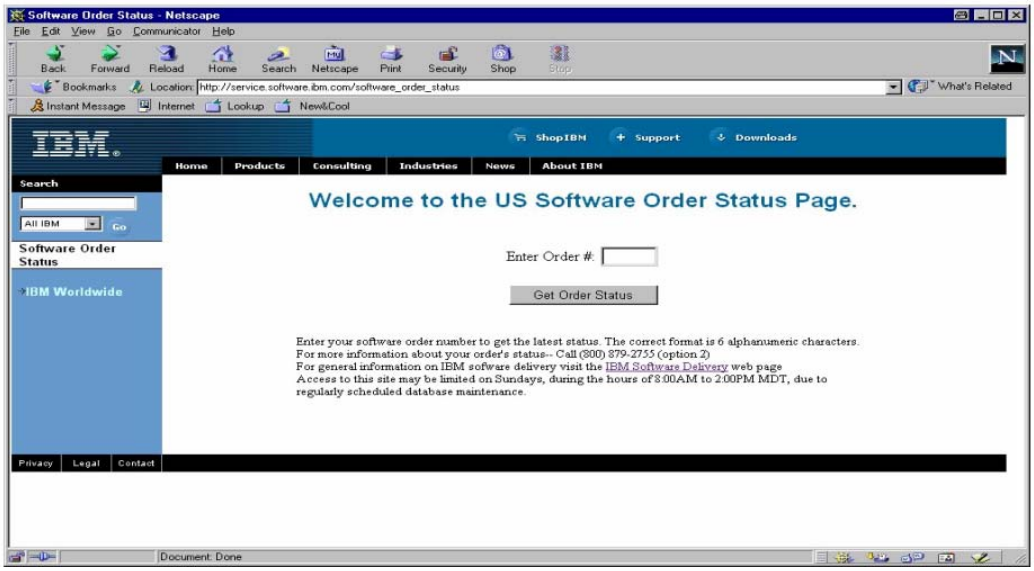
Software Order Status

- Get status for a software order you've already placed
  - http://service.software.ibm.com/software_order_status



Notes:
Once a software order is placed and you have the order number, you may then go this web site http://service.software.ibm.com/software_order_status and track your order.

You can also check the status of your order directly from the ShopzSeries web site.

order status
When you create an order with ShopzSeries it has a status of open. After it has been submitted, it gets a status of OrderCenter or submitted depending on whether the order requires any additional licensing. If additional licensing is required, the order is marked as OrderCenter while the IBM order center processes the necessary licenses. If no new licensing is required, the order is marked as submitted and an order tracking number is assigned. When viewing your list of orders in ShopzSeries, you can click on order tracking numbers to see more information about the fulfillment status of your order.

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IBM Advanced Technical Support – Washington Systems Center

Consoles

Extended Console Enhancement
1-byte Console Tracking Facility
Console Removal Sample

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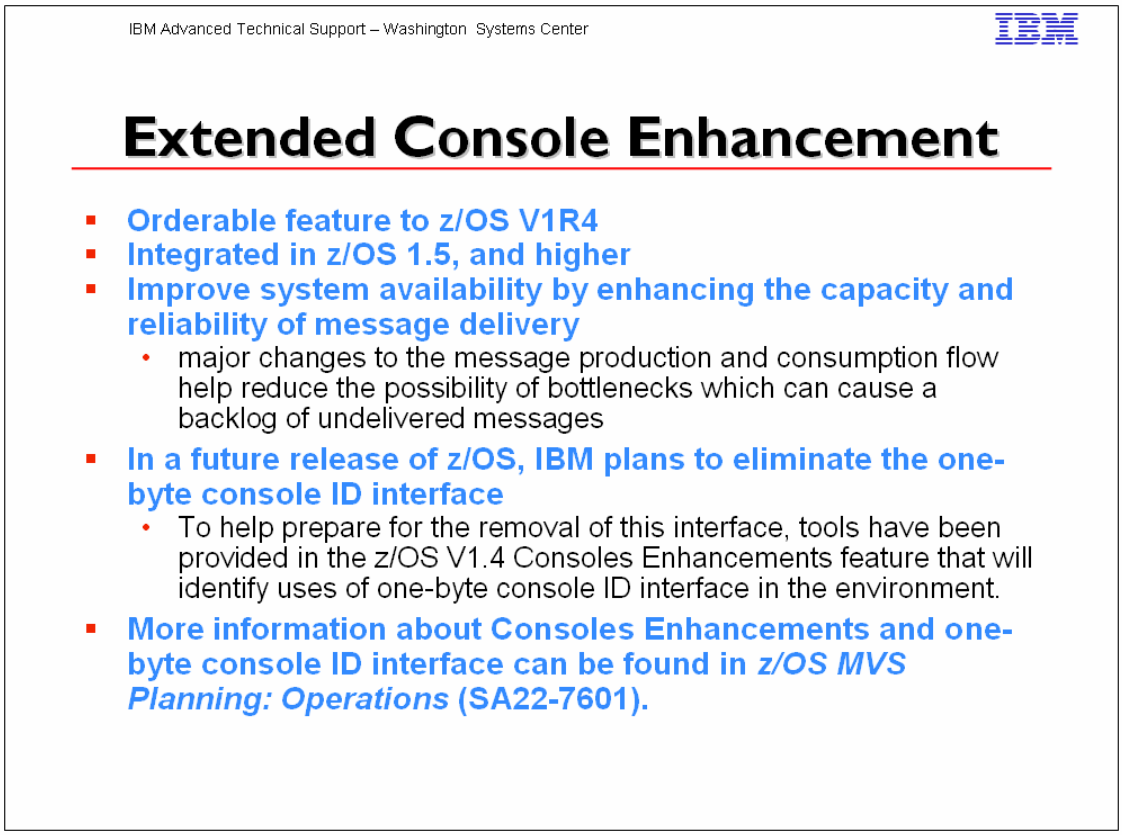

Notes:
z/OS V1.4 Consoles Enhancements feature: As discussed in Software Announcement 203-131 , dated May 13, 2003, the z/OS V1.4 Consoles Enhancements feature is the first phase of IBM strategy to enhance the operator messaging architecture of z/OS. This capability was an optional feature in z/OS V1.4; it is integrated into z/OS V1.5.

The overall objective of the z/OS V1.4 Consoles Enhancements feature is to improve system availability by enhancing the capacity and reliability of message delivery. To accomplish this, major changes to the message production and consumption flow help reduce the possibility of bottlenecks which can cause a backlog of undelivered messages.

In a future release of z/OS, IBM plans to eliminate the one-byte console ID interface. With the advent of four-byte console IDs (in MVS™ SP V4.1.0), customers and vendors have been encouraged to migrate away from the use of one-byte interfaces. Details of the one-byte console ID interface elimination are planned to be communicated in a future z/OS announcement. To help prepare for the removal of this interface, tools have been provided in the z/OS V1.4 Consoles Enhancements feature that will identify uses of one-byte console ID interface in the environment.

More information about Consoles Enhancements and one-byte console ID interface can be found in *z/OS MVS Planning: Operations* (SA22-7601).

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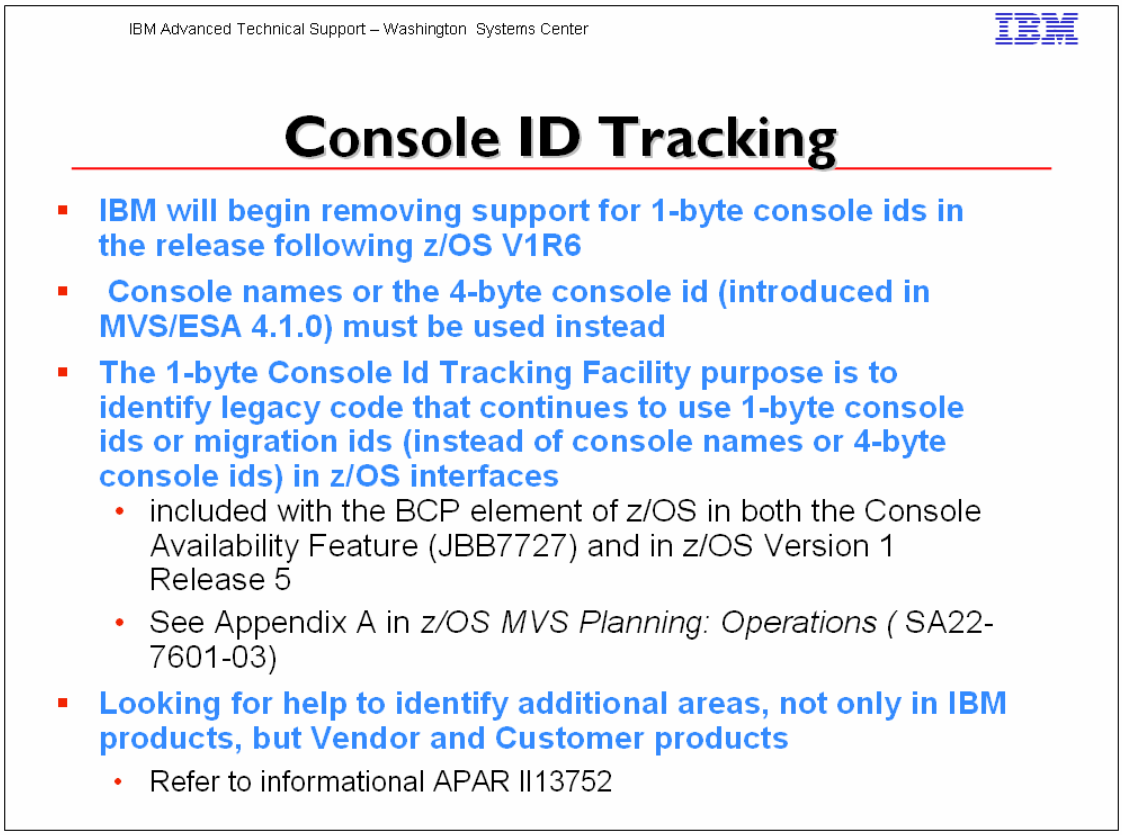

Notes:

The Console ID Tracking facility is designed to assist with the identification and removal of one-byte console IDs and one-byte migration IDs. In future releases, only four-byte IDs will be accepted. While four-byte IDs have generally replaced one-byte IDs, some services still accept one-byte IDs. The users of services that still accept one-byte console and migration IDs are known as violators, and instances of one-byte ID usage are known as violations.

Because no interfaces are being changed, the Console ID Tracking facility does not present any compatibility issues. To prepare for the removal of one-byte console IDs, the Console ID Tracking facility will provide the following new functions:

- The SETCON operator command, which is used to activate and deactivate the Console ID Tracking facility.
- The DISPLAY OPDATA,TRACKING operator command, which is used to display the current status of the Console ID Tracking facility, along with any recorded instances of violations.
- The CNIDTRxx parmlib member, which is used to list violations that have already been identified in order to prevent them from being recorded again.
- The CNZTRKR macro, which is used to invoke the Console ID Tracking facility.

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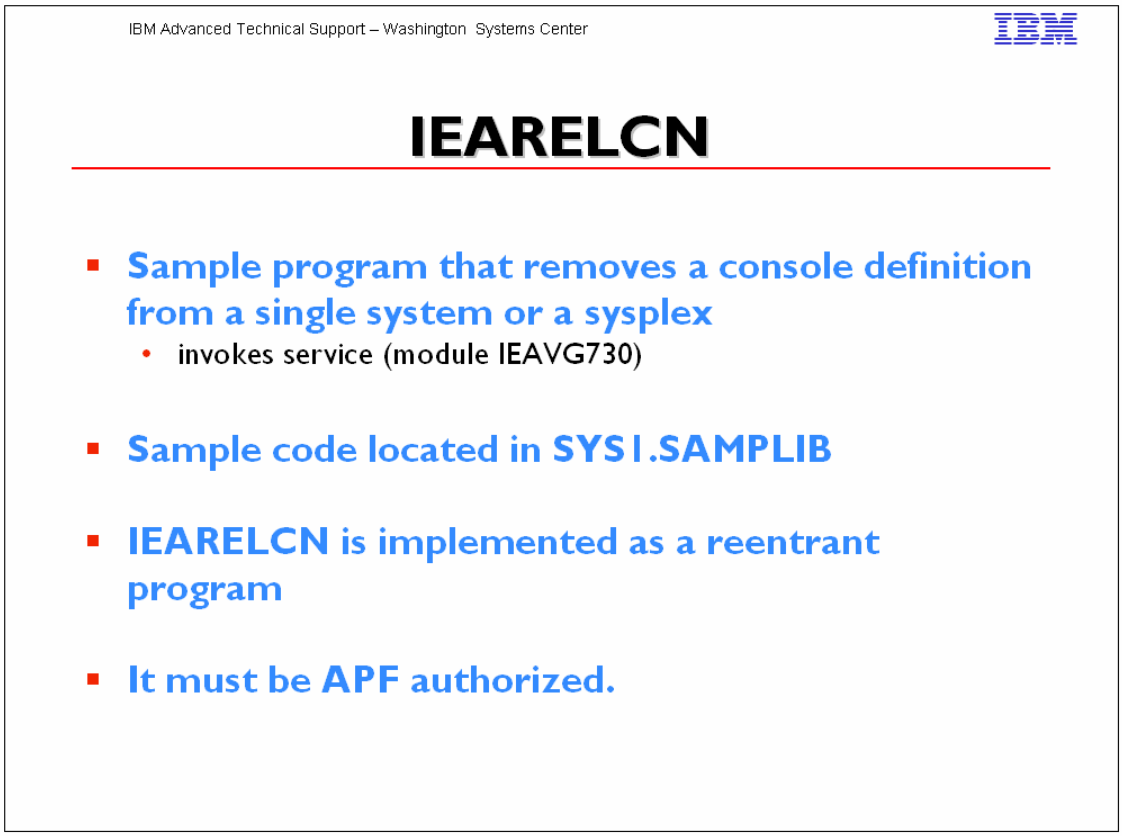

Notes:

Before you remove a console definition, issue DISPLAY CONSOLES to determine if the console is defined as an alternate. If you delete the definition for a console that is defined as an alternate for another console, you remove the alternate console as back up. If a console switch to the alternate is required, the system cannot switch because the alternate has already been removed. Use VARY CN to change the list of potential alternates for a console (ALTGRP).

The following restrictions for removing a console definition apply:

- Dynamic I/O reconfiguration can be performed for a device that has been defined as an MCS console in CONSOLxx. If you want to change the I/O configuration of a device which is defined as a console, you must first delete the console definition.The sample program IEARELCN can be used to do this. After the definition has been removed, the device can be dynamically reconfigured, but it cannot be used as a console again, until a re-IPL. For more information about dynamic I/O reconfiguration, see *z/OS HCD Planning*.
- The console must be defined in CONSOLxx.
- The console must not be active.
- A subsystem console that is in use must first be released. (See *z/OS MVS Using the Subsystem Interface*.)
- You cannot remove the console definition for a console when a no-consoles condition exists.

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- When a no master console condition exists, you cannot remove a console that is the last active master console.

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FUNCTION:
The IEARELCN utility described above will remove an MCS console and free its slot for future use.

This program is an example of how to use the service removing a console definition from a system or a sysplex. The parameter passed to this program is the name of the console whose console definition is to be removed.

The parameters are as follows:

CONSNAME(xxxxxxxx)

where xxxxxxxx: is the name of the console whose definition is to be removed from the system or sysplex.

IEARELCN is implemented as a reentrant program. It must be APF authorized.

IBM Advanced Technical Support – Washington Systems Center

z990, z890 & z/OS

Exploitation Support
Cryptographic Support
Extended Channel Measurement Block

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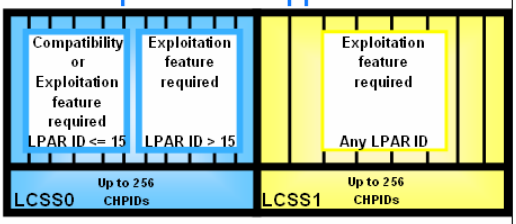
IBM Advanced Technical Support – Washington Systems Center

z990 & z890: z/OS Exploitation Feature

- ***Only available*** **on z/OS 1.4 and higher**
  - Separately orderable feature on z/OS 1.4
    - Includes z990 and z890 Compatibility Feature
    - Multiple Logical Channel Subsystems
    - > 15 LPARs (up to 30)
    - Extended Channel Measurement Block
    - Dynamic I/O Changes in LCSS1
  - Integrated into z/OS 1.5 and above
  - Does not include z990 and z890 cryptographic support for secure key
    - separate web download
- **For current z/OS V1R4 customers, obtain z990 exploitation support as follows:**
  - CBPDO Post GA-feature
- **For customers new to z/OS V1R4 z990 exploitation support comes as either:**
  - An optional feature in ServerPac/SystemPac(1)
  - An optional feature in CBPDO/ProductPac(1)



Not available for OS/390 R10, z/OS V1R2 and z/OSV1R3

(1) Fee offering

Notes:

August 15, 2003:

- z/VM V4.4 and later releases will provide exploitation support for two Logical Channel SubSystems, adapter interruptions for OSA-Express and FCP Channels, and Performance Assist for V=V guests in z/VM environment

September 19, 2003

- z990 Cryptographic Support: This web deliverable will provide z/OS 1.4 and z/OS 1.2 support for the IBM eServer zSeries 990 servers PCIX Cryptographic Coprocessor (PCIXCC).

October 17, 2003

- z990 Cryptographic Support: This web deliverable will provide z/OS 1.3 support for the IBM eServer zSeries 990 servers PCIX Cryptographic Coprocessor (PCIXCC).

October 31, 2003

- z/OS V1.4 z990 Exploitation Support: This orderable, unpriced and optional feature provides exploitation support for two Logical Channel SubSystems, running in an LPAR, with an LPAR ID > 15 (x'F'), Dynamic I/O Support for LCSS1, and 30 LPARs.
- z/OS.e V1.4 Coexistence Update: This orderable, unpriced and optional feature allows customers to maintain a consistent code base for z/OS and z/OS.e. It contains the z/OS.e Coexistence feature. Note that z/OS.e cannot execute on a z990 server.
- z/VM V4.4 and later releases will provide exploitation support for 30 LPARs, Dynamic I/O Support for LCSS1, and Internal Spanned Channels (ICs and HiperSockets)

November 21, 2003

- z990 Cryptographic Support: This web deliverable will provide OS/390 2.10 support for the IBM eServer zSeries 990 servers PCIX Cryptographic Coprocessor (PCIXCC).

March 26, 2004

- z/OS V1.5 becomes generally available. It contains both z990 compatibility and z990 exploitation support.

z990 Cryptographic Support: This web deliverable will provide OS/390 2.10 support for the IBM eServer zSeries 990 servers PCIX Cryptographic Coprocessor (PCIXCC).

Summary:
z/OS and OS/390 Support for z990 and z890 Servers
MVS Compatibility software must be installed on all z990 and z890 images for the supported operating system levels for the z990and z890. They are OS/390 2.10, z/OS 1.2, z/OS 1.3 and z/OS 1.4. There are sysplex and coupling facility considerations when the z990 participates in a sysplex with non-z990 images. Compatibility software consists of **products HCD, HCM, ICKDSF, and OSA/SF FMIDs to be installed and required PTF** service identified in the z990 PSP bucket (2084DEVICE). It is not just PTF service. **The PTF service alone does not provide compatibility support.** The FMIDs listed in the Program Directories must be installed in conjunction with additional PTF service identified in the z990 PSP bucket. The software release will determine how to obtain the required compatibility software. PTF service can be ordered via the IBM Support Center, ShopzSeries, SUF, IBMLink, ESO or CBPDO.

For z/OS V1.5 and higher, z990 and z890 compatibility and exploitation support is integrated into the base product.

The *z/OS* For z/OS V1.4, z990 and z890 support is provided via:

- The *z/OS V1.4 z990 Exploitation Support* feature, available since October 2003.

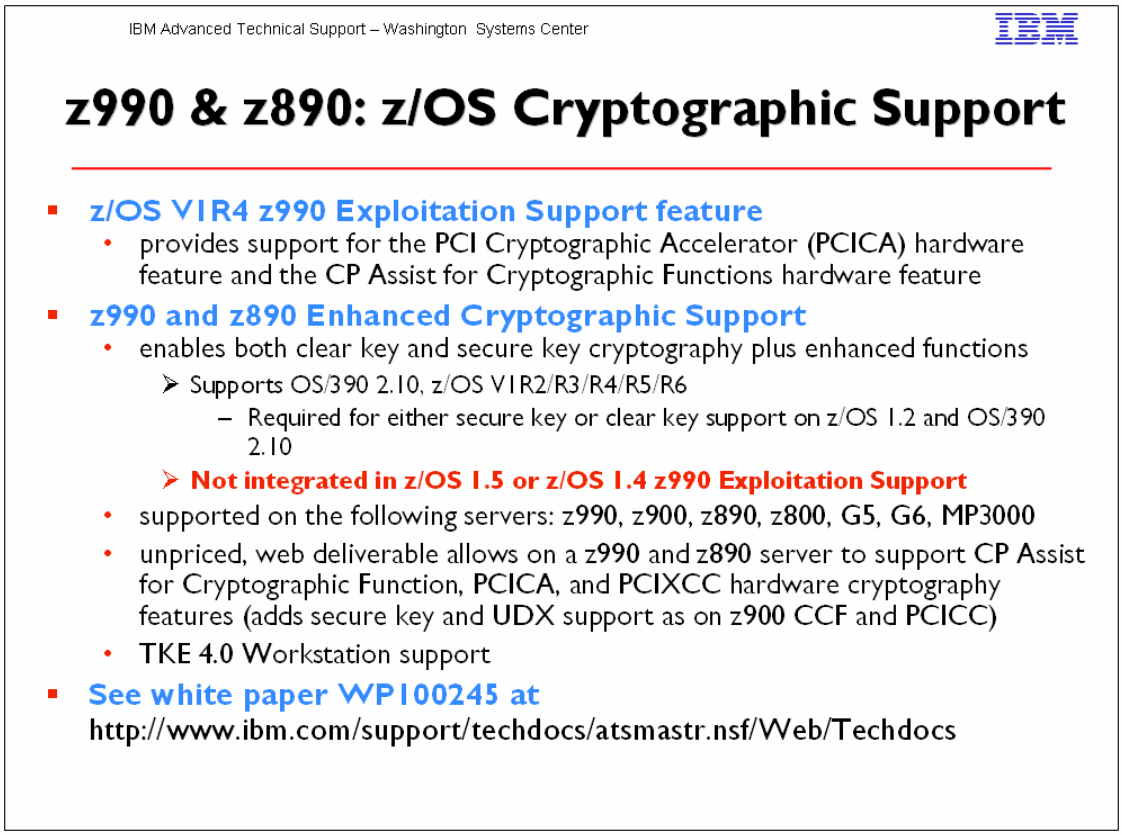
For OS/390 V2.10, z/OS V1.2, z/OS V1.3, z990 support is provided via:

- The *z990 Compatibility for Selected Releases* Web deliverable, available since June 2003.

z/OS.e V1.5 and higher cannot run on a z990 server but it can run on a z800 and z890 server that coexists with a z/OS V1.2, z/OS V1.3, z/OS V1.4, or z/OS V1.5 system running on a z990 server. The z/OS.e compatibility support is integrated into the z/OS.e V1.5 base product.

z/OS.e V1.4 cannot run on a z990 server but it can run on a z800 and z890 server that coexists with a z/OS V1.4-z990 system. The enhancements that make this coexistence possible are:

- The *z/OS.e V1.4 z990 Coexistence Update* feature, available October 2003.
- z/OS.e V1.3 z990 coexistence support is provided in the *z990 Compatibility for Selected Releases* Web deliverable.



Notes:

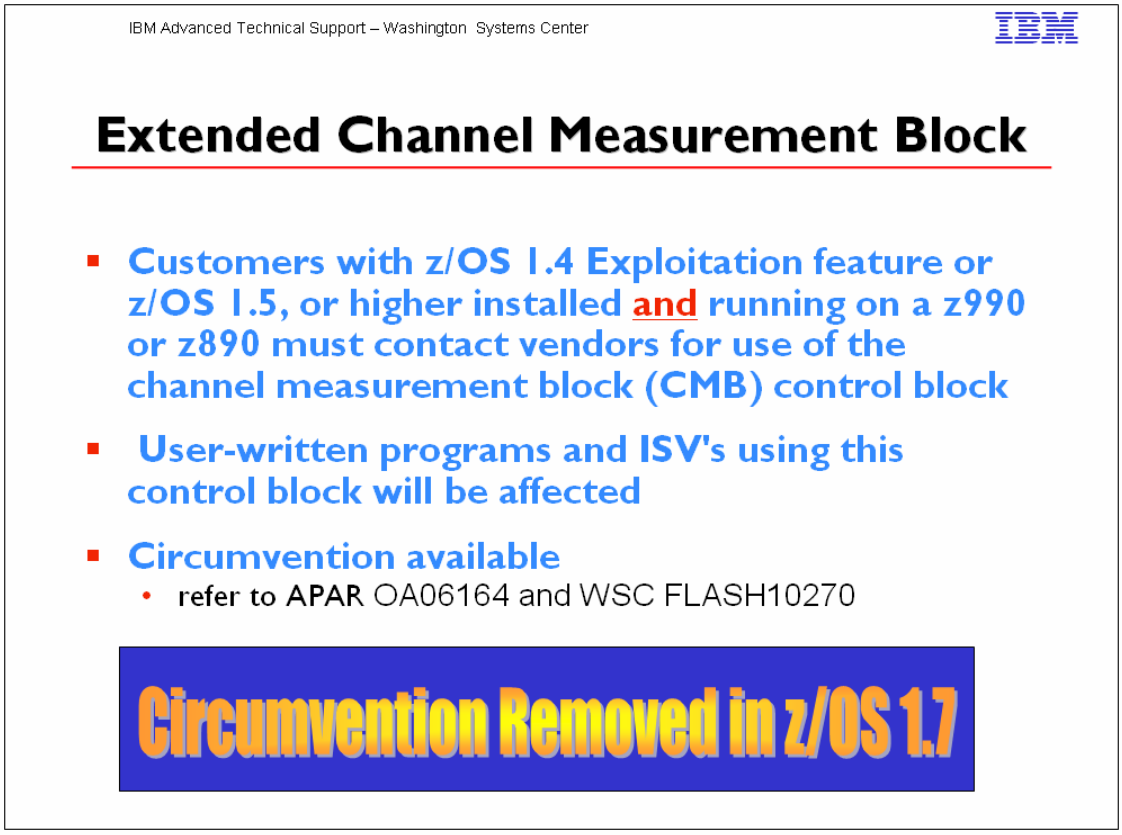
The following web deliverables provide cryptographic support:

The *z990 Cryptographic CP Assist Support for z/OS V1.3* Web deliverable, available since June 2003, provides clear key cryptography and runs on z/OS V1.3. **No longer available.**

The *z990 Cryptographic Support* Web deliverable, was made available for z/OS V1.2 and z/OS 1.4 on September 19, 2003; for z/OS 1.3 on October 17 2003, for OS/390 2.10 on November 21, 2003. It is planned to be made available for z/OS 1.5 concurrent with the general availability of z/OS V1.5 on March 26, 2004. **No longer available.**

The *z990 and z890 Enhanced Cryptographic Support*, Web deliverable was made available May 28, 2004. It supercedes all previous cryptographic Web deliverables. This download provides ICSF encryption/decryption support for both secure keys and clear keys using the CP Assist for Cryptographic Functions (CPACF), PCICA and the PCIXCC adapters for selected releases.

This download applies to z/OS 1.6, z/OS 1.5, z/OS 1.4, z/OS 1.3, z/OS 1.2, z/OS.e 1.6, z/OS.e 1.5, z/OS.e 1.4, z/OS.e 1.3, and OS/390 2.10.



Notes:
An IO Architecture change to the Channel Measurement Block is implemented on the z990 with the z/OS 1.4 z990 Exploitation Support feature. With this change z/OS (JBB7717 and above) uses Extended Channel Measurement Blocks (ECMBs) instead of CMBs to contain the channel measurement data.

There are new ECMB related fields in the IRACMCT programming interface for programs to access the ECMB. There is also a new IOSCMB service to locate the channel measurement block in either CMB or ECMB format.

The z/OS 1.4 z990 Exploitation Support feature is intended to run in ECMB mode on the z990 processor. If, however, required ISV support is not available to support the new ECMB format, there is a workaround to specify ECMB=NO in IEAOPTxx. This requires an IPL to change. With ECMB=NO, z/OS will revert back to CMBs and use the CMB= parameter in IEASYSxx. There will be no loss of function. The z990 functions, such as Multiple Channel Subsystems (MCSS), can still be exploited.

When the ISV support is made available, the default ECMB should be used.

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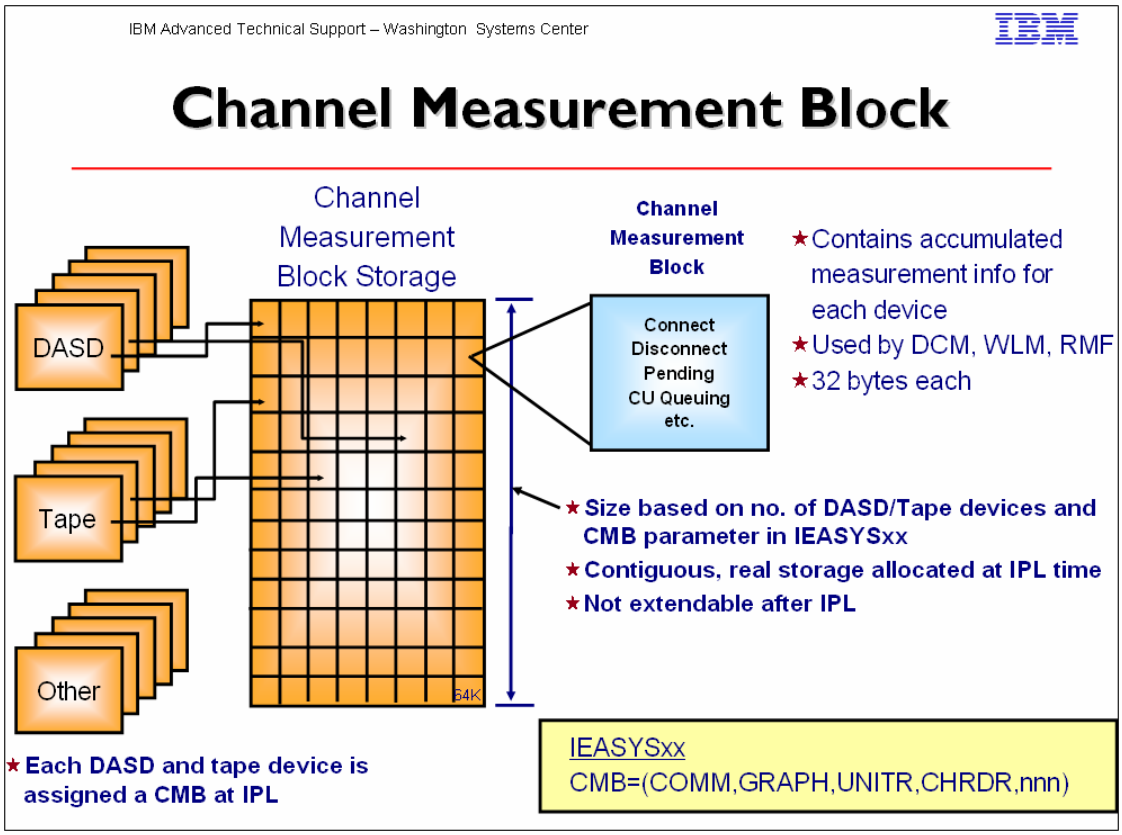

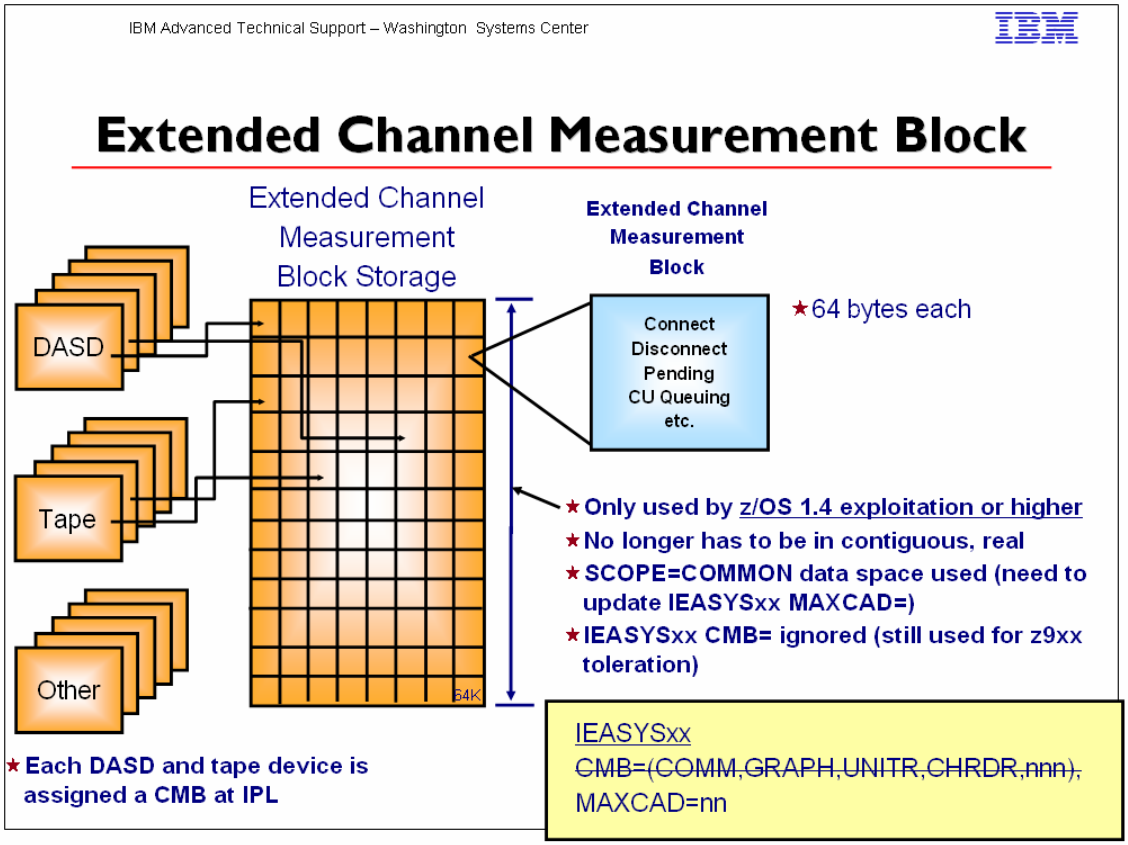

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Notes:

SystemPac: Do you want a functional z/OS or z/OS.e system restored and IPL'ed in a day that:

- includes installation of IBM and ISV products, integrated in a single package?
- comes customization according to your specific needs?
- promotes fast and easy exploitation of new z/OS functions?
- helps reduce installation complexities?
- includes follow-on maintenance packages, tailored to your system?Can free IT personnel tp perform your more critical business-related tasks?
- with eBusiness enablement in IBM default mode?
- with integrated subsystems enabled and started at IPL?

Then SystemPac for z/OS or z/OS.e is the system migration vehicle for you!

The World Wide CustomPac offerings, of which SystemPac is one, offer a wide range of CustomPac deliverables which can assist customers in service, products and/or system replacement of their z/OS related products, as well as selected Third Parties' Software Vendor Products.

If you are on OS/390 V2.10 (or higher) and need to migrate to z/OS V1.4 (or higher), IBM recommends that you use SystemPac to help simplify, accelerate, and reduce the cost of your z/OS. SystemPac is the recommended IBM delivery vehicle for z/OS

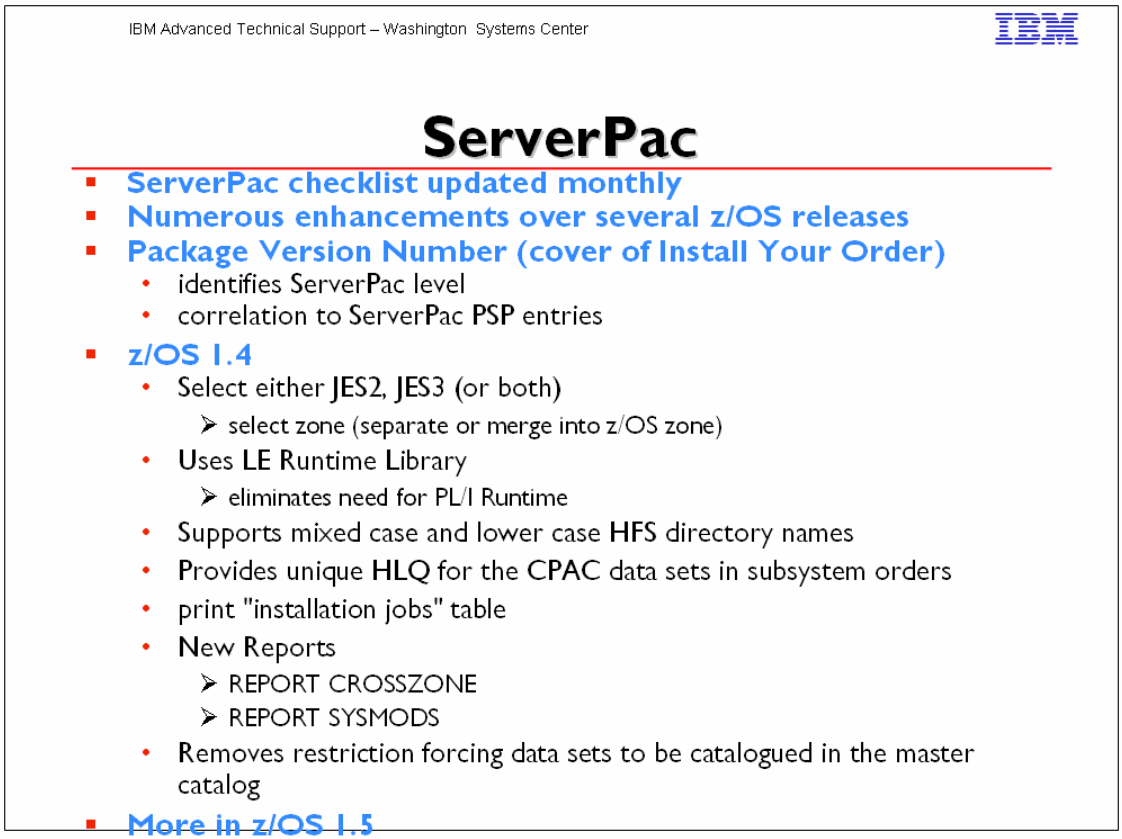
customers who want to save time, resources and effort to migrate/install/exploit and maintain their z/OS system related products and/or Third Parties' Software Vendor Products. It is also a solution for shops who lack, or need to free, skilled system programmers and need to exploit new functions in z/OS eg. e-business enablement, WebSphere Application Server enablement, SUF enablement, etc. within a short period of time.

ServerPac: ServerPac is a software package (available free of charge with your z/OS and OS/390 license) that creates or replaces a z/OS, OS/390, z/OS.e, or MVS system.

ServerPac is the only entitled system-replacement deliverable for OS/390 or z/OS. ServerPac is installed with the dialog that is currently used to install products and service in the CustomPac family.

To actually install your ServerPac, you will use the CustomPac Dialog which will allow you to tailor the default ServerPac configuration to match your own configuration. The dialog will generate a customized installation jobstream based on your tailored configuration.

To plan and order your ServerPac over the Web use ShopzSeries. Its capabilities include the ability to submit your existing installed inventory to the tool, and it will analyze this to prefill the checklist. It also automates processing of orders that do not require license changes. Orders that include new or changed licenses will be routed to the IBM Sales Center.



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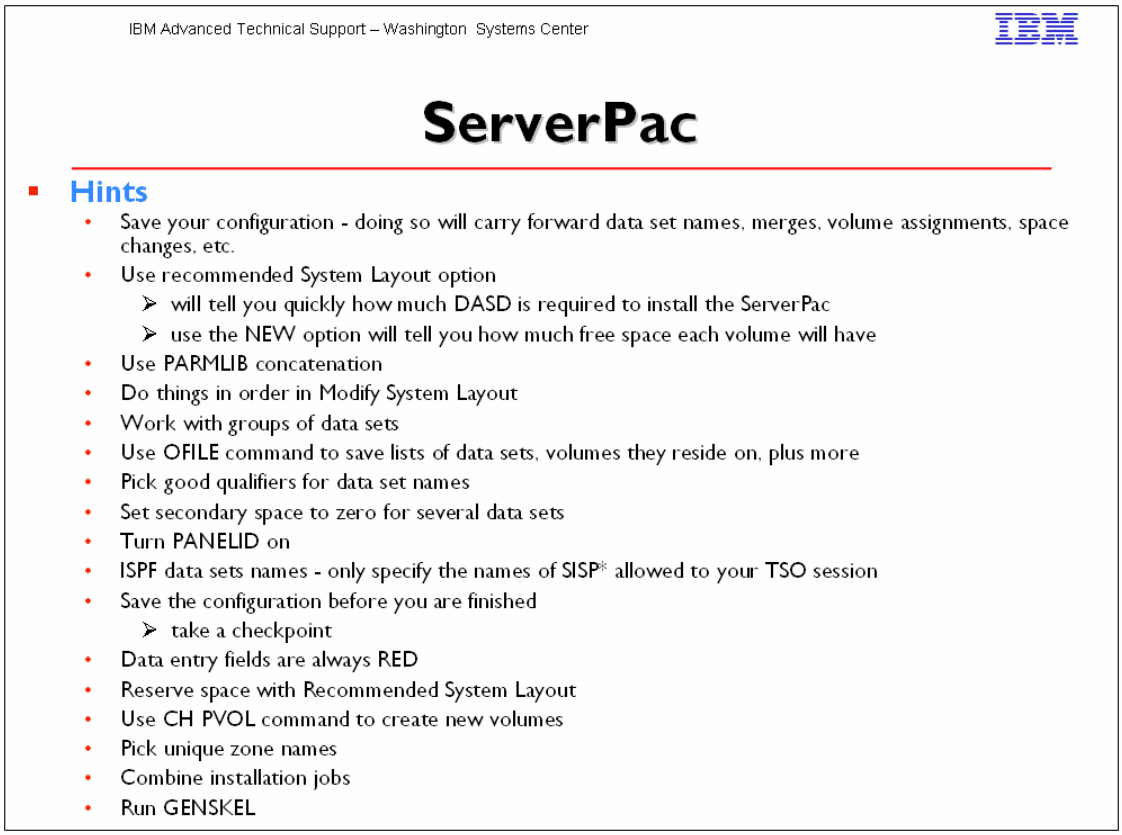

Notes:

Starting with z/OS V1R2, there is a new variable called &PRODLVL. This variable is in the form: UU.GF.FF, where UU is the upgrade number, G is zero before GA and one after GA, and F.FF is the three-digit fix pack number. This variable will be printed on the cover of IYO, where it will be called the "Package Version." Example: 14.10.42, which represents Upgrade 14, which is GA, and for which the latest fix pack number is 42 or so.

Starting with z/OS V1R2, each GA PSP entry describing a problem that is fixed by a fix pack (or on a date that corresponds to a fix pack) should contain the Package Versions to which the entry applies. This information can be in the PSP entry when it is first created, or added later once the fixing fix pack is known. This way, customers can quickly determine which PSP entries are applicable to their orders and which can be ignored because the problems they described were fixed before their packages were built.

Hints:

ServerPac tip #1: Saved configurations are your friends.

Remember all the work you did the last time you installed a ServerPac order? *Don't do it over!* Use a saved configuration from your last order when you create the configuration for your new order. Doingso will carry forward the same data set names, merges, volume assignments, space changes you made, andso on. If you did not save the configuration the last time you installed an order, it's not too late. Just go back into the old order and save it. Then use it to create the new configuration. (Worried that you won't know what's new? Look at the New Data Set selection in Modify System Layout's View and Change option.)

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ServerPac tip # 2: Use the Recommended System Layout option (even if you don't use the recommended system layout).

The Recommended System Layout Option will quickly tell you how much DASD you need to install your order. If you use the NEW option, it will also tell you how much free space each volume in your saved layout will have with the new order's data set sizes, and whether some volumes will become overallocated. To do this without changing anything else, just enter and exit the Variables and Zones options (don't bother changing anything), select Modify System Layout, use the Recommended System Layout option to get the information you need, and then re-create the configuration.

ServerPac tip #3: Use parmlib concatenation.

A ServerPac order includes up to three different parmlib data sets. Using them the right way can save you work. In particular, you should concatenate the SMP/E-managed z/OS parmlib and place it on a target volume so you don't have to remember to copy the release specific members to your production systems. (These are the xxxIPCSx, BLSCxxxx, CNLxxxxx, and default CTIxxxxx members, which you probably use unchanged.) After this is set up, you will never be able to forget to copy the members during migration again.

ServerPac tip #4: Do things the easy way in Modify System Layout.

To avoid doing things over, do things in this order (just skip any you don't plan to do):

1. Merge data sets
2. Change data set space
3. Specify Reserved Space on volumes
4. Specify Existing Data for volumes (only if existing online volumes will be used)
5. Do everything else.

This avoids volume overallocation problems when a data set merge operation "relocates" space assigned to one volume to a different volume, or when increasing data set space causes the space required to exceed a volume's size, and other potential problems.

ServerPac tip #5: Work with groups of data sets as much as possible.

The more changes you make to groups of data sets, the less time you will spend making changes to individual data sets. Use the View and Change option of Modify System Layout to find data set views that display groups of data sets to which you want to make common changes, and use the dialog's **CHANGE** command to make the changes. You can change highlevel qualifiers, data set names, volume assignments, data set types, SMS status, space allocation amounts, and more for groups of data sets at a time.

ServerPac tip #6: How to actually *use* the incredibly useful OFILE command.

You can save lists of data sets, the volumes on which they reside, and other information about data sets with the **OFILE** command for later use during migration. Particularly useful are lists of data sets that are new, require APF authorization, are eligible for the link list, or are required in LPA. You can use these lists during migration as a guide for production system parmlib changes, or even to create the parmlib members.

To create a new data set with a data set list in it, you need to enter three **OFILE** commands. The first creates the data set, the second saves the list, and the last closes the data set, so that other applications can read it:

1. **OFILE OPEN** data set name **NEW**
2. **OFILE**
3. **OFILE CLOSE**

You can find the record format in *ServerPac: Using the Installation Dialog*.

ServerPac tip #7: Pick good qualifiers.

CustomPac Dialog data sets have two distinct kinds of qualifiers. One kind is the "master qualifier." It's for CustomPac Dialog data sets that are not related to a particular order. Pick qualifiers for these data sets that do not include any information about an individual ServerPac order. The other kind is for the CustomPac Dialog data sets that come with each order. Choose names for these data sets that include the order number as one qualifier. That way, the names will never conflict with either the master qualifier or the names of dialog data sets for other orders.

ServerPac tip #8: How to set secondary space to zero for a lot of data sets quickly (like link list data sets).
Pick the best data set list in the View and Change option of Modify System Layout (for example, "LNKLST Eligible" and "Yes") and enter the **CH SP * P0** command. When you do so, consider increasing the primary space at the same time. For example, to increase the primary space by 20% while setting secondary space to zero, enter the **CH SP 20 P0** command.

ServerPac tip #9: Turn on PANELID.
Enter the **PANELID** command from any command line to see the panel IDs in the upper left corner. You can find information about the panel and how it works very quickly in *ServerPac: Using the Installation Dialog* by doing a softcopy search for the panel ID or by looking for it in the index.

ServerPac tip #10: What ISPF data set names to give the dialog?
The dialog prompts you for ISPF data set names from time to time. Specify *only* the names of the SISP* data sets that are already on your system (the ones allocated to your TSO/E session), one per DD name. *Don't put anything on the second line for any of the DD names!*

ServerPac tip #11: Save the configuration before you are done with it.
Take a checkpoint! After you have selected all the prior options and have no configuration warnings, you can save the configuration with the Save option and use it to re-create the same configuration, even for the same order. You do not need to submit any jobs to enable the option and save the configuration. So, if there are things you are not sure you want to try, save the configuration and go ahead and try them! If they don't work out, re-create the configuration using the saved one to get right back to where you were.

ServerPac tip #12: If it's red, it's a data entry field.
Data entry fields are always red. So if you are not sure where to type, look for the red! (If you have difficulty seeing red text on your terminal, redefine the colors in your ISPF settings.)

ServerPac tip #13: Reserving space with Recommended System Layout.
After you get to the Current Volume Configuration panel in the Recommended System Layout option, you can select each volume and reserve space as needed. You can also predefine volumes in Recommended System Layout and reserve space on them. (Any volumes that are not needed will "disappear" at the end of automatic assignment.)

ServerPac tip#14: Creating new volumes the easy way.
Use the **CH PVOL** command from a data set list containing the data sets you want to move, specifying a new volume serial, and exclude those you don't want to move on the next panel. Then, use the Physical Volume Summary option to change the device type (if necessary) and specify the device number. Or, use the Recommended System Layout option to place new data sets (it will create volumes automatically if needed), and make the necessary changes in the Physical Volume Summary.

ServerPac tip #15: Pick unique zone names.

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When you are in the Zones option of the dialog, choose SMP/E zone names that are unique for your entire installation, ones that are not used on any system you have. Doing so will give you the most information from the reports created by the SMPREP installation job.

ServerPac tip #16: Combining installation jobs.
You can use the block Select (SS) line command in the installation job list display to combine many of the ServerPac installation jobs. This can save time by letting more work run automatically when prior work was successful. For example, if there are a lot of jobs left to run late in the day, you can combine as many as possible and check the results in the morning.

ServerPac tip #17: Run GENSKEL.
It's the easy way to get copies of all the jobs in a data set so you can save your changes, look at them later, or copy them if you need to repeat a task later (for example, on another system).

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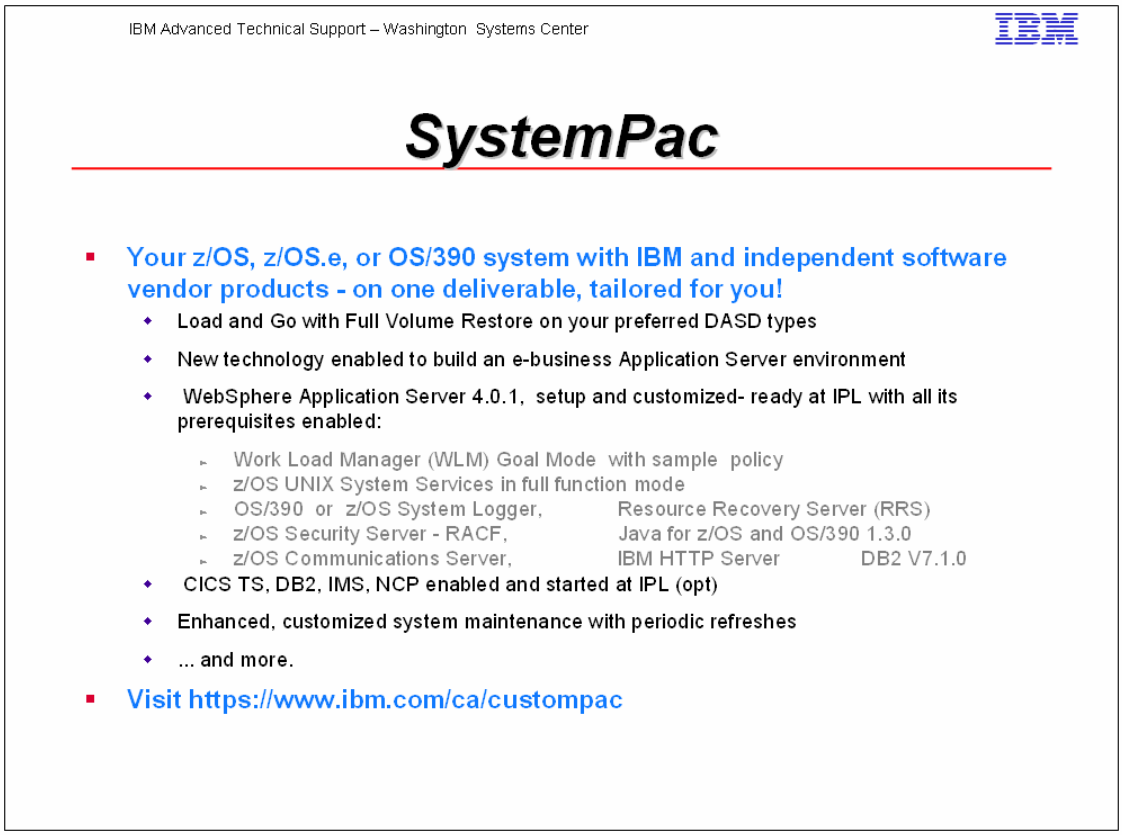

Notes:
The "Full Volume Dump" SystemPac is a truly "Load and Go" system to minimize your time and effort to install. You install via pack restore using DFDSS or FDR. Standalone restore without a driving system is also feasible. The Full Volume Dump/Restore format eliminates the need to learn and use the installation dialog to perform the installation. All necessary customizations are performed via parameters' entry during customization phase. Furthermore, most of the post installation jobs are run during manufacturing. Basically, you have a functional system (restored and IPL'ed) within less than a day.

Besides, it comes with a lot of z/OS and OS/390 new technological functions enabled. UNIX System Services (Full function) is up and running upon IPL'ed. e_business is set-up using IBM defaults with a sample home page. Subsystems (CICS, IMS, DB2), if selected, are up and running on IPL'ed.

SystemPac comes with a wide range of selection of ISV (Independent Software Vendor) products for you to choose from. For a list of ISV products, refer to List of ISV Products. You can specify full separation between IBM and ISV products in your SystemPac. This includes both from DASD volume and SMP/E environments (global, target, dlib and SMP/E data-sets) perspective. You can go even further by having the separation by individual vendor.

If you have selected Innovation Data Processing "FDR" in your order, you have a choice to use FDR to restore your "full volume dump" system.

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Selective Follow On Services (SFSes) are free with the order of SystemPac, ProductPac, RefreshPac and FunctionPac. Customers can select the number of SFSes (0-3) they want and the intervals between these SFSes (30-60 days). They are built according to a copy of the SMP/E profile which IBM has stored before the SystemPac was shipped to you. SFSes contain hipers, ptfs fixing PEs and Reach Aheads which help to stabilize your installed system over a period of time which you have specified. They can be installed via batch JCL or using the CustomPac Installation Dialog. With the following on services, you can save time and effort to perform research of subsequent follow on maintenance in order to stabilize your system. ptfs fixing PEs and Reach Aheads which help to stabilize your installed system over a period of time which you have specified. They can be installed via batch JCL or using the CustomPac Installation Dialog. With the following on services, you can save time and effort to perform research of subsequent follow on maintenance in order to stabilize your system.

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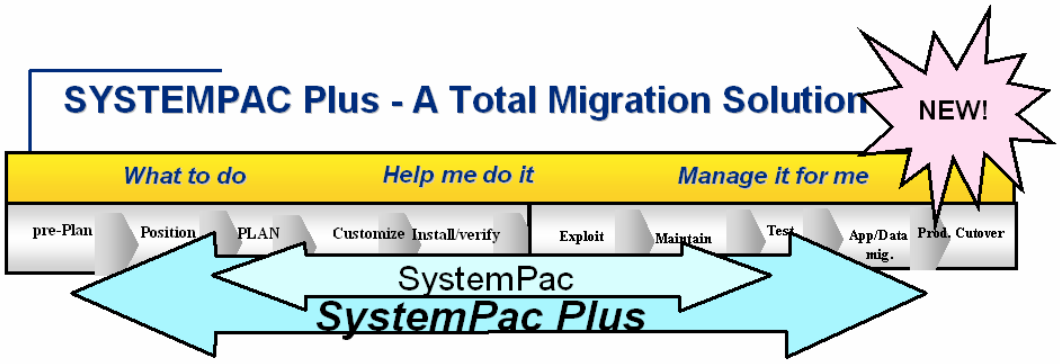

z/OS migration made even faster and easier!!!

- IBM Specialists perform the migration for you and will:
  - Conduct and document your planning meeting
  - Order and SMP/E RECEIVE your toleration maintenance
  - Order your Full Volume Dump SystemPac, including subsystems and ISV products
  - Install and verify your SystemPac
  - Complete setup of z/OS Communications Server, z/OS UNIX System Services, and z/OS Security Server
  - Customize HTTP Server/WebSphere Application Server
  - Implement z/OS UNIX sysplex support for shared HFS
  - Activate z/OS and OS/390 Distributed File Service Server Message Block
  - Install and activate IBM Electronic Service Agent for zSeries
  - Document and turn over your new operating system
  - To order, contact your IBM Specialist or IBM Sales Specialist

Notes:

Usually there are eleven phases in a system migration. SystemPac is a migration offering covering the phases from planning through maintenance. Some customers require services in the preplanning and positioning phases prior to SystemPac, and in the follow-up phases of test through production cutover. There are currently offerings available worldwide that provide all eleven phases from preplanning to production cut-over, that use SystemPac as the base:

- S/390 Solution for e-business
- Select or Enhanced Select
- Express/Express +

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IBM Advanced Technical Support – Washington Systems Center

Miscellaneous

Release Strategy
SoftCap
Msys for Operations
SMB
BPXPRMxx Syntax Checker
z/Architecture Information
Infoprint Central
Websites

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Notes:
IBM will no longer be delivering z/OS releases on a six-month schedule responding to customer feedback that the current release cycle is too short and complicates customer migration plans. The vast majority of OS/390 and z/OS customers migrate to new releases every 12 to 18 months. The new z/OS release plan will enable customers to take advantage of z/OS V1.4 as a staging release. Less frequent releases will allow IBM to provide even more integration testing for z/OS and related IBM middleware.

New z/OS and z/OS.e functions will continue to be delivered between releases through the normal maintenance stream or as Web deliverables. In addition, significant new function may be delivered between releases as features of the product. For example, in 4Q2003, a new feature of z/OS V1.4 is planned to be available that provides enhancements to console availability.

z/OS and z/OS.e release, z/OS V1.5, available March 26, 2004, will not require a zSeries server; however, many functions of z/OS will not be available when running on older technology servers (G5/G6/MP3000).

z/OS V1.6 is planned to be available in September 2004, it is IBM's intention to deliver z/OS and z/OS.e releases on an annual basis.

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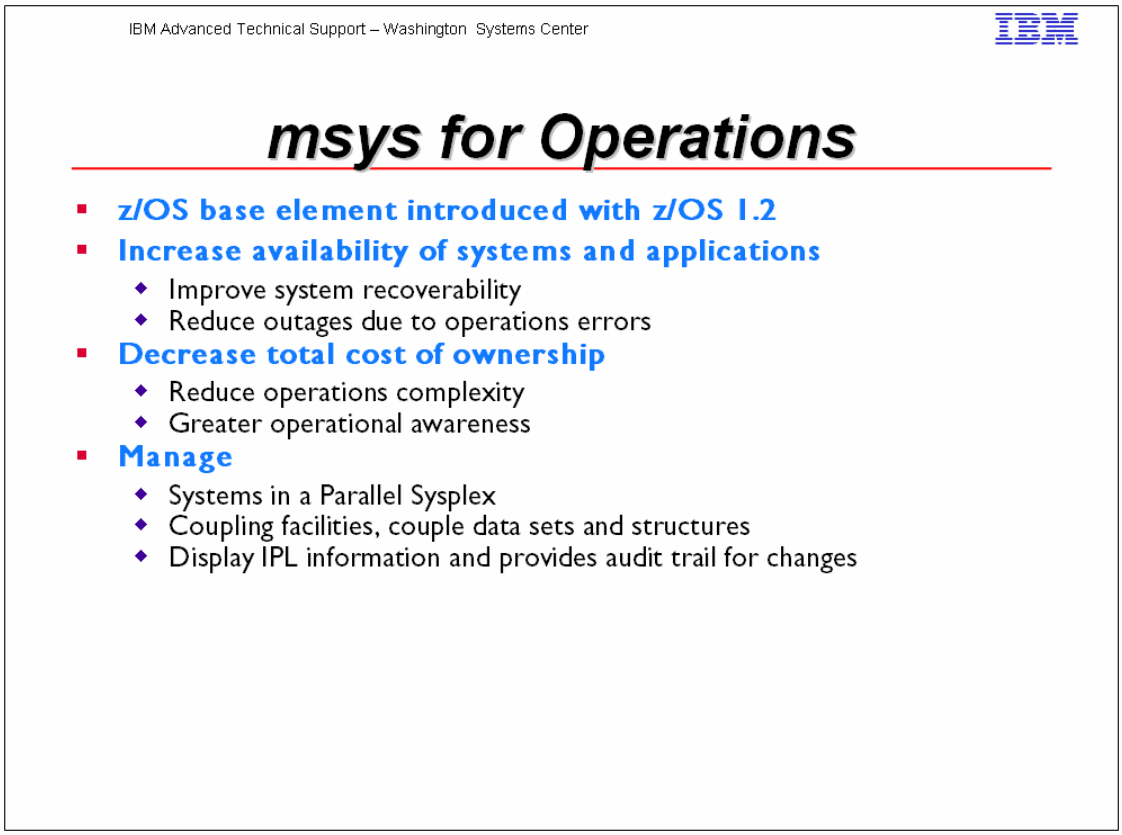
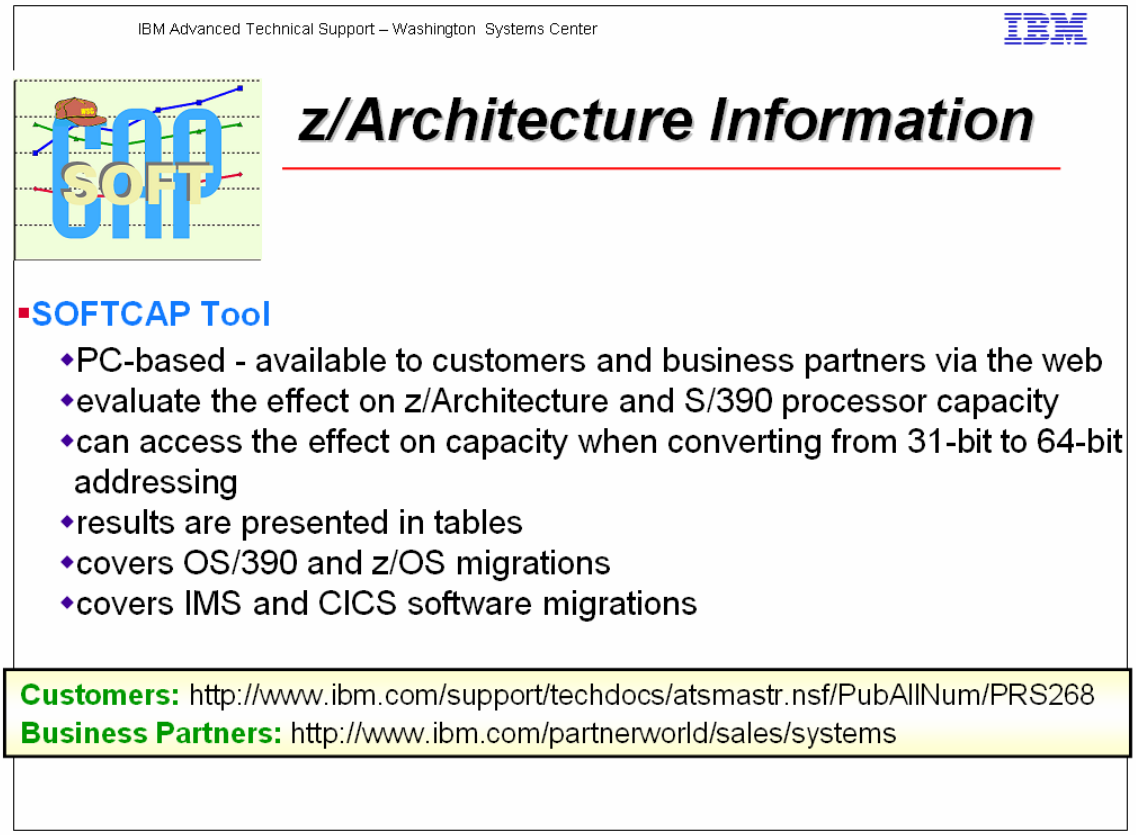


Notes:
z/OS msys for Operations is a base element in z/OS V1R2 that incorporates well-proven automation technology into z/OS. It provides self-healing for some critical system and sysplex resources and simplifies the day-to-day operation of a z/OS Parallel Sysplex.

z/OS msys for Operations monitors sysplex-specific events to avoid single points of failure (such as no alternate couple data set, or CDS) or sysplex-wide outages due to operator mistakes or system load. Critical resources in a sysplex that are provided with these self-healing mechanisms are CDS, System Logger, or WTO buffers.

msys for Operations can help you to easily manage all the systems in a Parallel Sysplex cluster, CFs and their structures, and couple data sets. By automating typical operator tasks and events in a Parallel Sysplex, it helps to reduce operations complexity and improves system recoverability, enhancing the availability of Parallel Sysplex clusters. Distinct displays of relevant information allow greater operational awareness, providing ease of manageability. It is also possible to backup a CF to a spare CF (that is, to drain the CF, rebuild its structures in the spare CF, release the structure connections, and reconnect them to the spare CF) all with one simple, interactive command. Additionally, msys for Operations is designed to resolve situations, like WTO buffer shortages or system logger failures, through its built-in automation technology.



Notes:
SOFTCAP is PC-based tool that will evaluate the effect on z/Architecture and S/390 processor capacity when migrating to newer levels of software, including z/OS or OS/390, CICS and IMS. In addition, SOFTCAP can assess the effect on capacity when converting from 31-bit to 64-bit addressing, which is supported on zSeries processors by z/OS and OS/390 V2R10. Results are presented in the form of tables.

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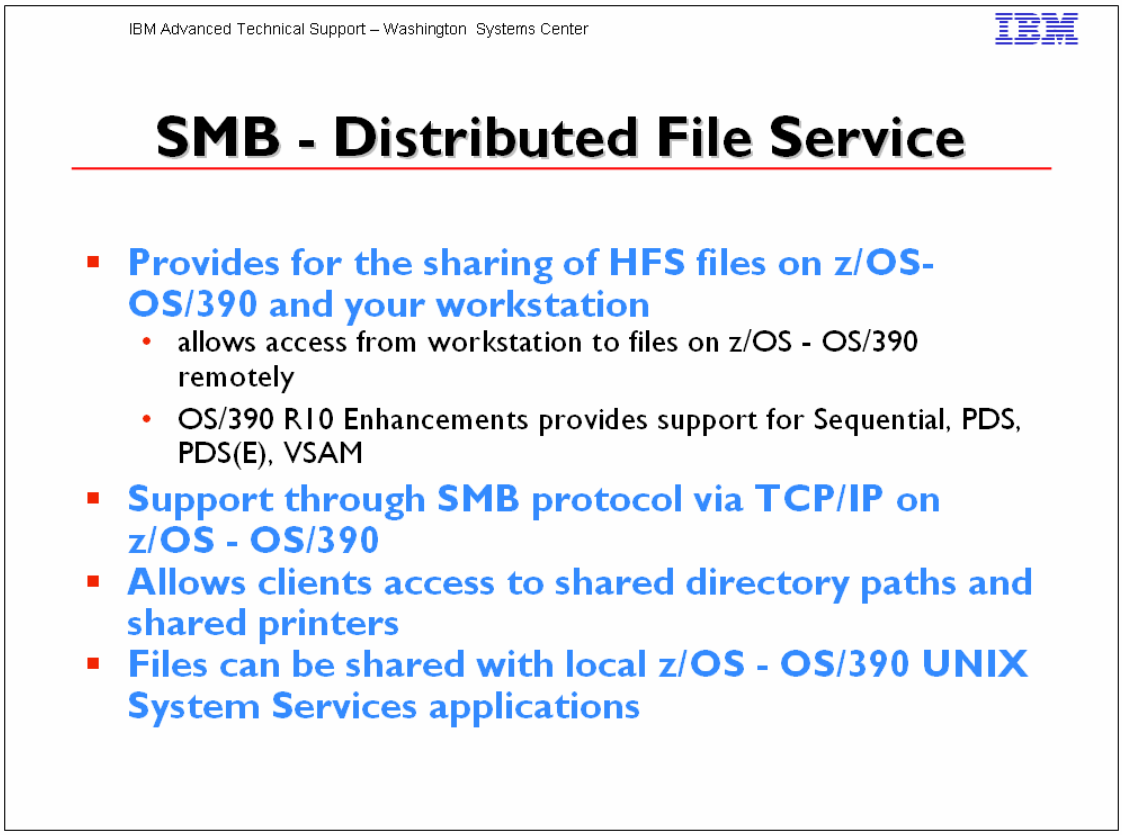

Notes:
The z/OS or OS/390 Distributed File Service Server Message Block (SMB) support provides a server making Hierarchical File System (HFS) files available to SMB clients. It supports the SMB protocol through the use of TCP/IP on OS/390. This communication protocol allows clients to access shared directory paths and shared printers. Personal Computer (PC) clients on the network use the file and print sharing functions included in their operating systems. Supported SMB clients include Windows 95, Windows 98, Windows NT 4.0 Workstation, Windows 3.11 (Windows for Workgroups), and OS/2 Version 4 (for file access only). At the same time, these files can be shared with local OS/390 UNIX System Services applications and with DCE DFS clients.

OS/390 SMB support allows PC users to be able to access files that reside on an OS/390 system remotely. That is, PC users can access files that are not located on their computer. Remote files simply appear to the PC user on one or more separate drive letters. PC users can "connect" an unused drive letter to a "shared resource" on a remote computer. This is sometimes referred to as "mapping a network drive". This capability is provided by software residing on the PC (the client), in combination with software residing on the remote computer (the server). There must also be a TCP/IP network connection between the PC and the remote computer.

In addition, OS/390 SMB support allows Windows PC users to be able to use remote printers attached to an OS/390 system. Remote printers simply appear to be additional

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printers available to the PC user. Remote printers are installed on PCs using existing commands or install utilities.

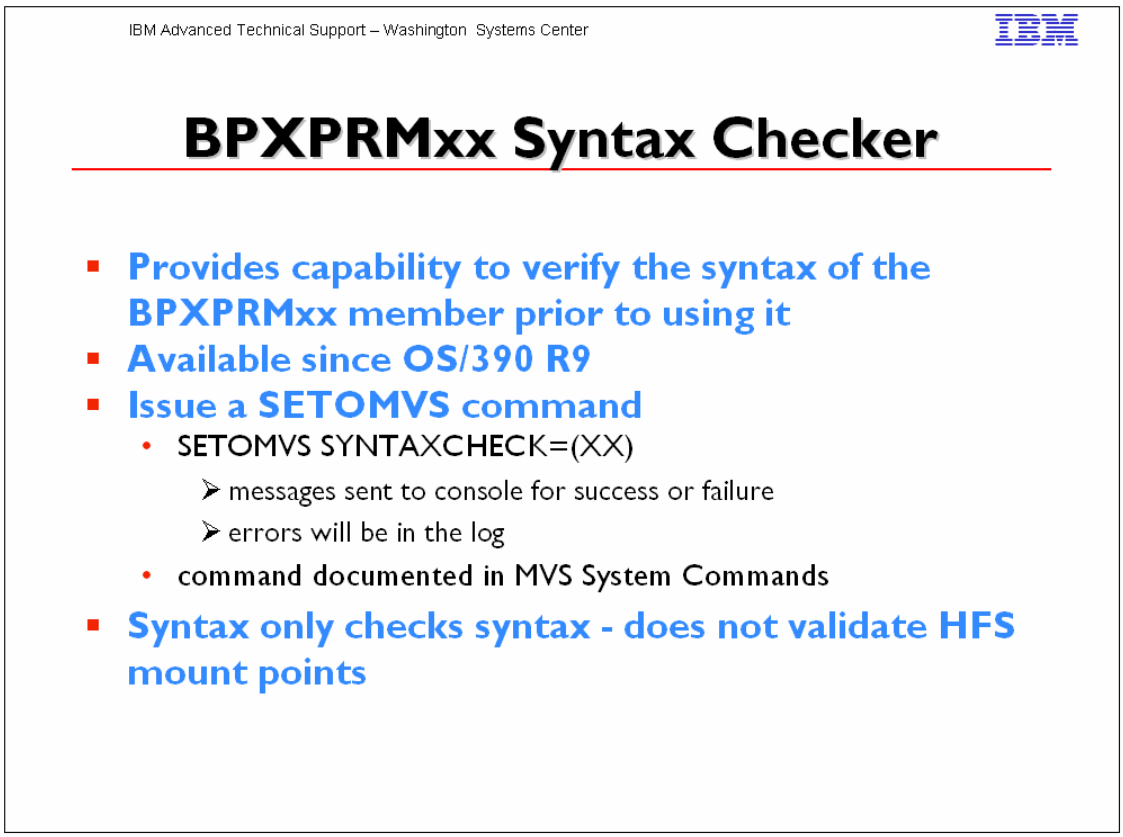
In addition, Windows SMB clients can make remote print requests to OS/390 printers connected to the Infoprint Server for OS/390. The SMB server provides print serving support for Windows™ clients. By allowing the SMB protocol to be used to send print requests to the OS/390 Infoprint® Server, it removes the need for additional print client code or unique printer setup steps on the user workstation.

The SMB server support is integrated within the Distributed File Service (DFS) element which also provides DCE DFS client and server support. The SMB support does not require DCE but the same server can optionally support DFS clients, SMB clients, or both.

In Release 10, in addition to its support for workstation access to OS/390 data stored in HFS using SMB protocols, the OS/390 DFS/SMB Server now supports workstation access to OS/390 data stored in SAM, PDS(E), and VSAM files to further expand the S/390 support for application development.

The Release 10 SMB server now supports the NT LM 0.12 level of the SMB protocol dialect used by the Windows NT™ networking support, thereby providing additional password encryption, file sizes greater than 32 bits (4 GB), and other capabilities allowed by this level of the SMB protocol.

Reference material: Distributed File Service SMB Administration Guide and Reference, SC24-5882.



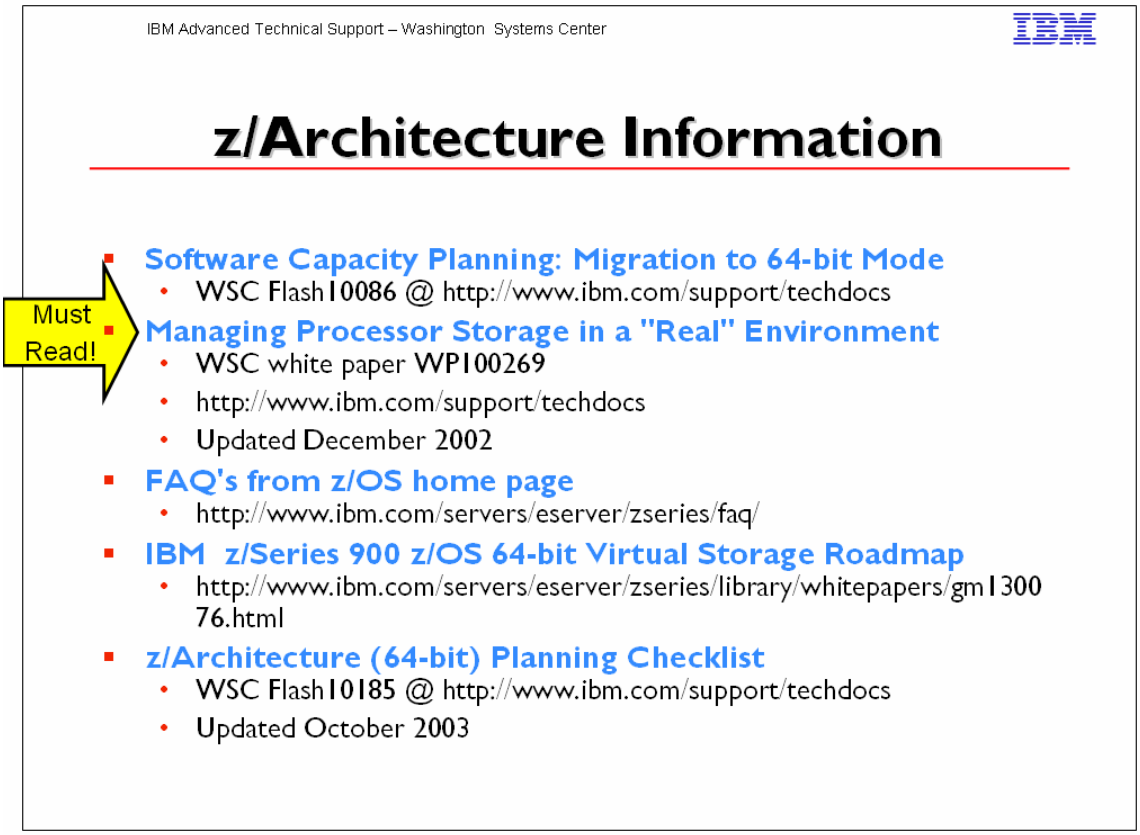
Notes:
You can use the SETOMVS SYNTAXCHECK operator command to check the syntax of a BPXPRMxx parmlib member before doing an IPL.

SYNTAXCHECK=(xx)
Specifies that the operator wishes to check the syntax of the designated parmlib member. For example, to check the syntax of BPXPRMZ1 the operator enters:

SETOMVS SYNTAXCHECK=(Z1)

The system returns a message indicating either that the syntax is correct or that syntax errors were found and written into the hard copy log. This command parses the parmlib member in the same manner and with the same messages as during IPL.

Note: SYNTAXCHECK checks only syntax and does not verify that HFS datasets or mount points are valid.



Notes:
WSC Flash10086 - describes the software capacity planning steps needed for installations migrating their z900 0r z99 0servers to 64-bit mode using either OS/390 R10, or z/OS.

Managing Processor Storage in a "Real" Environment
Discusses changes in MVS performance metrics and impact on reviewing RMF reports

- UIC
- Available Frame Queue
- Effective Logical Swap
- MSO
- Transition Swaps
  - V=R
  - REAL=
  - RSU=

Fixed Frames below 16M line

Recommendations for Auxiliary Paging Subsystem

- Contiguous slots algorithm
- PAVs
- Allocation and performance

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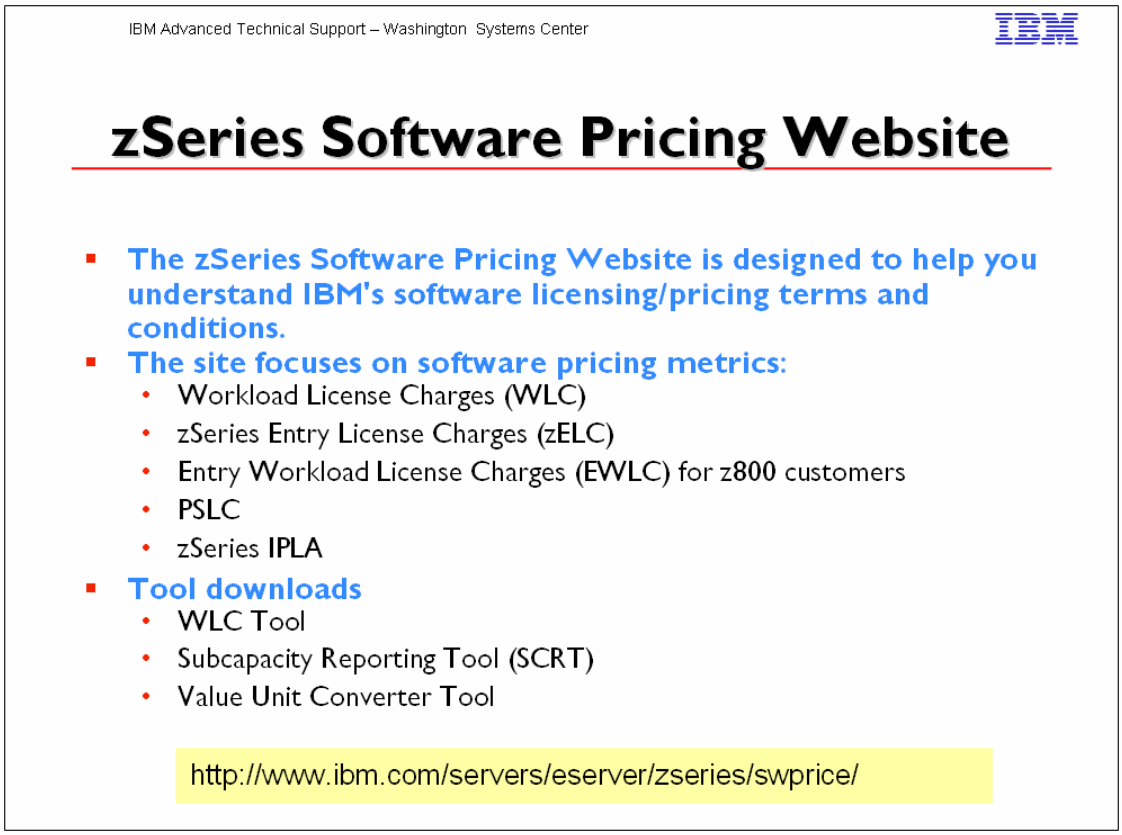

Notes:

"IBM zSeries software pricing" generally refers to the pricing and licensing terms and conditions for IBM sofware products that run in a mainframe environment. IBM's mainframe software portfolio includes operating system software (e.g., z/OS, z/OS.e, OS/390, z/VM, VM/ESA, VSE/ESA) and middleware that runs on these operating systems. IBM also offers a collection of tools to manage the mainframe environment and a set of software that executes in host-based Linux environment. IBM mainframe software pricing is grouped into two categories:

- **Monthly License Charge (MLC) software**
  - includes license fees and support costs
  - governed by IBM Customer Agreement (ICA) contract
  - applies to IBM software products such as z/OS, OS/390, DB2, CICS, IMS and MQSeries
  - establishes terms and price points by applying an appropriate MLC pricing metric, such as WLC, EWLC, PSLC and zELC
  - determines the MLC pricing metric based on customer choice and/or mainframe environment
- **International Product License Agreement (IPLA) software**
  - requires up-front, one time license fee and ongoing, optional, annual support charges
  - governed by the IPLA contract
  - applies to IBM software products such as Data Management Tools, Application Development Tools and Systems Management Tools
  - applies to IBM software products for a host-based Linux environment, such as WebSphere Application Server for Linux on zSerues
  - establishes terms and price points by applying an appropriate IPLA pricing metric, such as Value Units or Engine Based
  - determines the IPLA pricing metric based on the selected IPLA product

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Workload License Charge

Workload License Charges (WLC) is a monthly license pricing metric designed to support today's on demand business requirements. WLC may be applied to a z990, a z900 or a z800 (z800 must participate in a fully qualified Parallel Sysplex to be eligible for WLC) server running z/OS in z/Architecture (64-bit) mode. WLC enables customers to:

- Grow hardware capacity without necessarily increasing your software charges
- Pay for key software, such as DB2, CICS, IMS, MQSeries and z/OS with LPAR-level granularity
- Experience a low cost of incremental growth
- Manage software cost by managing workload utilization

Once a customer chooses to adopt WLC, then neither PSLC or Usage License Charges (ULC) will apply. .WLC is broken into two types of charges: Variable WLC and Flat WLC. Variable WLC apply to products such as z/OS, DB2, IMS, CICS, MQSeries, System Automation, NetView and Domino. Flat WLC apply to legacy products such as less current compilers and older MVS/VM/VSE utilities. Once WLC is adopted, applicable VWLC and FWLC charges are applied.

Effective 1 July 2003, IBM is making the base charges for Variable Workload License Charges more granular, by reducing the base from 45 MSUs to 3 MSUs. Since the base charge is reduced to 3 MSUs, a Level 0 has also been introduced to cover the MSUs between 4 MSUs and 45 MSUs. The more granular base provides customers with a lower cost of entry for VWLC products, requiring a minimum of 3 MSUs rather than a minimum of 45 MSUs. Customers with workloads smaller than 45 MSUs may license as little as 3 MSUs of VWLC software.

zSeries Entry License Charge

zSeries Entry License Charge (zELC) is a new base pricing metric designed especially to support the new zSeries 800 server. IBM introduced zSeries Entry License Charge to deliver appropriate software price performance for a variety of z800 customer needs. Customers who are migrating from a Multiprise 3000 server into a small z800 may find price performance similar to Growth Opportunity License Charge. Customers who are migrating from an S/390 Enterprise Server to a larger z800 server may find price performance similar to Parallel Sysplex License Charge.

zSeries Entry License Charge is determined based on the particular z800 model (0A1, 0B1, 0C1, 001, 0A2, 002, 003, 004) where the software is licensed. zELC is only offered on z800 machines.

Entry Workload License Charges (EWLC)

In support of an on demand operating environment, IBM is now announcing Entry Workload License Charges (EWLC) for z800 customers. EWLC enables qualifying z800 customers to pay for EWLC-eligible IBM software based on the utilization of the LPAR or LPARs where that product executes. This sub-capacity pricing provides the potential to lower software charges on the z800. Qualifications include a z800 server with z/OS or z/OS.e licensed and operating in z/Architecture (64-bit) mode.

WLC Tool

The WLC tool allows you to determine the MSU capacity of your current LPARs.

SCRT Tool

The Sub-Capacity Reporting Tool allows you to report your sub-capacity license requirements for qualifying zSeries mainframes with Workload License Charges.

Value Unit Converter Tool

The Value Unit Converter Tool converts between MSUs and Value Units. Value Units are the unit of measure for licensing select application development and data management tools on the mainframe.

Latest zSeries Software Pricing News

23 January 2004

There are two updated documents available to help you understand zSeries Software Pricing:

- zSeries and S/390 Software Pricing Reference Guide
- Planning For Workload License Charges Book

13 January 2004

Today, IBM announced price/performance improvements for IPLA software product charges associated with On/Off Capacity on Demand for z990. You can read more about On/Off Capacity on Demand for z990 on the web.

10 December 2003

Today, IBM is making the Sub-Capacity Reporting Tool (SCRT) Version 7 available. You can read more about SCRT and download the tool from the web.

30 September 2003

IBM announced Sub-Capacity charges for select WebSphere products on z/OS. Details and examples of Sub-Capacity Charges for select WebSphere Products is available on this website.

23 September 2003

IBM formally announced targeted reductions in the price of z/OS, as originally discussed in the Mainframe Charter. The hardware and software pricing initiatives associated with the Mainframe Charter are also documented online.

09 September 2003

IBM announced Entry Workload License Charges, LPAR-based pricing for key monthly license charge software on the z800 platform. For more information, see the Entry Workload License Charges information on this website.

IBM Advanced Technical Support – Washington Systems Center

@server Websites

- www.ibm.com/servers/eserver/zseries/zos/zos_products.html
  - Links to ISV websites
  - scroll down to Vendor Software Products for z/OS -- click on the z/OS level you are interested in
- www.ibm.com/servers/eserver/zseries/zos/
  - z/OS is a new, robust operating system based on the new z/Architecture (64-bit) mode
- www.ibm.com/servers/eserver/zseries/zos/bkserv/
  - z/OS Internet library

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@server Websites

- www.ibm.com/servers/eserver/zseries/zos/zos_products.html
  - Links to ISV websites
  - scroll down to Vendor Software Products for z/OS -- click on the z/OS level you are interested in
- www.ibm.com/servers/eserver/zseries/zos/
  - z/OS is a new, robust operating system based on the new z/Architecture (64-bit) mode
- www.ibm.com/servers/eserver/zseries/zos/bkserv/
  - z/OS Internet library
- z/OS Statement of Direction and notable changes
  - Consolidated @ http://www.ibm.com/servers/eserver/zseries/zos/zos_sods.html

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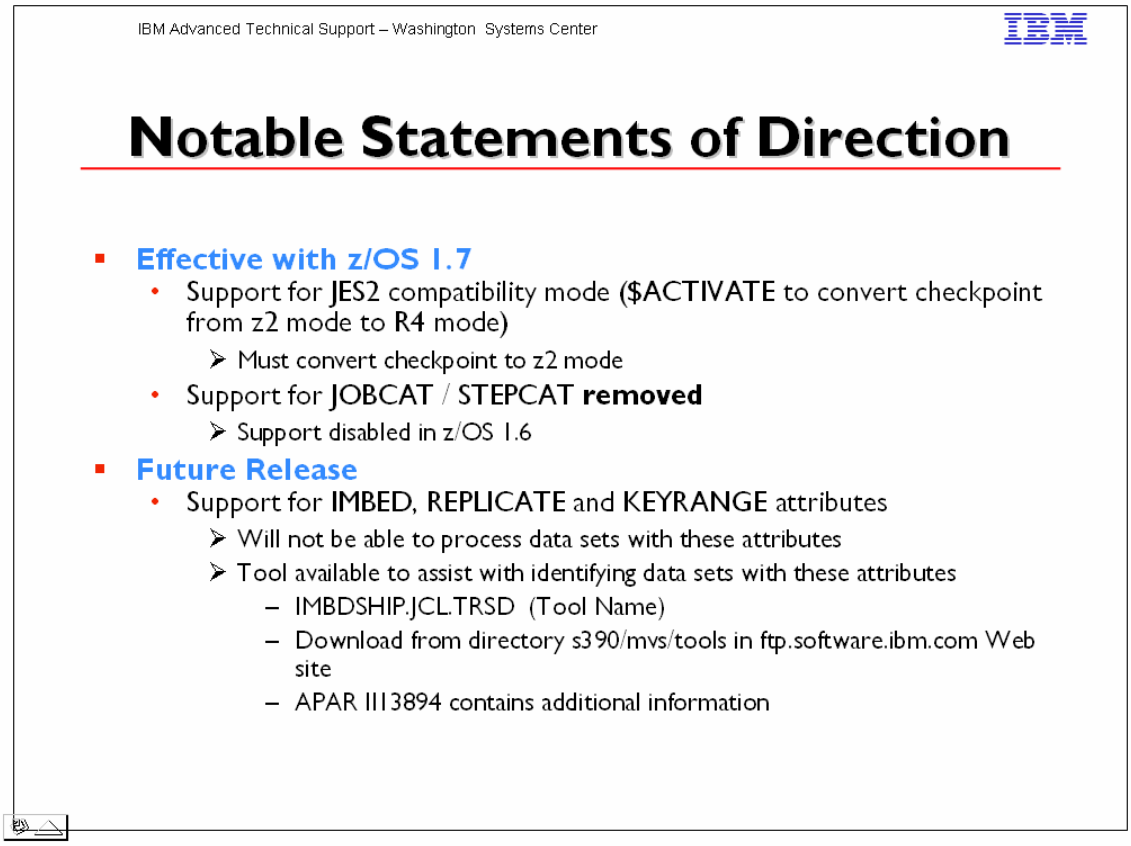
Notes:
The zFavorites for zSeries contains links to Web sites for zSeries. You will find links to:

- Hardware
- Operating Systems
- Software
- Language and Tools
- ISV Development and Applications
- Product Documentation
- Marketing Information
- Education
- Support

Links to FREE downloads



Support for JES2 compatibility mode will be withdrawn. As of z/OS.e V1.7, JES2 will no longer support compatibility with pre-z/OS V1.2 systems. The $ACTIVATE command, which converts the JES2 checkpoint from z2 mode to R4 mode (compatibility mode), will be removed. Before installing z/OS.e V1.7, you will need to do one of the following:
Use the $ACTIVATE command to convert the JES2 checkpoint to z2 mode
Offload the SPOOL, cold start JES2 z/OS.e V1.7, and reload the jobs on the new SPOOL

Support for the STEPCAT and JOBCAT JCL statements will be withdrawn. There are other facilities in DFSMSdfp™ that allow catalog requests to be directed to specific catalogs, and the utility of these two JCL statements has been drastically reduced by the implementation of System-Managed Storage and the placement of Unit Control Blocks (UCBs) above the 16 MB line. When this support is withdrawn, any remaining JCL that uses these two statements will have to be changed.

Support for the VSAM IMBED, REPLICATE, and KEYRANGE attributes will be withdrawn. No supported release of z/OS, z/OS.e, or OS/390 allows you to define new VSAM data sets with these attributes. Using them for existing data sets can waste DASD space and can often degrade performance. When this support is withdrawn, you will not be able to process data sets with these attributes.

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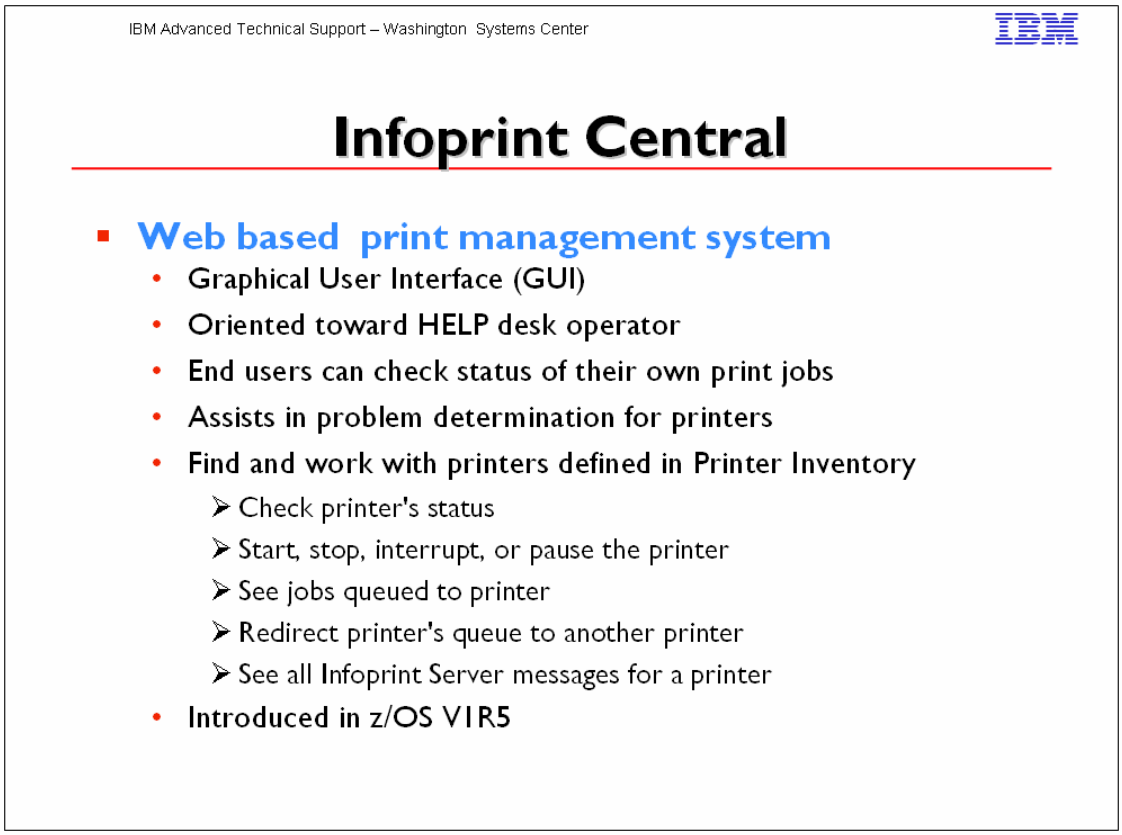

Infoprint® Central: Continuing the IBM commitment to help lower customers' overall cost of distributed print operations, Infoprint Server includes a new component called Infoprint Central. Infoprint Central is a Web-based, GUI for managing print jobs and printers throughout the enterprise from anywhere in the enterprise using a Web browser. Intended primarily for help desk operators, it lets users query the status of jobs and printers, see job and printer messages, stop and start printers, move jobs from one printer to another, cancel or hold jobs, and many other functions. Infoprint Central can use integrated z/OS security services so that users can be authorized to perform only certain tasks, or to perform tasks only on designated devices.

IP PrintWay™ extended mode: Infoprint Central is backed by a new architecture in the component that delivers print or e-mail output to printers, servers or users over TCP/IP or Internet Printing Protocol (IPP). IP PrintWay extended mode uses the Sysout Application Programming Interface (SAPI) to access print jobs and job information from the JES spool. The advantage of this change can be higher availability and throughput, more flexibility for handling print-related tasks, and scalability of Infoprint Server for very large distributed print environments.

Common message log: A new common message log helps to improve productivity of help desk operators for print problem diagnosis and resolution, thus helping to increase system availability and user satisfaction. Messages can easily be accessed from Infoprint Central for a particular job or printer. A utility is also provided that enables an administrator to see all messages for a particular time period, for example. Messages can be retained for a user-specified period of time, including messages for "historical" jobs which have already been processed by the system.

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Useful Internet Sites

www.ibm.com/servers/eserver/zseries/swprice/	**IBM Software Pricing**
www.ibm.com/servers/eserver/zseries/zos/zos_products.html	ISV Page Links
www.ibm.com/servers/eserver/zseries/zos/	**z/OS Home Page**
www.ibm.com/servers/eserver/zseries/zos/bkserv	z/OS Internet Library
techsupport.services.ibm.com/s390/support	**IBM S/390 Software Support**
www.ibm.com/servers/eserver/zseries/zos/servicetst	IBM Consolidated Service Test
www.search390.techtarget.com	**Search 390**
www.ibm.com/servers/eserver/zseries/zos/zos_sods.html	z/OS Statement of Direction
www.ibm.com/servers/eserver/zseries/pso/cftable.html	**Coupling Facility Level Table**
www.ibm.com/s390/pso	IBM Parallel Sysplex Home Page
www.ibm.com/support/techdocs	**Washington Systems Center Flashes**
www.ibm.com/software/shopzseries	ShopzSeries
service.software.ibm.com/software_order_status	Check software order status

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Useful Internet Sites

www.ibm.com/s390/os390	**OS/390 Home Page**
www.ibm.com/s390/pma	Planning & Migration Assistant
www.ibm.com/s390/os390/bkserv	**Library section of OS/390 web site**
www.ibm.com/s390/os390/support/os390tst	OS/390 Integration test
www.ibm.com/s390/os390/os390vend.html	**OS/390 Vendor compatibility**
service.boulder.ibm.com/390holddata.html	Download Enhanced HOLDDATA
www.ibm.com/s390/os390/wizards	**Wizards for OS/390**
www.redbooks.ibm.com	IBM Systems Center publications
www.ibm.com/s390/unix	**OS/390 UNIX Home Page**
www.s390.ibm.com/products/le	IBM Language Environment Home Page

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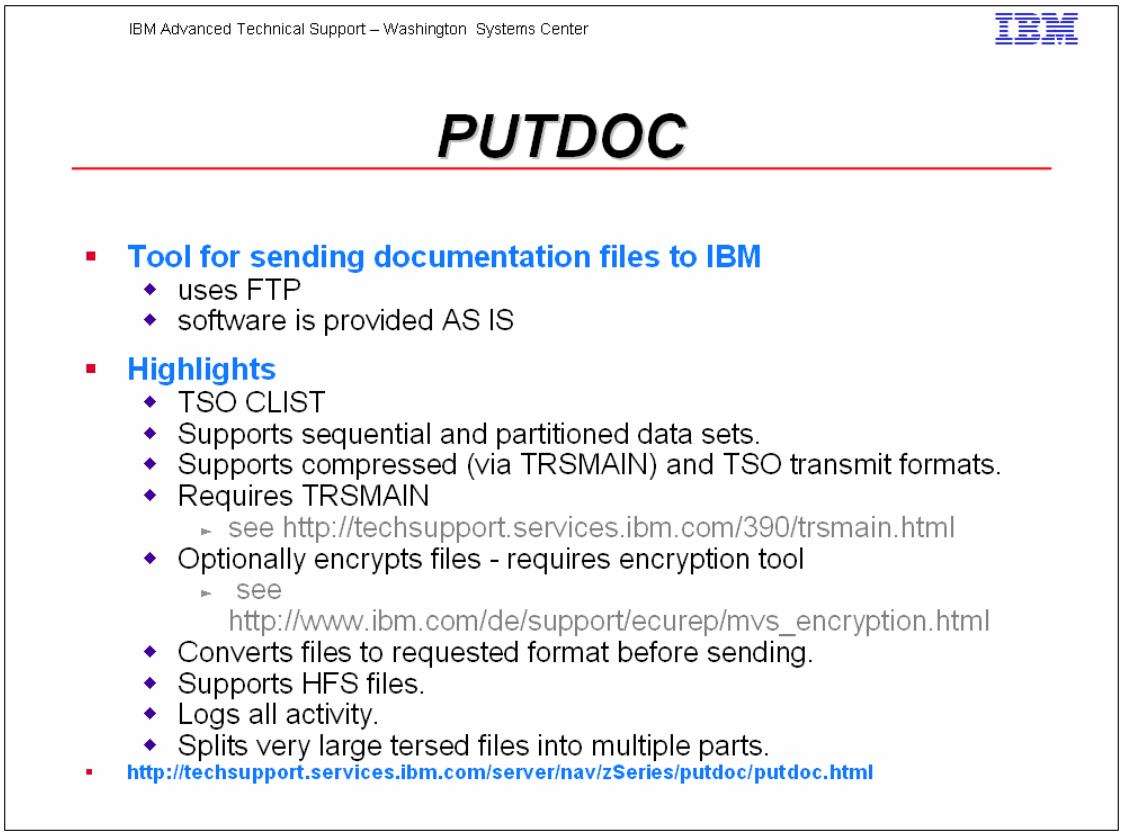
IBM
Tools
"As Is"
PUTDOC
ARM Wrapper
XISOLATE
Terse/Unterse
CPPUPDTE

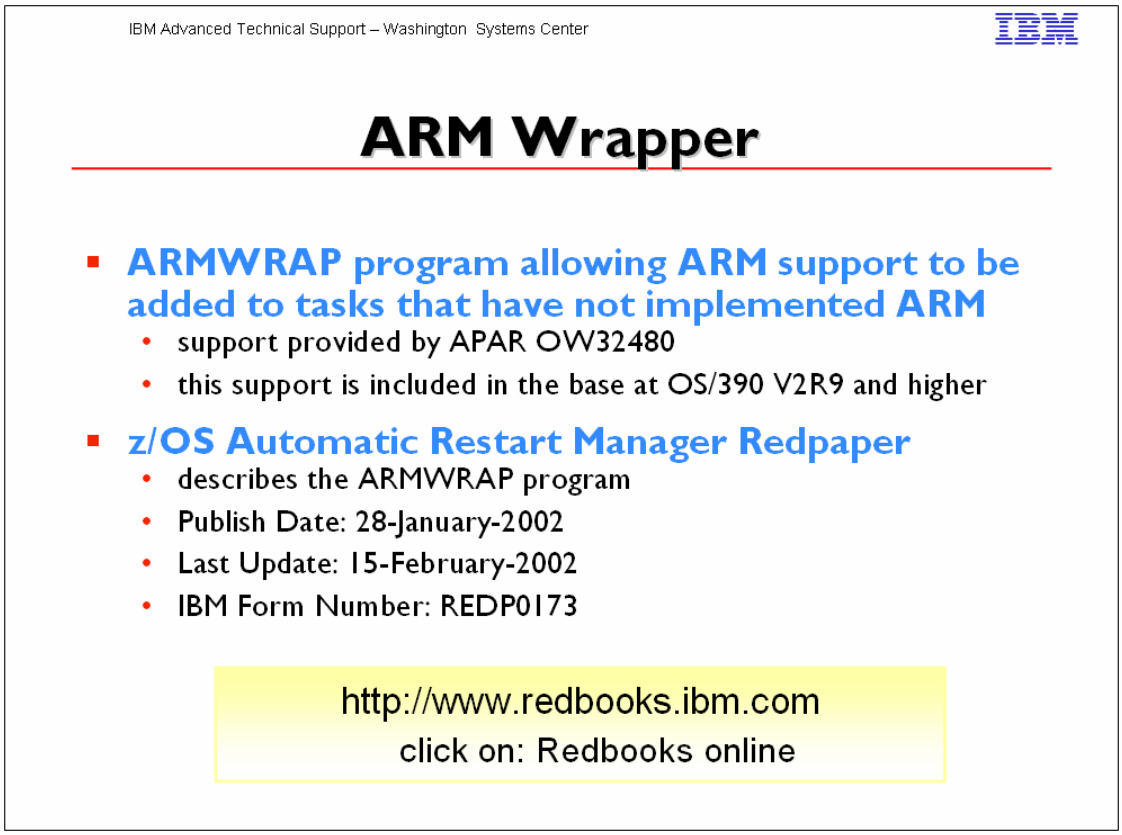


Notes:
The PUTDOC CLIST executes on your OS/390 and z/OS systems and automates some of the steps in sending documentation (dumps, traces, etc) to IBM via the Testcase server. The user supplies an input data set name (usually from the 3.4 panel within ISPF) and responds to a few prompts. The CLIST submits a batch job that runs locally and performs the steps necessary to send this data set in the desired format to the Testcase server.

The instructions for downloading the CLIST are at:
http://techsupport.services.ibm.com/server/nav/zSeries/putdoc/putdoc.html

The CLIST greatly reduces errors in handling very small to very large data sets. It guides the user through recommended actions, manages space to minimize failures, retains information about destinations on the Testcase server and reduces the chance items will be sent to the wrong destination.

Send questions and feedback to tcpdoc@us.ibm.com and include PUTDOC on the subject line of the note.



Notes:
The ARMWRAP program simplifies the APIs so any subsystem or job can easily exploit the Automatic Restart Manager (ARM). It provides ARM capability to any subsystem or job. This support is included in the base OS/390 V2R9 and above. This function is included in APAR OW32480. This APAR addresses unauthorized callers of the IXCARM APIs. Unauthorized applications needing to run alongside authorized applications need to be able to register with ARM. Applications need to be able to register with ARM using the ARM APIs, without code changes.

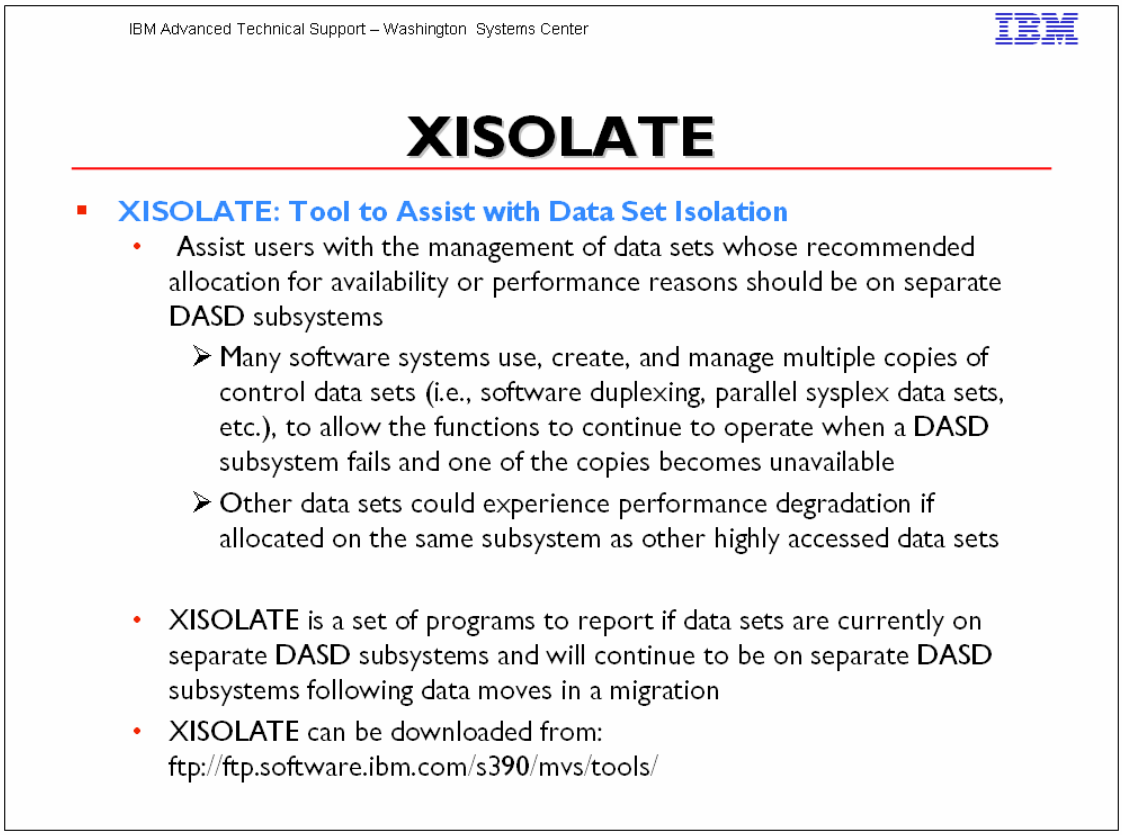
The "wrapper" addresses the need for unauthorized programs to be able to exploit ARM, and allows subsystem/application to use the APIs.

It is documented in IBM manuals how to use the ARM APIs by using the concept of an ARM WRAPPER. This old code, called ARMDRVR is documented to run out of an APF library (authorized) since ARM did not support unauthorized callers. Now with the introduction of ARMWRAP the wrappers themselves can run unauthorized allowing for full integrity and better security controls. Besides being supported, ARMWRAP allows greater flexibility in use along with the application being able to tell ARM when it is able to go ARM READY.

This purpose of the ARMWRAP is to allow jobs or started tasks to take advantage of ARM without modifying existing software to use the ARM APIs. Changes are only required in the JCL, be it a PROC or batch job, invoking the existing application. These

changes are the addition of JCL EXEC statements signifying the different ARM functions. ARMWRAP executes unauthorized, that is KEY 8 PROBLEM PROGRAM. This allows installations to have better control over their security environment. The allowable ARMWRAP functions are:
ARM REGISTER
ARM WAITPRED
ARM READY
ARM DEREGISTER

Notes :
One subsystem that may see a lot of benefit from this is the ICLI address space used for communication between DB2 and SAP R/3. ICLI by itself does not exploit ARM and a failure of this address space will cause a loss of communication between a front-end processor and SAP on OS/390. With this code, the ICLI will be restarted quickly to minimize the time users are affected.



Notes:
The XISOLATE tool, offered at no charge by IBM, assists users with the management of data sets whose recommended allocation for availability or performance reasons need to be on separate DASD subsystems. Many software systems use, create, and manage multiple copies of control data sets (ie, software duplexing, parallel sysplex data sets, etc.), to allow the functions to continue to operate when a DASD subsystem fails and one of the copies becomes unavailable. Other data sets could experience performance degradation if allocated on the same subsystem as other highly accessed data sets. XISOLATE is a set of programs that reports whether these data sets are currently on separate DASD subsystems and will continue to be on separate DASD subsystems following data moves in a migration.

XISOLATE can be used with any DASD subsystem that works in an IBM OS/390 environment and supports the CCWs used with the IBM 3990-1. XISOLATE does not support IBM 3880-based subsystems. It can also be used with HDS 7700 and 7700E subsystems, and with IBM 3990-based DASD, IBM 9393 (RVA) and IBM 2105 (Shark) subsystems.

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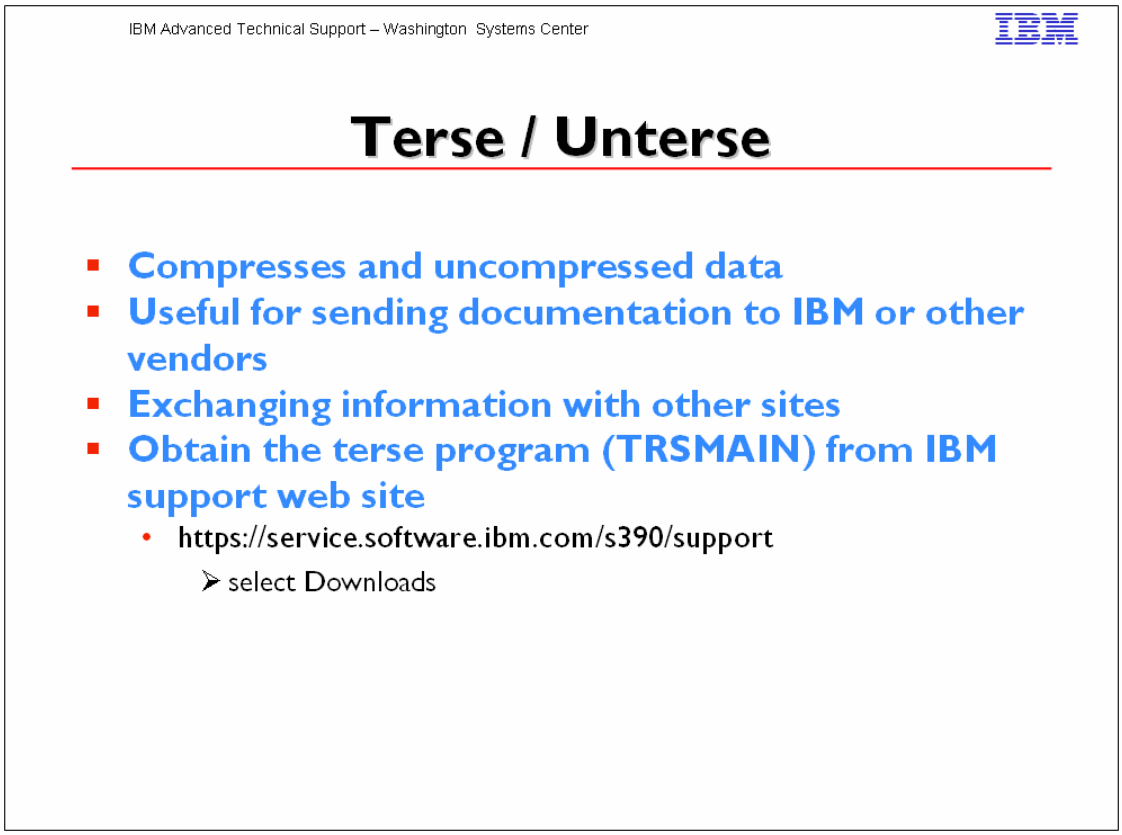
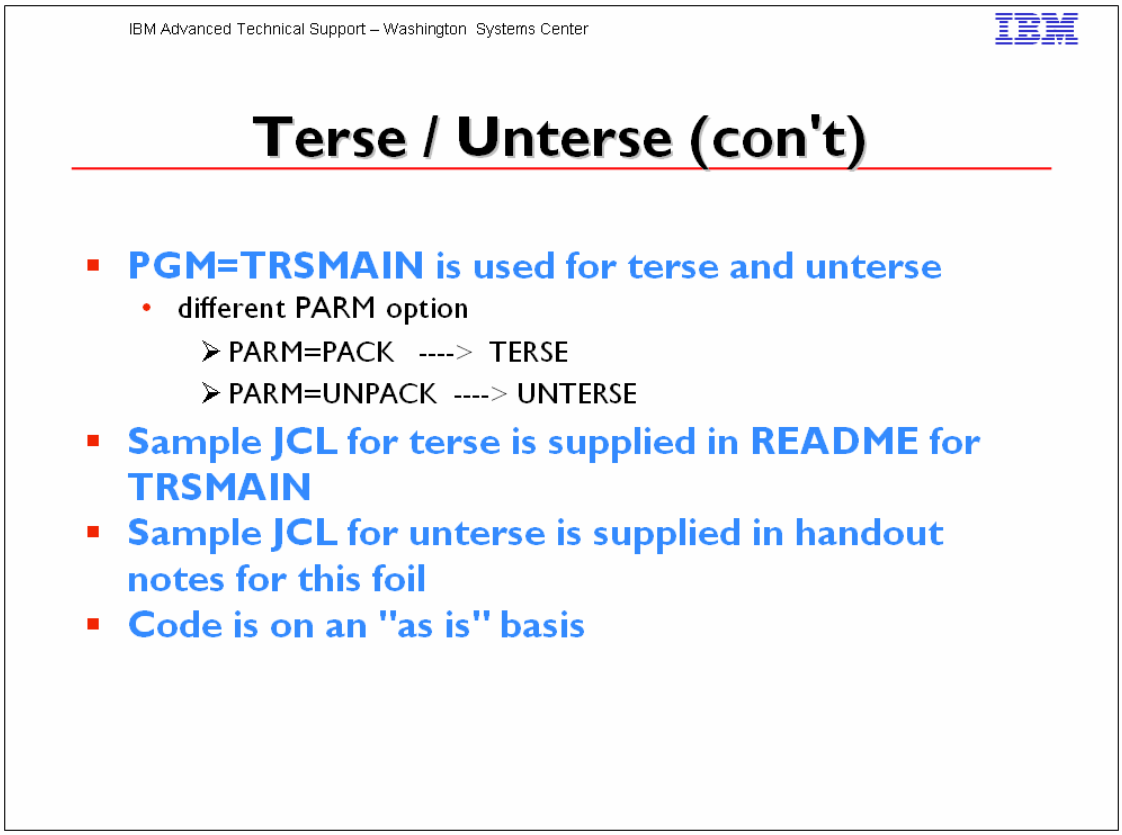


Notes:
TRSMAIN program should be used to compact the documentation dataset prior to FTP it to IBM support center. Using the COMPRESSED dataset in FTP will save time in both sending and receiving transmission.



Notes:
JCL for unterse:

```
//Jobcard  JOB  (????,????),PIERCE,MSGLEVEL=1,NOTIFY=????????,
//         MSGCLASS=O,CLASS=A,REGION=6M TYPRUN=SCAN
//*--------------------------------------------------------------------
//* THIS JOB RUNS THE TERSEMVS PROGRAM IN BATCH MODE. THE VALID OPTIONS
//* ARE:
//*      UNPACK  - UNTERSE A COMPRESSED DATASET INTO ITS ORIGINAL
//*                FORM.
//*
//* SYMBOLICS:
//*      OPT=      NORMALLY UNPACK
//*      HLQ=      DATASET NAME PREFIX FOR BOTH IN AND OUT DATASETS
//*      LLQ=      DATASET NAME SUFFIX FOR BOTH IN AND OUT DATASETS.
//*                NOTE: THIS REQUIRES A PERIOD IN THE VALUE, IF
//*                      OVERRIDDEN.
//*      TYPE=     TYPE TO BE INSERTED IN THE DSNAME, NORMALLY 'TERSED'
//*      IN=       VARIABLE PART OF THE INPUT DATASET. ALSO IS USED
//*                TO GENERATE THE OUTPUT DATASET NAME.
//*      TRK=      SPACE, IN TRACKS, TO BE ALLOCATED TO THE OUTPUT D/S.
//*
//*--------------------------------------------------------------------
//UNTERSE   PROC OPT=UNPACK,           UNTERSE OPTION
//         HLQ='PIERCEX',              HLQ FOR DATASETS
//         LLQ='.BIN',                 LLQ FOR DATASETS
//         TYPE='UNTERSED',            TYPE OF DATA
//         IN=,                        INPUT NAME
//         TRK=3000                    OUTPUT SIZE
//UNTERSE   EXEC PGM=TRSMAIN,PARM='&OPT.'
//SYSPRINT  DD SYSOUT=*,DCB=(LRECL=133,BLKSIZE=12901,RECFM=FBA)
//INFILE    DD DISP=SHR,DSN=&HLQ..&IN..&LLQ
```

```
//OUTFILE   DD DISP=(NEW,CATLG),UNIT=SYSDA,
//           SPACE=(TRK,(&TRK.,&TRK),RLSE),
//           DSN=&HLQ..&TYPE..&IN..&LLQ
//           PEND
//         EXEC UNTERSE,IN=MPTF0157,LLQ='BIN'
```

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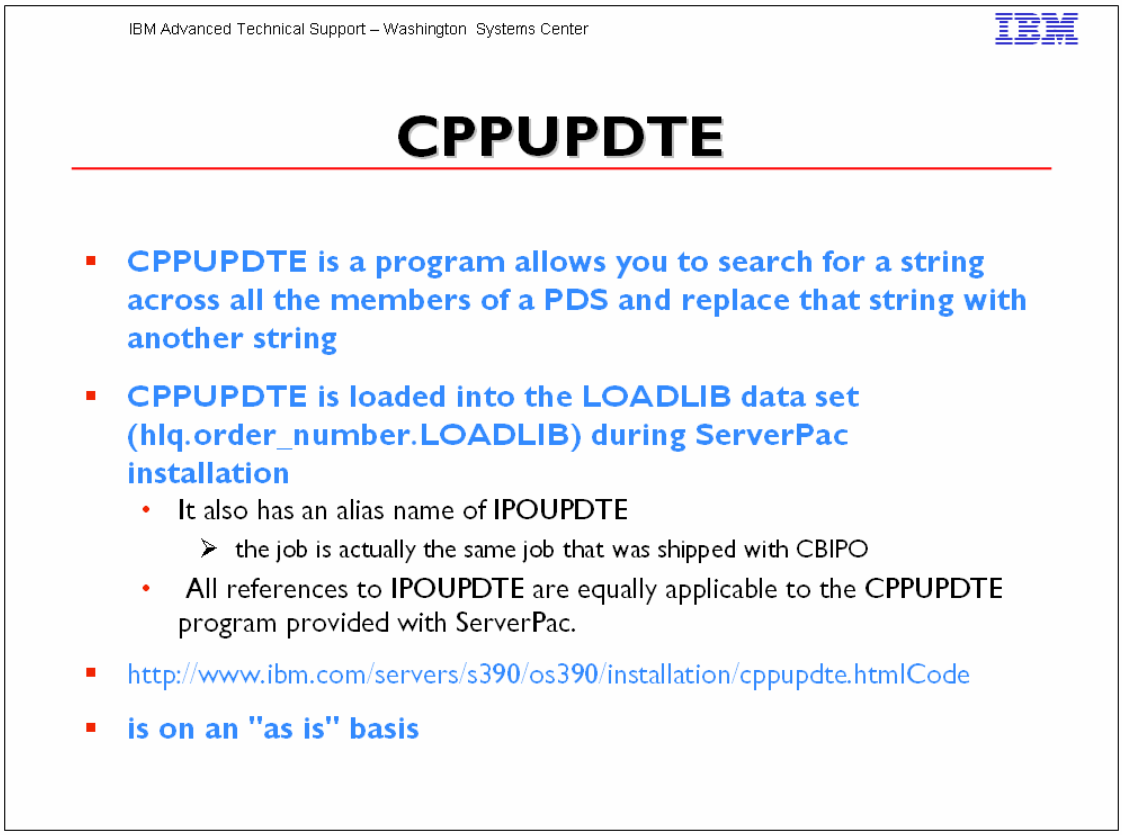

Notes:
CPPUPDTE program for ServerPac is a program that enables you to search for a string across all the members of a PDS and replace that string with another string. CPPUPDTE is loaded into the LOADLIB data set (hlq.order_number.LOADLIB) during ServerPac installation. It also has an alias name of IPOUPDTE because the job is actually the same job that was shipped with CBIPO.

The following information about how to use CPPUPDTE is an excerpt from the "CBIPO Design Reference" (© IBM Corporation 1983,1991). All references to IPOUPDTE are equally applicable to the CPPUPDTE program provided with ServerPac.

Important: For CPPUPDTE and IPOUPDTE to work, each PDS to be searched MUST contain a member named **$$$COIBM.**

IBM Advanced Technical Support – Washington Systems Center

Software Service

Consolidated Software Test
RSU
SMP/E
HOLDDATA
Cross Product / Cross System Requisites
DOC APARs
IBM S/390 Support Site
RedAlerts

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Notes:

Consolidated service test is a team that installs, tests, and recommends service levels for key OS/390 and z/OS software products. The list below shows the products tested together.

- OS/390 R10
- z/OS V1R3 and V1R4
- CICS TS 1.3/CPSM 1.4
- CICS TS 2.2
- DB2 UDB for OS/390 V6 and V7
- WebSphere MQ 5.3 and 5.3.1
- IMS V7 and V8
- IRLM 2.10
- Data Management Tools

Testing is performed on a sysplex, running these software components in a high stress environment as much like a customer environment as IBM can make it. As we do our testing we observe the way each software component runs and how they work together on OS/390 or z/OS. Then, we put together a single, definitive service-level recommendation for each product.

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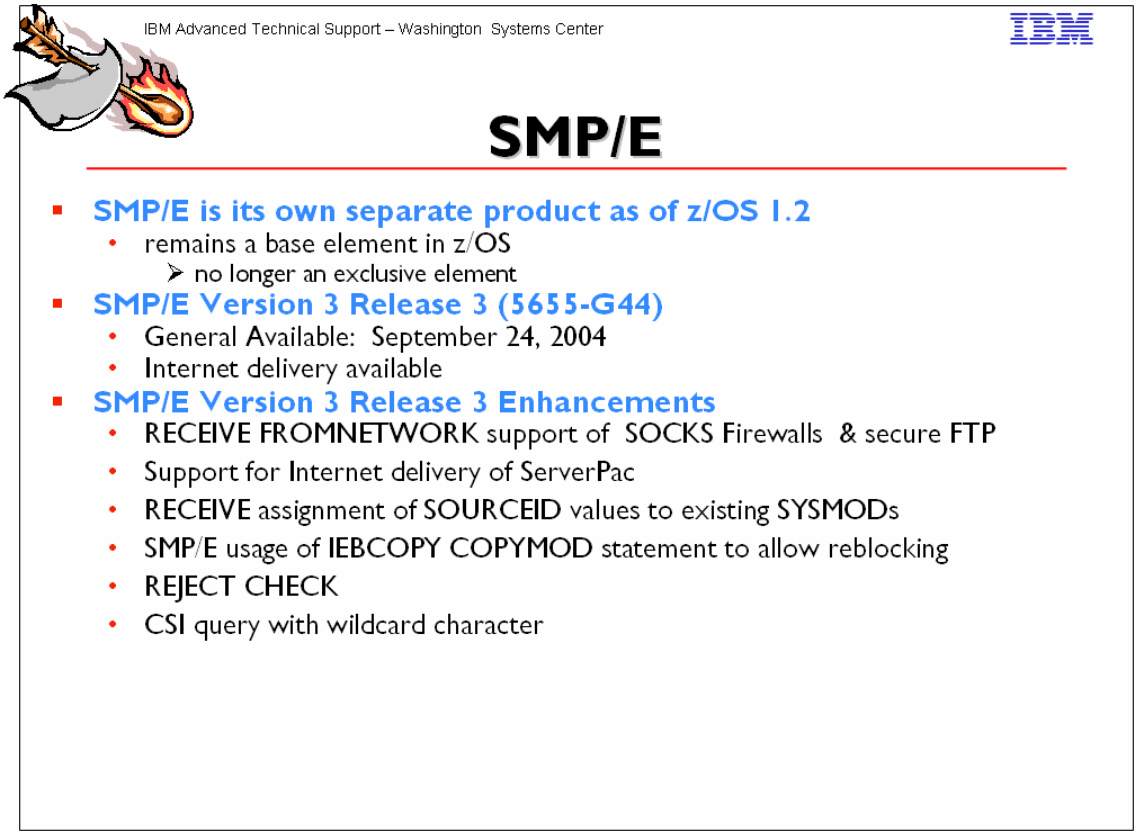


RECEIVE FROMNETWORK support of SOCKS firewalls and secure FTP operations
The RECEIVE FROMNETWORK command has been enhanced to use the z/OS Communications Server FTP Client. This can allow SMP/E to:

- Access remote FTP servers through a local SOCKS firewall server.
- Provide secure transfers between the client and FTP server of the user and password, as well as file data. A secure transfer refers to encryption and authentication using Transport Layer Security (TLS).
- Access FTP servers using IPv6 addressing.
- Use the FTP.DATA configuration file to specify local site options for the FTP client. The FTP.DATA configuration file is optional, but must be used to specify the options for SOCKS firewall navigation and secure transfer.

Note: z/OS Communications Server V1.2 is required in order to enable SOCKS firewall navigation, secure transfers, and IPv6 addressing.

Support for Internet delivery of ServerPac
Internet packaging enhancements in GIMZIP and GIMUNZIP: Formerly GIMZIP packages could contain archive files only for sequential and partitioned data sets. The GIMZIP and GIMUNZIP service routines have been enhanced to allow archive files to also contain VSAM ESDS, KSDS, LDS, and RRDS data sets, as well as UNIX files and directories. Additionally, when building a package using GIMZIP, a unique ID value may be assigned to each archive file. This ID value may then be used to identify a specific archive that is to be processed by GIMUNZIP, as opposed to using the archive file¢s name. When extracting data from an archive file, formerly the GIMUNZIP service routine would only extract data from a GIMZIP archive into a new data set allocated directly by GIMUNZIP. GIMUNZIP has been enhanced to support extracting archive file data into existing data sets.

GIMUNZIP will now determine if the output data set already exists. If the data set already exists, then GIMUNZIP will copy the data from the archive file into the existing data set. If the data set does not already exist, then GIMUNZIP will allocate a new data set and then copy the data into the new data set.

New service routine to transfer GIMZIP packages: A new service routine, GIMGTPKG, has been created to get GIMZIP packages independently of the RECEIVE FROMNETWORK command. Using GIMGTPKG, the ServerPac installation can transport a GIMZIP package of archive files from a remote FTP server to a local z/OS system. GIMGTPKG uses the same techniques as the RECEIVE FROMNETWORK command to transport the package, but it does so without the infrastructure required to run an SMP/E command. GIMGTPKG stores the files of a GIMZIP package in the SMPNTS directory for later use.

RECEIVE assignment of SOURCEID values to existing SYSMODs

The RECEIVE command has been enhanced to assign the source ID value specified on the SOURCEID operand of the command to SYSMODs found in the SMPPTFIN input stream, even if they are already received. Formerly, the source ID value was not assigned to SYSMODs that are already received. This allows SYSMODs to be assigned a more consistent set of source ID values regardless of when and from what actual source the SYSMODs were received.

SMP/E usage of IEBCOPY COPYMOD statement when copying load modules

To allow reblocking of load modules to the destination data set's block size, SMP/E will use the IEBCOPY COPYMOD statement whenever copying load modules. This reblocking helps provide more efficient use of space in SMPTLIB data sets produced by the RECEIVE command and in target and distribution libraries updated by the APPLY, ACCEPT, and RESTORE commands.

REJECT command addition of the CHECK operand

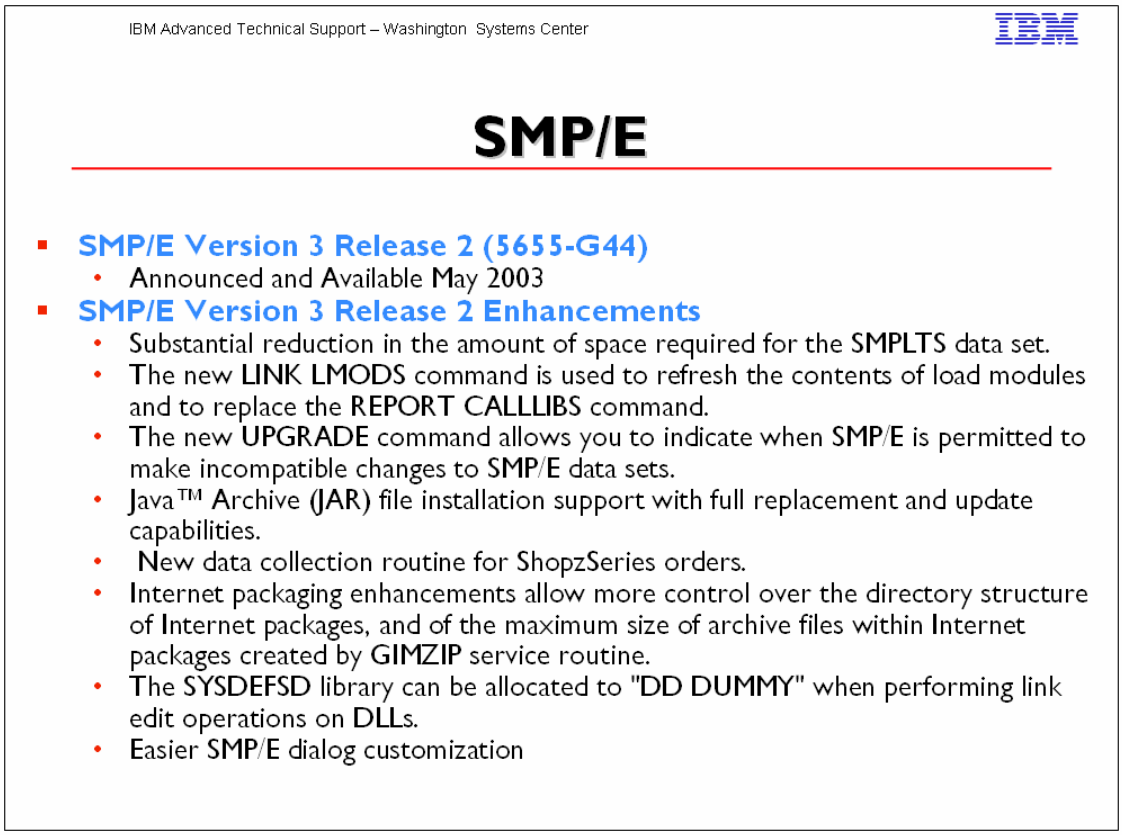
The CHECK operand is now allowed on the REJECT command. The CHECK operand indicates whether REJECT should perform a trial run of the command without actually updating the global zone or any data sets. This provides a way to test for errors that might occur during actual command processing and to receive reports on the changes that would be made.

Entry name wildcard allowed for CSI Query dialog

The CSI Query dialog will allow a wildcard (pattern) for the entry name specification. A selection list of all entry names that match the specified pattern will be displayed when using a wildcard. Patterns of the form ABC* or *DEF may be specified, where ABC and DEF are strings from 0 to 7 characters long.

Internet Delivery

SMP/E V3.3 will be available on the Internet for download by October 1, 2004 (one week after the general availability date). SMP/E (as a download) is intended for customers with an existing license for z/OS or z/OS.e. SMP/E V3.3 replaces the existing SMP/E V3.2 on the download site, and can be obtained at http://www.**ibm.com**/servers/eserver/zseries/zos/downloads



Notes:

In SMP/E Version 3 Release 2, the SMPLTS data set is used only for load modules that both use CALLLIBS and contain cross-zone modules. If a load module uses CALLLIBS, but does not contain any cross-zone modules, SMP/E rebuilds the load module from scratch during link edit operations, rather than saving a version of the load module in the SMPLTS data set. The result is a much smaller, or possibly empty, SMPLTS data set. SMP/E will delete unneeded load modules from the SMPLTS data set during APPLY, RESTORE, and CLEANUP command processing. However, because such an SMPLTS data set will not be compatible with prior releases of SMP/E, this cleanup of existing load modules will occur only after you use the new UPGRADE command to indicate your desire to exploit new functions.

New releases of SMP/E must sometimes make changes to SMP/E data sets that cannot be properly processed by prior SMP/E releases. SMP/E usually makes incompatible changes only when necessary to provide new and improved capabilities. For example, a new type of element requires a new entry type in SMPCSI data sets and these new entry types are typically not understood or processed correctly by SMP/E levels that have not been specifically updated to do so. The **UPGRADE command** allows you to specify when SMP/E is permitted to make incompatible changes to SMP/E data sets. SMP/E will continue to use processing that is compatible with prior releases until you use the UPGRADE command. This, in turn, allows you to make the trade-off between exploiting new SMP/E functions and preserving compatibility with prior SMP/E releases.

SMP/E now provides a new, easier method for customizing the SMP/E dialog panels. Rather than modifying panel GIM@UPRM (as was done previously), you may now use the SETTINGS option on the SMP/E Primary Option Menu, GIM@PRIM, to enter or change the values for the dialog customization options. The options that you specify affect how JCL jobs are generated and how temporary and permanent data sets are allocated by the dialogs. These options will be saved permanently in the ISPF profile pool for use later by other SMP/E dialog processes. When moving to a new release of SMP/E, if you continue to use the same ISPF profile data set (as is usually the case), then no migration actions are required to use the options previously entered and saved.

SMP/E will no longer support customization using the GIM@UPRM mechanism. All dialog customization formerly specified on panel GIM@UPRM, must now be specified using the new SETTINGS option.

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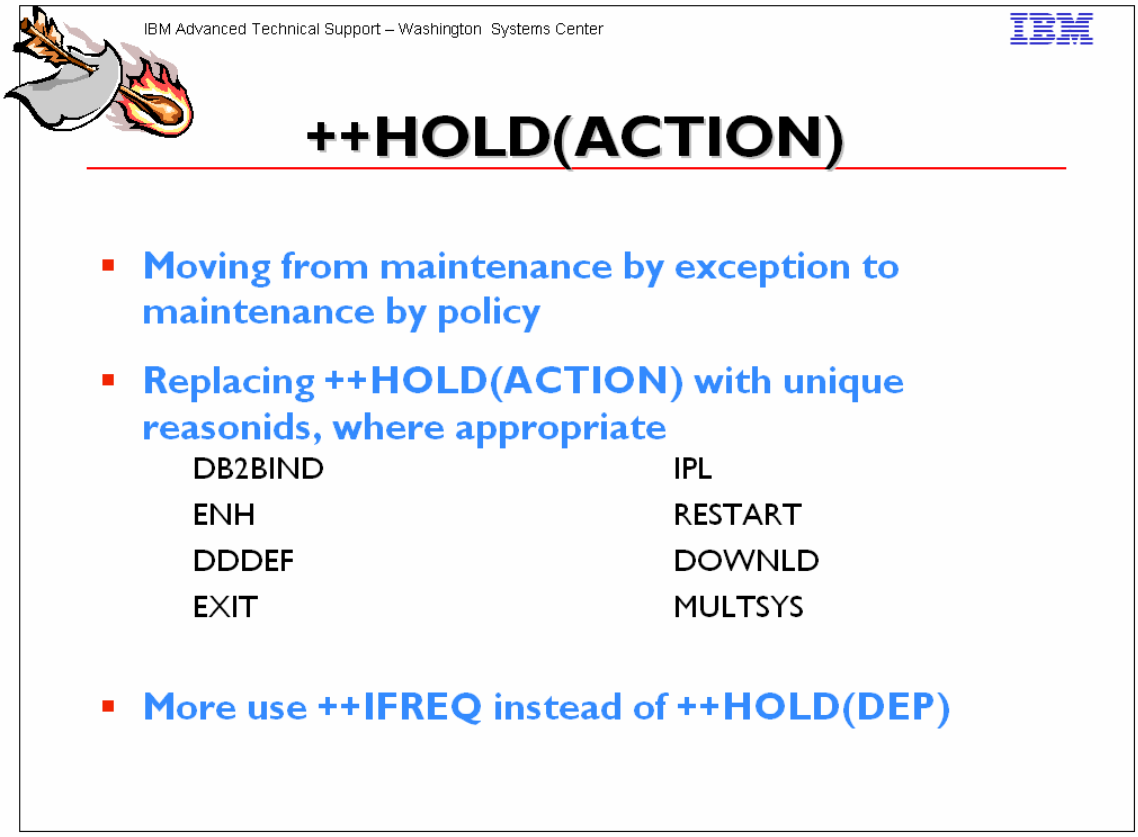


Notes:

Structured HOLDDATA

The COMMENT portion of the existing ++HOLD MCS is structured so it is easier for customers to read and determine what action is needed and when the action needs to be performed. This will improve usability of the HOLDDATA and cut down on the time it takes to research HOLDs.

The structured HOLD format is loosely based on, and similar to the structure imposed for PTF coverletters. The focus is on making it easier for a human to read and understand the information for a system HOLD. The following standard sections will be used:

Function Affected
The Function Affected field will identify the functional entity affected by the information in the ++HOLD statement. The function identified will be meaningful to the system programmer that has to read and interpret the information, and does not necessarily need to correspond to product "components", Change Team boundaries, etc. It will identify functional entities which the user may decide to use, or not.

This field will provide a kind of hierarchy of components (functional entities), with the product (or, element of z/OS) at the top level, and with various levels of subcomponents at lower levels. These subcomponents would likely be product specific. The intent is to clearly describe what

part of the user's system is affected by the ++HOLD information, starting at a high level, and going to the lowest level reasonable.

Description

The Description field is a short description of the detail described by the hold, with a quick glance, the system programmer should get some idea what the hold is about, what type of action needs to be performed, etc. Key phrases and words should be used by all change teams for the sake of consistency. The description values will be categorized by the type of hold. That is, each hold reasonID will have a defined list of description keywords. This will be a dynamic list, which can (and should) be added to as necessary. Below is a list of valid hold reasons and the description values for each reason.

ACTION
Allocate new data set
Reallocate existing data set
Update configuration
Update security definition
Update Parameter
Execute utility
Recompile/relink application
Client/workstation update
File Tailor
Installation notes
Other (A catch-all category for actions which do not fit with the existing descriptions.)

ENH
Enhancement/Exploitation (Timing)

EXIT
Change to sample user exit or interface

IPL
Special instructions regarding the need for an IPL.

RESTART
Special instructions regarding subsystem and started tasks restart, (e.g coldstart). The sample short description could be 'coldstart'

DDDEF
A library or path is being added, deleted or requires reallocation.

DOWNLD
Client code needs to be downloaded (e.g. to a workstation)

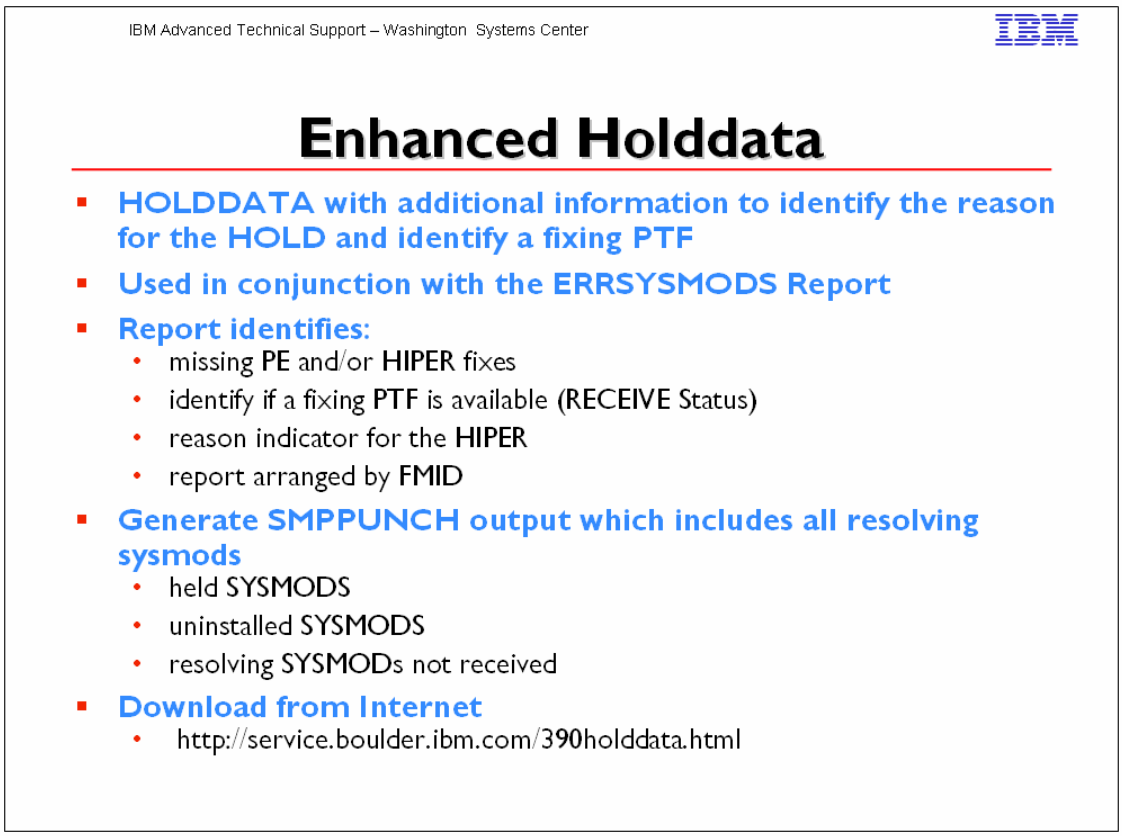
MULTSYS
This PTF identifies fixes needing to be applied to multiple systems for one or more of the following reasons:
Preconditioning: to identify maintenance that requires other maintenance to be installed on other systems in a complex before this maintenance can be installed or deployed.
Coexistence (toleration): to identify maintenance requiring other maintenance to be installed on other systems in a complex, before the new function in this PTF can be installed or deployed. In exception conditions, a PTF may be considered a coexistence PTF if it is used to identify other maintenance to be installed on other systems in a complex, before function originally

shipped in the product (FMID) can be deployed. This would be limited to cases where the need for coexistence service wasn't known when the product (FMID) was originally made available.

Complete fix (exploitation): to identify maintenance that needs to be installed and deployed on multiple systems before the change can be made effective.

Timing
This section contains some information to further qualify the hold. For example, is the action a pre- or post-APPLY action? Does the action enable exploitation of new function? More than one characteristic value may be specified for each hold. For example, Post-APPLY and Exploitation. Timing *may* only appear on ACTION holds.

In textual form (for human readability), the hierarchy could be specified as a list of component levels. Each level appears on a separate line, the first line being the highest in the hierarchy, and the last level specified corresponds to the scope of the action.

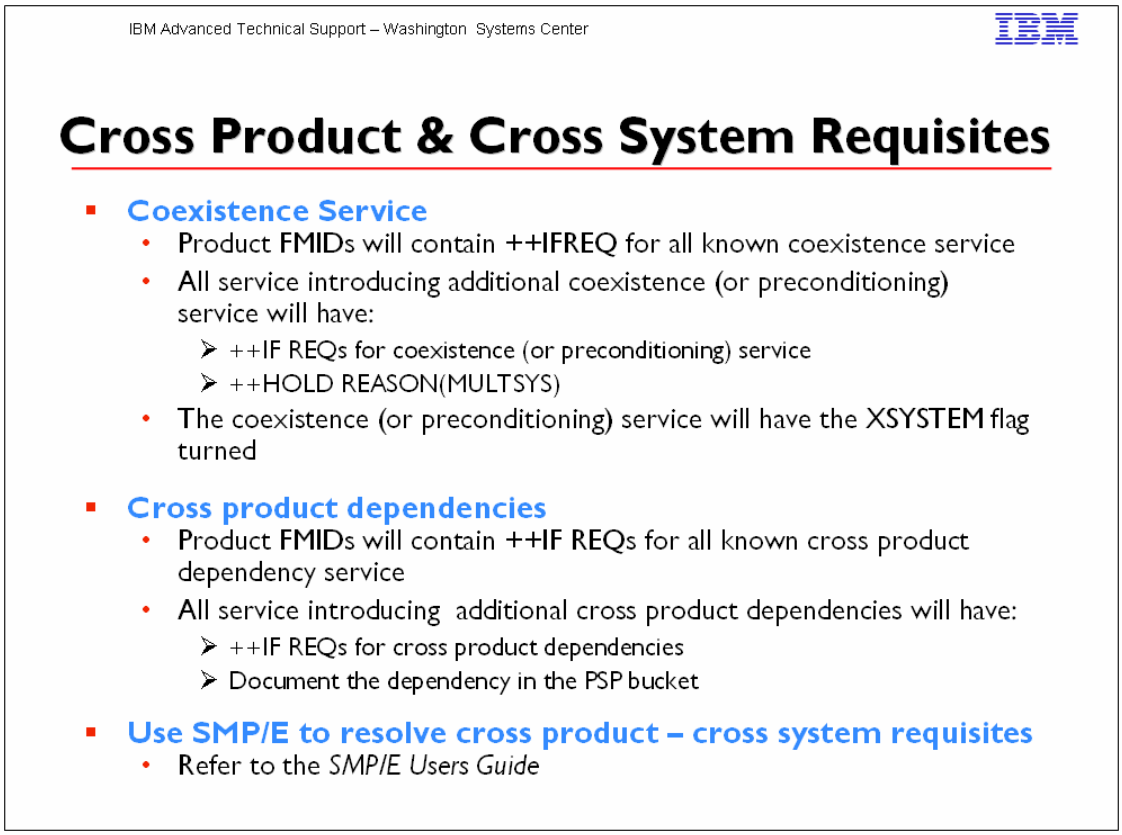


Notes:

To display the Enhanced HOLDDATA, use the SMP/E REPORT ERRSYSMODS command. The SMP/E report, when used with Enhanced HOLDDATA, identifies missing critical service that applies to your specific system. This allows you to identify any missing PE, HIPER, and year 2000 fixes for any target zone. Additionally, the report identifies whether a corrective PTF is available, whether the corrective PTF is already in RECEIVE status, and the reason indicator for a HIPER.

Enhanced HOLDDATA is available through ESO packages, with CBPDO orders, through the S/390 Service Update Facility (SUF), and from the World Wide Web. For more information, see the ESO Memo to Users Extension, the CBPDO Memo to Users Extension, or the Enhanced HOLDDATA Web site at: http://service.boulder.ibm.com/390holddata.html

Enhanced HOLDDATA can be processed and reported on by any release of OS/390, but displaying the additional (enhanced) information provided with Enhanced HOLDDATA is only possible starting with OS/390 R3. (OS/390 R3 and R4 require SMP/E PTF UR49243. Starting with OS/390 R5, the PTF is integrated.) The REPORT ERRSYSMODS command continues to support nonenhanced HOLDDATA. For details about the REPORT ERRSYSMODS command, see OS/390 SMP/E Commands.



Notes:
In OS/390 Release 3, SMP/E introduced the capability to automate the checking of cross-zone requisites. These cross zone requisites can be for cross product dependencies on the same system, as well as for cross system "Preconditioning", "Coexistence" ("toleration"), or "Completing a fix" ("exploitation") PTFs. Product packagers can and will use ++IF REQs to identify these requisites.

There are different methods that can be used for cross-zone processing. However, customer setup is required. A default zone group can be defined or the XZGROUP operand can be added to the install jobs. Once set up, SMP/E can identify cross-zone requisites needed in the 'set-to zone' which are in effect for the current APPLY/ACCEPT commands, as well as any cross-zone requisites in other zones for SYSMODs currently being installed. SMP/E checks if the requisite is already installed, or if it needs to be installed as part of the same SMP/E APPLY/ACCEPT command. Once products use ++IF REQs for MULTSYS PTFs, SMP/E will be able to be used to verify and install cross-zone requisites, thereby satisfying the ++HOLD REASON(MULTSYS) exception condition.

Note: If SYSMODs being installed into the set-to zone have requirements against the other cross-zones, that service must be APPLY'd to those zones before installation can be completed into the set-to zone.

See the *SMP/E Users Guide* for setting this up.

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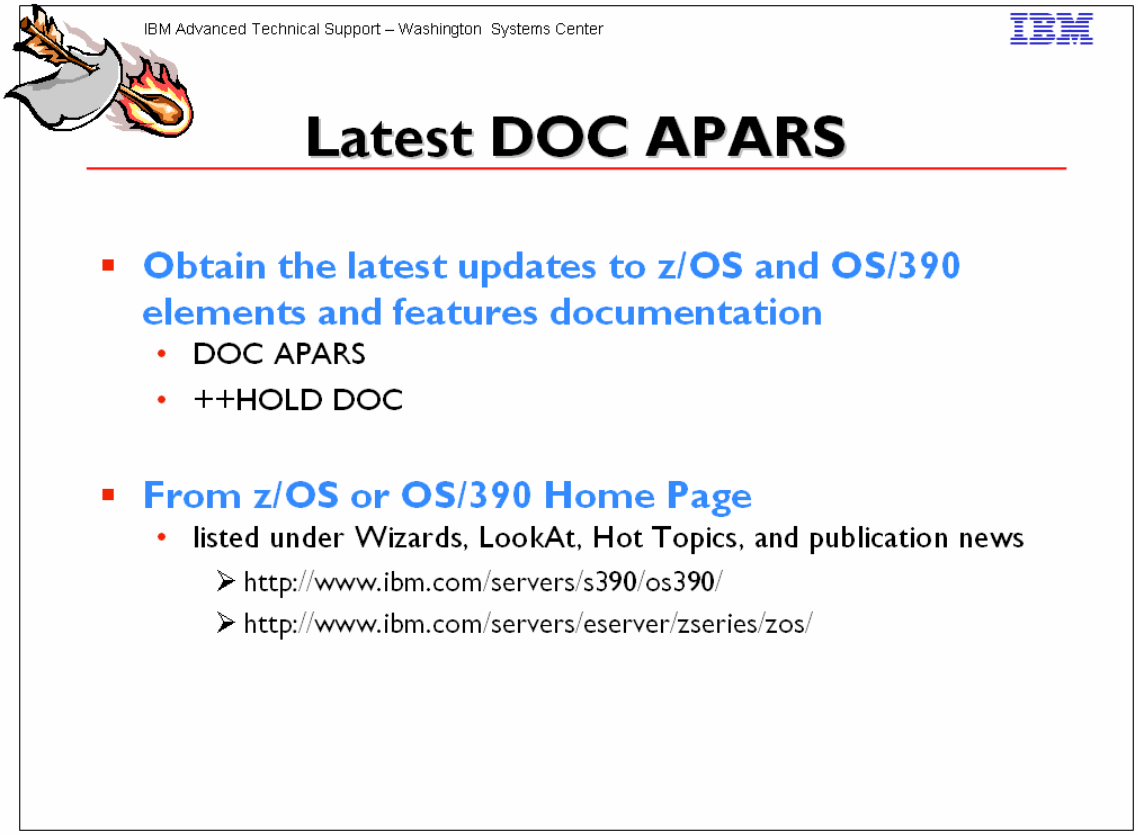


Notes: This online collection of DOC APARs and ++HOLD for documentation changes from PTF coverletters can make it easier for you to obtain the latest updates to the OS/390 library.
The APARs are listed according to their closing date. APARs closed most recently will appear first. IBM has gathered these updates so you can:

- Search all changes using the IBM BookManager BookServer Search facility
- Print a documentation update
- Obtain weekly updates of this information

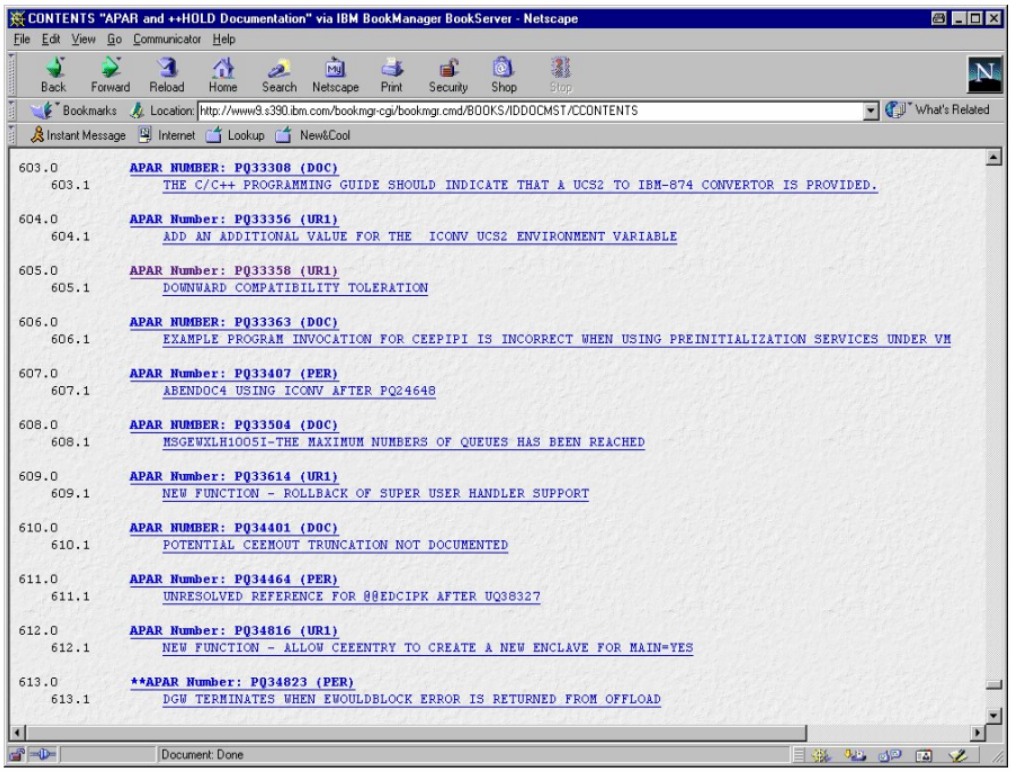
Each APAR lists:

APAR Number
Closing Date
Closing Code
Failing Component
Associated PTF number
Problem Summary
Problem Conclusion

All severity 1 APARs and DOC APARs considered high impact are identified with two asterisks (**) prior to the APAR number in the heading. For example:

**APAR Number: OW37334 (PER)

Sample List



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IBM S/390 Support Site

- **Technical Information**
  - Authorized Program Analysis Reports
  - Service bulletins
  - Hints and tips
  - Product-related publications
  - Other resources
  - Red Alerts
  - search PTFs/APARs
  - electronic PTF ordering
  - Report software defect
  - Review status of open PMR

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IBM S/390 Support Site

http://techsupport.services.ibm.com/server/support?view=zSeries

- **Server Support**
  - Planning
  - Problem Solving
  - Fixes
  - Library
  - Education
  - Services

Planning

- **Installation Planning**
  - zSeries physical planning and systems assurance
  - z/OS and OS/390 wizards, service status and installation manuals
  - z/VM and VM service status and installation manuals
  - VSE library including program directories
  - Linux library including preparation and installation manuals
  - Get help from IBM Global Services
- **Preventive Service Planning**
  - Service bulletins and advisories
  - Preventive Service Planning buckets (PSP)
  - Subscribe to APAR tracking
  - Maintenance suggestions for Parallel Sysplex environments
  - Technical notes from sales team
  - Hardware alerts
  - Known hardware problems
  - How to display hardware fixes

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RedAlerts

- The place for extremely important HIPERs
- Ability to subscribe
- www-1.ibm.com/servers/eserver/support/zseries/

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Time for...

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Flashes Located at www.ibm.com/support/techdocs	
Flash10185	z/Architecture (64-bit) Migration Checklist
Flash10165	Limiting Storage use above the bar in z/Architecture
Flash10206	VSAM Cluster Index CI Size Calculation Change with z/OS R3
Flash10207	Maintenance Required for Implementation of New ICKDSF R17 VTOC Function in a Shared Environment
Flash10209	Potential Data Integrity Exposure with DFSMSdss - APAR OW57376
Flash10211	Impact of Withdrawal of 08x4 Crypto Feature Code
Flash10190	PDSE Address Space SPE
Flash10086	Software Capacity Planning: Migration to 64-bit Mode
Flash10143	z/OS Performance: Stand-Alone Dump Performance
Flash10182	z/OS Performance: SVC Dump Performance
Flash10102	Intention to Drop JOBCAT and STEPCAT Support in Future Release
Flash10236	z/OS and OS/390 Software Requirements for the z990
Flash10239	OSA/SF on the zSeries z990
Flash10270	z/OS 1.4 z990 Exploitation Support Feature and z990
Flash10274	Potential Data Integrity Exposure with DFSMSdss Using Logical Ccopy for VSAM data sets (OA06502)
Flash10242	Parallel Sysplex Couple Data Sets and Disaster Recovery
Flash10272	System-Managed CF Structure Duplexing General Availability
Flash10273	Non-Reusable Address Space IDs
Flash10253	zSeries Processors: RMF Reporting Higher MSU Value
Flash10271	Coupling Requirements for the IBM z990 Processor
Flash10255	IBM 2074 Console Support Controller FLASH Index
Flash10041	Surviving a 9037-002 Sysplex Timer Failure (OS/390 & z/OS)
Flash10283	Potential DFSMSdss Data Loss APAR OA06975
Flash10208	zSeries Performance: Processor Design Considerations
Flash10226	DFSMSdss New Support for zFS

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Technical Papers	
System-Managed Coupling Facility (CF) Structure Duplexing	www.ibm.com/servers/eserver/zseries/library/techpapers/pdf/gm130103.pdf
Description: System-Managed Coupling Facility (CF) Structure Duplexing is designed to provide a general purpose, hardware assisted, easy-to-exploit mechanism for duplexing CF structure data. This provides a robust recovery mechanism for failures such as loss of a single structure or CF, or loss of connectivity to a single CF, through rapid failover to the other structure instance of the duplex pair.	
z/OS Performance: Managing Processor Storage in a 64-bit Environment - V1.1	www.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/WP100269
Description: OS/390 R10 and z/OS have support for 64-bit mode real storage environments. OS/390 R10 has the ability to run in either 31-bit mode or 64-bit mode on a zSeries, while installations migrating to z/OS on a zSeries processor are able to run only in a 64-bit mode real storage environment. z/OS 1.2 and later releases provide virtual storage exploitation of the addressing range above 2GB. This document is intended to help installations migrating to a 64-bit mode MVS environment become more familiar with reviewing performance metrics in this environment to ensure optimal performance. Additionally, information on changes in the configuration and tuning of the paging subsystem will be covered.	
Performance Considerations When Moving to Fewer Faster CPUs	www.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/WP100258
Description: Current processor design continues to deliver more CPU capacity with the same or less number of central processors (CPs). This environment results in some customers running their workloads on configurations with less Cps. While this migration can be very successful with the workloads enjoying equal or better performance after the move, there are some planning and tuning issues to consider. This paper will discuss the issues involved with reducing the number of processors and provide guidelines to ensure a successful migration. The information presented is the result of tuning experience at the IBM Washington Systems Center as well as the results of several tests run in a controlled environment.	

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IBM z/Series 900 z/OS 64-bit Virtual Storage Roadmap	www.ibm.com/servers/eserver/zseries/library/whitepapers/gm130076.html
Description: In z/OS V1.2, IBM delivered the initial basic 64-bit virtual storage management support. This is a major milestone of the new z/OS 64-bit operating environment. With this basic 64-bit virtual storage support, an application address space can have 264 virtual addresses with backing by real storage as needed. Over the next two years, z/OS will deliver the rest of the 64-bit virtual storage functions to meet the needs of growing e-business application environments. The objective of this white paper is to describe for our software vendors and customers how IBM will provide 64-bit virtual storage support through a multi-stage plan.	
SecureKey or Clear Key: Application Migration & Crypto Hardware on z990	http://www-1.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/WP100345
Description: The z990 introduces a change in the basic crypto hardware available in June 2003 and thus, can impact applications using crypto that may be migrated to a new z990. The announcement of the z990 clear key only support on crypto hardware is confusing in that many crypto functions were transparent to users. This white paper and its companion items were created to clarify the meaning of secure key vs clear key and the impact of clear key only crypto at z990 GA1. For planning purposes the document also includes a planning questionnaire/checklist and a methodology for determining if secure keys are being used within any mainframe applications. This document contains a table of contents due to its length. The reader should find it worthwhile to read the entire paper.	
Understanding the Crypto Hardware Available for zSeries and S/390	http://www-1.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/WP100245
Description: As of June 2003 there are 5 types of cryptographic hardware available. Only 3 of those are for use with IBM zSeries processors: the standard Cryptographic Coprocessor Facility (CCF), and the optional charged adjunct features: PCI Cryptographic Coprocessor (PCICC) and PCI Cryptographic Accelerator (PCICA). PCI is the acronym for Peripheral Component Interconnect. The 2 new crypto hardware features are only available with the z990: the CP Assist for Cryptographic Function (CPACF) and the PCI xCryptographic Coprocessor (PCIxCC). This paper provides an overview description of each crypto hardware feature and summary tables on how each differs from the other crypto hardware and what each requires for use by applications.	

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