



IBM Systems & Technology Group

# What's New in z/OS, Beantown Edition

Session 2224  
(or is it 7402?)



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## A zNextGen Bonus!

- Mastering IBM System z<sup>®</sup>—Entry Level System Programmer Certification
- Free test:

**Monday, 6:00-7:30 p.m., Room 311, Hynes Convention Center**

# z/OS Support Summary



 Out of service  
 Lifecycle Extension withdrawal 2 years later  
 Service Withdrawal Dates

z/OS®	z800/ z900	z890/ z990	z9® EC	z9 BC	z10 EC™	z10 BC™	z196	DS8000® DS6000™	TS1130	End of Service	Coexists with z/OS...	Planned Ship Date <sup>2</sup>
<b>R6</b>	X	X	X	X				X		9/07	R8	
<b>R7</b>	X	X	X	X	X <sup>4</sup>	X <sup>3</sup>	X <sup>4</sup>	X <sup>4</sup>	X	9/08 <sup>1</sup>	R9	
<b>R8</b>	X	X	X	X	X	X	X	X	X	9/09 <sup>1</sup>	R10	
<b>R9</b>	X	X	X	X	X	X	X	X	X	9/10 <sup>1</sup>	R11	
<b>R10</b>	X	X	X	X	X	X	X	X	X	9/11	R12 <sup>2</sup>	
<b>R11</b>	X	X	X	X	X	X	X	X	X	9/12 <sup>2</sup>	R13 <sup>2</sup>	
<b>R12</b>	X	X	X	X	X	X	X	X	X	9/13 <sup>2</sup>	R14 <sup>2</sup>	9/10
<b>R13<sup>2</sup></b>	X	X	X	X	X	X	X	X	X	9/14 <sup>2</sup>	R16 <sup>2</sup>	9/11 <sup>2</sup>

## Migrating to z/OS 1.12 Parts 1 and 2 (Wednesday 3:00, Wednesday 6:00)

1. Fee-based service extension available
2. All statements regarding IBM future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.
3. IBM Lifecycle Extension for z/OS V1.7 (5637-A01) required
4. Fee-based service extension required for some features

## z/OS and IBM zEnterprise Functions and Features<sup>1</sup>

Five hardware models
Increased capacity processors
Up to 15 subcapacity CPs at capacity settings 4, 5, or 6
Up to 3 TB RAIM (real) memory <sup>2</sup>
6.0 GB/sec InfiniBand® I/O interconnect
8 slot, 2 domain I/O drawer
Concurrent I/O drawer add, remove, replace
Optional water cooling
Optional High Voltage DC power
Optional overhead I/O cable exit
Up to 80 processors per server configurable as CPs, zAAPs, zIIPs, IFLs, ICFs, or SAPs (up to 32-way on R7, 64-way on R9, 80-way on R11)
New and enhanced instructions



**z/OS exploitation in blue**

Capacity Provisioning enhanced <sup>4</sup>
Three subchannel sets per LCSS <sup>3</sup>
Platform Management from HMC
CFCC Level 17 enhancements <sup>4</sup>
Up to 128 Coupling Link CHPIDs
Improved processor cache design
Power save functions
Crypto Express3 enhancements <sup>5</sup>
Secure key HMAC Support
Elliptic Curve Cryptography (ECC) Digital Signatures <sup>3</sup>
CPACF enhancements <sup>5</sup>
Out of order instruction execution
z/OS discovery and auto-configuration (zDAC) <sup>3</sup>
OSA-Express3 Inbound Workload Queuing (IWQ) <sup>3</sup>

**IBM zEnterprise™ Overview: Tuesday 11:00**

**z/OS Software Positioning for the Latest System z Hardware: Thursday 3:00**

1. z/OS R7 and z/OS R8 support requires IBM Lifecycle Extension for z/OS (5637-A01 or 5638-A01). PTFs required for z/OS R7-R12; refer to the PSP.
2. Maximum of 1 TB per LPAR. Maximum supported by z/OS R7 is 512 GB. z/OS R8 and later are designed to support up to 4 TB per image.
3. z/OS R12 required
4. z/OS R12, or R10 or later with PTFs required
5. Cryptographic Support for z/OS V1.10 through z/OS V1.12 Web deliverable with the PTF for APAR OA33260, planned for February 2011 availability, required \*

## zEnterprise and z/OS Support for New Functions

	Minimum z/OS Level *
<b>Basic zEnterprise server support</b>	1.7 <sup>1,2,4,6</sup>
<b>Toleration for more than 64 CPs on a server</b>	1.7 <sup>1,2,4</sup>
<b>Crypto Toleration</b>	1.7 <sup>1,2,4,5</sup>
<b>HiperDispatch node and cache support</b>	1.10 <sup>1,2</sup>
<b>Power Save Mode</b>	1.10 <sup>1,2</sup>
<b>CPU Measurement Facility</b>	1.10 <sup>1,2</sup>
<b>CF Level 17 exploitation</b>	1.10 <sup>1,2,7</sup>
<b>zHPF Response Time Reduction</b>	1.10 <sup>1,2</sup>
<b>Three Subchannel Sets</b>	1.10 <sup>1,2</sup>
<b>Crypto Exploitation</b>	1.10 <sup>1,2,3</sup>
<b>RMF™ Postprocessor Support for 4096-bit Crypto</b>	1.10 <sup>1,2</sup>
<b>IBM zEnterprise BladeCenter® Extension (zBX) Support, including Network Management and Performance Management</b>	1.10 <sup>1,2</sup>
<b>80-Way Single System Image Support</b>	1.11 <sup>1</sup>
<b>XL C/C++ ARCH(9) TUNE(9)</b>	1.12
<b>XL C/C++ HW Exploitation</b>	1.12
<b>zDAC Support</b>	1.12
<b>D OSAINFO Command Support</b>	1.12
<b>OSA-Express3 Inbound Workload Queueing</b>	1.12

**Hardware Overview**

**Tuesday 1:30**



1. Additional features, service, or Web downloads required. 2. Please refer to the current PSP buckets for latest PTFs for IBM zEnterprise 196 (z196) Compatibility and new functions/features support. 3. z/OS V1.10, z/OS V1.11, or z/OS V1.12 with the Cryptographic Support for z/OS V1R10-V1R12 Web deliverable 4. Lifecycle Extension required\* 5. Crypto web deliverable required\* 6. zIIP support web deliverable required HiperDispatch support on z/OS 1.7 7. Some functions require z/OS V1.12

**A smarter operating system** with designs for:***Improving Usability and Skills***

zDAC, Multiple TSO/E logons in a JESplex, METAL C headers for Health Checker and sample check, Health check history display, More checks, z/OSMF WLM Policy Editor and monitoring, Incident Log improvements, DFSORT™, ...

***Integrating new Applications and Supporting Industry and Open Standards***

XML dynamic schema and fragment parsing; Language Environment® support for calendar dates beyond 2038, C/C++ enhancements, and VSAM AIX in EAS on EAV; z/OS UNIX® support for FILEDATA=RECORD, ...

***Scalability & Performance***

80-way single image, Three subchannel sets, more EAV support, Larger catalogs, OAM threadsafe, Parallel Sysplex® scalability improvements, Large Pages for NUCLEUS, OSA-Express3 Inbound Workload Queuing (IWQ), XML parsing, XL C/C++, ...

***Enhancing Security***

Support for Crypto Express3 and CPACF enhancements\*, VISA smart card support, LDAP ACL by IP address and password policy; ECC support in RACF®, System SSL, and PKI; Health Checker support for BPX.SUPERUSER, SAF controls on sysplex-scope CPF commands, ...

***Improving Availability***

VSAM CA Reclaim; Faster DB2® startup; XCF monitoring of critical members; SVC Dump improvements; SMF record flood detection and automation, filtering; PFA extensions; Run Time Diagnostics, Concurrent CF dump, ...

***Self Managing Capabilities***

HiperDispatch updates for z196, Capacity Provisioning interval averaging, CP monitoring of CICS® and IMS™ transaction classes, Improved WLM batch management, WTOR Auto-Reply, ...

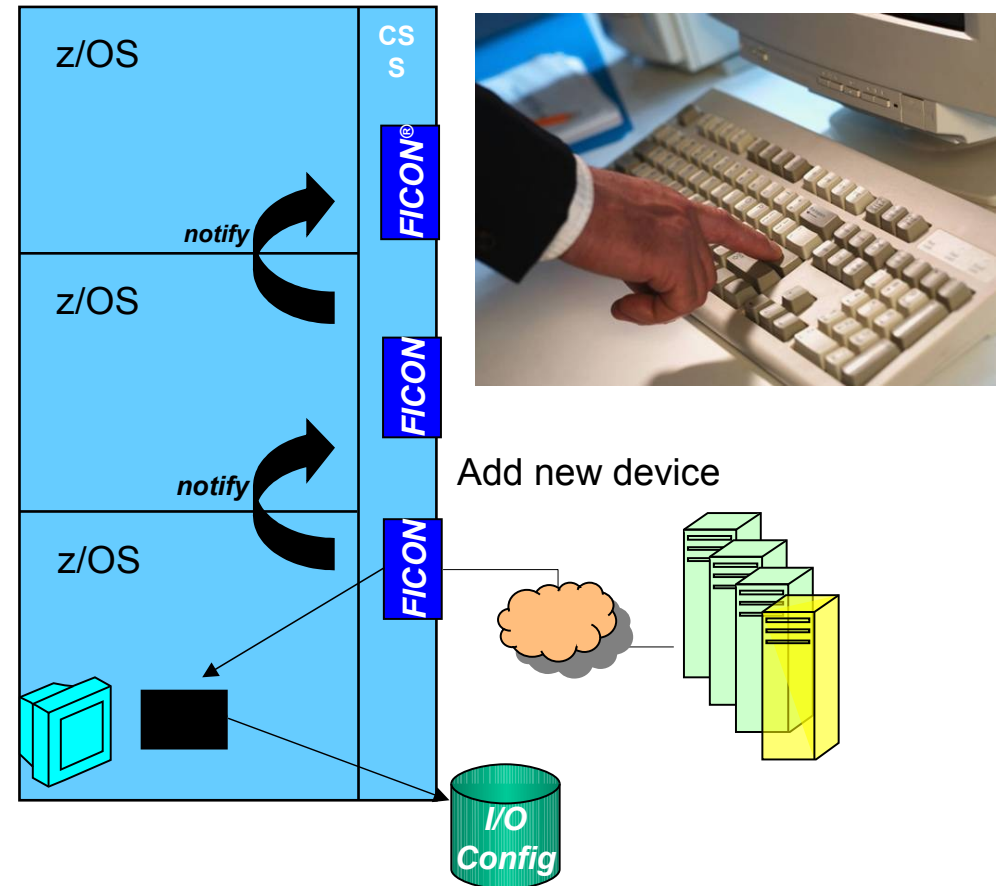
***Extending the Network***

Continued IPv6, security related RFC focus; TN3270 VSCR; Trusted Connections, AT-TLS Improvements; IKEv2, Sysplex Distributor Hot Standby, ...

## Discovery and Autoconfiguration for DASD and Tape (zDAC)\*

- Set up a policy for what to do when new devices are detected (one-time)
- Configure new storage (e.g., with TPC) and attach it to the system
- Use a new HCD option to process newly-discovered devices
- HCD creates a configuration with a device number range, base and dynamic CHP assignments, DCM, PAV and HyperPAV, etc.
- Once you approve, a work IODF is created with IODF, LPAR, switch, and control unit configuration changes
- Finally, issue an ACTIVATE command

**\*Note: Control units must register with the name server to be discoverable.**



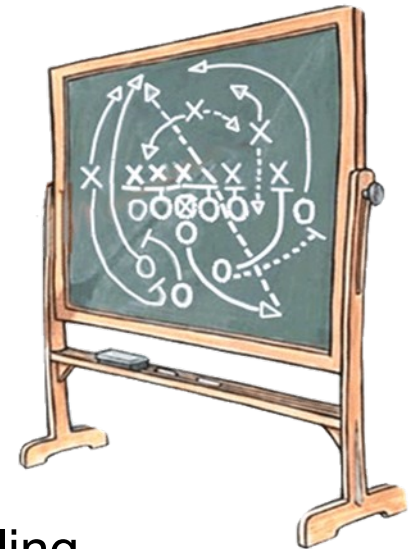
**IOS530I DISCOVERY AND AUTOCONFIG PROCESSING WAS SUCCESSFUL...**

**IOS502I I/O CONFIGURATION CHANGED  
NEW IODF = newiodf ...**



## • New VARY CU command

- New “CU” operand on VARY for “Control Unit” applies to all devices for an LCU
- No need to find out what range of device numbers apply to the LCU before varying all of them offline or online
- Before: V (aaaa-bbbb, ... yyyy-zzzz),OFFLINE
- After: V CU nnnn,OFFLINE
  - (where nnnn = CUNUMBR)
- Also, support for VARY PATH



## • CFSIZER Improvements

- Better size calculations for IMS OM and OSAM, XCF signaling, and DB2 SCA structures
- Now calculates IBM Session Manager Sysplex User, and InfoSphere™ Classic control and filter, structure sizes
- Various usability improvements

## z/OSMF R12 improvements



- **z/OSMF Incident Log:**
  - Break dumps into multiple data sets that can be sent via FTP in parallel, encrypt incident files
  - Specify additional data sets to send to a vendor
  - Add free-form comments to incidents and FTP destinations in new sortable fields
  - Create of diagnostic log snapshots based on SYSLOG and LOGREC data sets (not just OPERLOG and LOGREC log streams)
- **New z/OSMF interface:**
  - Designed to allow you to add items programmatically to the z/OSMF Navigation tree
- **New WLM policy editor and Monitoring Desktops:**
  - Create, edit, install WLM service definitions, activate WLM policies
  - Monitor WLM status of a sysplex and the systems in a sysplex (requires RMF), and Linux® for System z and Linux on Intel® images (requires the as-is RMF Linux data gatherer tool, rmfpm)
- **z/OSMF Configuration Assistant for z/OS Communications Server now supports configuration for:**
  - Certificate trust chains and certificate revocation lists
  - IKEv2, new cryptographic algorithms and FIPS 140 crypto mode for IPsec and IKE
  - ...and help identify RFC4301 non-compliant IPsec filter rules

**z/OSMF Overview**  
**Wednesday 9:30**

**z/OSMF 1.12**  
**Implementation and**  
**Configuration**  
**Wednesday 11:00**

**Manage Your**  
**Workloads and**  
**Performance**  
**with z/OSMF**  
**Tuesday 4:30**

## Multiple TSO/E logons in a JESplex

- JESXCF used to fail some SSI 80 requests when same ID was logged on multiple systems
- JESXCF changed to make these calls succeed by routing them to the first eligible system
- TSO/E now supports logging on to more than one system in a sysplex

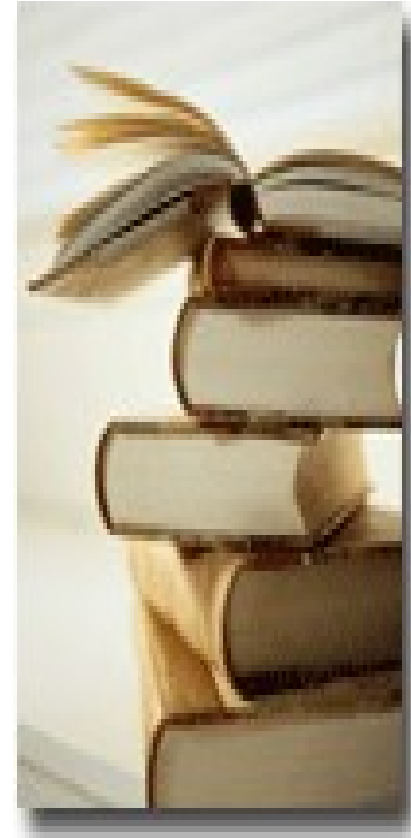
## DFSMSrmm™

- Reason retention limit reached added to ACTIVITY file
  - Available now for z/OS V1.10 and z/OS V1.11 with the PTF for APAR OA30881
- New reports created from ACTIVITY and extract files to help you see why retention limits were triggered.
- OPENRULE ignore processing available for duplicate tape volumes
- Support for allowing you to set a volume hold attribute to prevent expiration and to let you search and report on held volumes
- Support to allow you to bypass DFSMSrmm ISPF dialog search results when using the CLIST option

**What's New in DFSMSrmm**  
**Wednesday 9:30**

## Library Server Improvements

- New design to improve performance for building catalogs and supporting multiple users on heavily loaded systems
- New Personal BookCase function to allow you to create, use, and share your own subset of documents from a Library Server catalog
  - Configure a Personal BookCase that includes the shelves, documents, infocenters, and topics of interest
- Indexing function to capture the author's intended definition of primary nodes for an InfoCenter's Table of Contents
- Administrative improvements including long file name support, automatic checking for required Java™ levels, and a new Test and Diagnostics page for Library Server administrators
- Revamped user interfaces with improved navigation, modernized icons, and flyover description popups for documents on a shelf



**The Future Integrated Information and z/OS Documentation  
Tuesday 9:30**

## New DISPLAY XCF,REALLOCATE,TEST command

- Run “What-If” scenarios for CF structure reallocations
- See what would result from SETXCF START,REALLOCATE
- Also, a new DISPLAY XCF,REALLOCATE,REPORT command shows what the prior REALLOCATE command did

## Logger to correct SHAREOPTIONS automatically

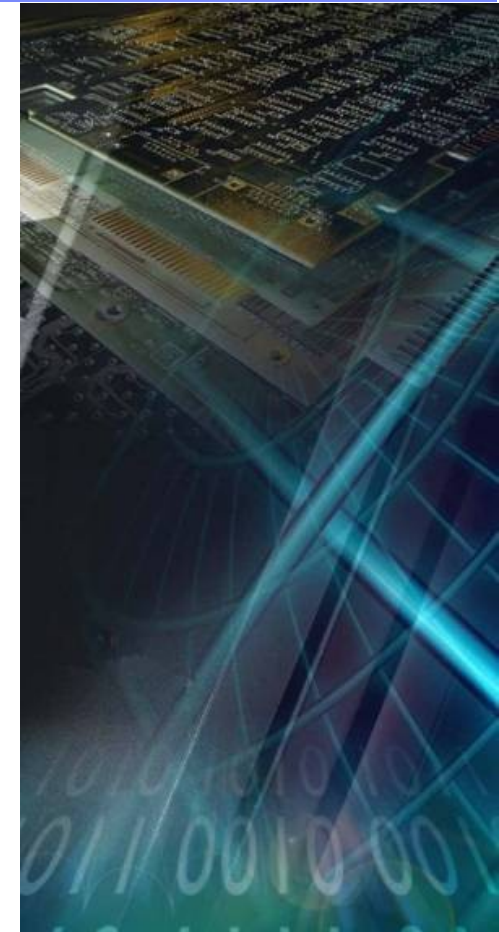
- SHAREOPTIONS(3,3) required
- Will alter new data sets to set required options

## RMF improvements

- RMF Postprocessor ISPF interface now allows you to specify SMF log streams, in addition to SMF data sets and SMF buffers
- Postprocessor reports in XML format
- CPU Activity Report shows how many units of work are waiting for a CPU

## Health Checker Framework:

- METAL C headers for Health Checker and sample check
- Health check history display in SDSF
- Simpler message interface
- Support for BPX.SUPERUSER (vs. UID(0))



**RMF – The Latest and  
Greatest  
Monday 3:00**

**Exploiting the IBM Health  
Checker for z/OS Infrastructure  
Wednesday 1:30**

## New Health Checks:

- XES/XCF checks, to warn you when:
  - A CF structure's maximum size is more than 2X its initial size
  - A CDS's maximum system limit is below the primary sysplex CDS's system limit
  - Shared engines are being used for CF partitions
  - The CFRM message-based event management protocol can be used for CFRM event management but the policy-based protocol is being used instead
  - The SFM policy does not specify that automatic actions are to be taken to relieve hangs caused by the unresponsiveness of one or more of a CF structure's users
  - A CF does not have a designated percentage of available space to allow for new CF structure allocation, structure expansion, or CF failover recovery.
  
- SMB checks:
  - Detect shared file system environment and alert you that zFS sysplex-aware read-write file systems cannot be exported
  - Warn you when SMB is configured to support the RPC protocol (DCE/DFS)



## More New Health Checks:

### ■ DFSMS™

- Warn you if COMMDS and ACDS data sets are on the same volume
- Identify COMMDS and ACDS data sets defined without the REUSE

### ■ IPv4 and IPv6 indirect routes

- Warn when the threshold is exceeded, which can cause high CPU consumption

### ■ HFS in use

- IBM recommends migrating to zFS

### ■ IOS

- Warn you if MIDAW and Captured UCB Protection functions are not being used, and when I/O-related control blocks eligible to be placed above the 16 MB line are below the line

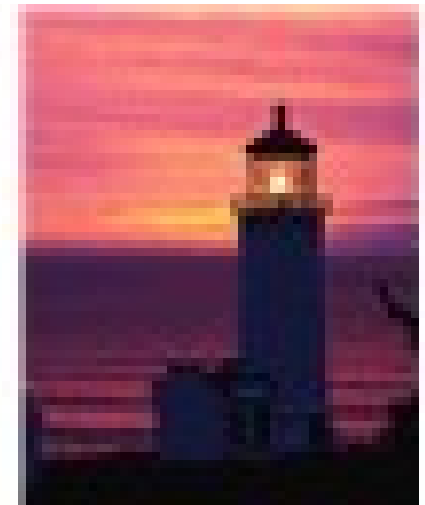
### ■ Communications Server

- Too many indirect routes for IPv4 or IPv6 (default threshold is 2,000)



## Dynamic LPA and Link List, LLA exit, and Dynamic Exit improvements

- Automatic alias processing option in PROGxx and on CSVDYLPA (default will automatically add aliases)
- VOLUME specification for SYSLIB in PROGxx
- Dynamic Exit support for passing a 1-8 byte parameter to an exit via PROGxx, SETPROG, and CSVDYNX
- New PROGxx DEFAULTS statements
  - Whether COPYFROM is required for link list
  - Whether to default to COPYFROM(CURRENT) for link list
  - Whether to add LPA aliases automatically
- LLA exits to support dynamic exit facility
- MODIFY LLA to accept multiple commands
- New SVCNUMDEC option for LPA ADD
- Dynamic Exit support for REPLACE





## CEEPRMxx and SETCEE support for NONOVR

- CEEPRMxx was introduced in z/OS R7 to supplant CEEExOPT, etc., usermods
- Overridable (OVR) options were originally supported
- Support added for non-overridable (NONOVR) options in z/OS R12

## SDSF enhancements

- Printer displays for JES3
- MQ requirement removed for JES2 initiator displays
  - All systems in the JES2 MAS must be at z/OS V1.12 JES2
- MQ requirement removed for JES2 device displays
  - All systems in the MAS at or above z/OS V1.11 JES2

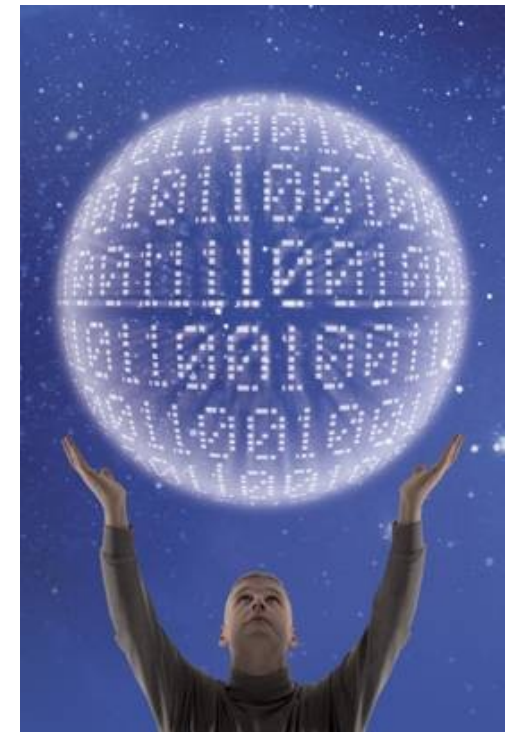
## “Tool and Toy” tsocmd function added to z/OS UNIX

- Support for stdin and stdout
- New return codes for failing TSO/E commands
- TSOPROFILE environment variable

## New D SYMBOLS SUMMARY command

- Displays information about the number of symbols in use
- D SYMBOLS DETAIL the same as D SYMBOLS without SUMMARY

**What's New in  
Language  
Environment for  
z/OS  
Monday 3:00**



## DFSMS Improvements

**MVS™ Storage  
Management Project  
Opening  
Monday 1:30**

- **PDS and PDSE “delete all members” support**
  - DELETE DATA.SET.NAME(\*)
- **Catalog Management to use HDELETE for any migrated GDSs**
  - e.g., for IDCAMS DELETE GDG FORCE
- **Support for indirectly cataloged zFS data sets:**
  - DELETE NOSCRATCH
  - DEFINE CLUSTER (NAME(name) LINEAR VOLUMES(&symbol) RECATALOG)
  - Does not support other VSAM (including linear) data sets, only zFS
- **DEFINE RECATALOG**
  - Build catalog entries for multivolume data sets in the correct order automatically
- **Partial Release (PARTREL) improvement for VSAM**
  - Support for releasing unused volumes
  - In addition to releasing space on the last volume of a multivolume VSAM data set that contains data
- **ISMF storage group copy improvements**
  - ISMF allows storage group definitions to be copied from one CDS to another
  - Extended to let you specify that volume lists for pool-type storage groups be copied
  - Designed to allow you to copy entire storage groups from one configuration to another without having to add their volumes to the destination CDS afterward

**What's new in DFSMS  
Monday 3:00**

## DFSORT Improvements

**MVS Storage  
Management Project  
Opening  
Monday 1:30**

- Better diagnostic information when DFSORT was unable to dynamically allocate requested disk work space
- DFSORT now designed to try to estimate the work space needed for VSAM data sets used as input that were not been closed correctly
- Diagnostic messages without a SORTDIAG DD statement (or the DIAGSIM=YES installation option) for many errors
- New recovery option for when work space required to complete a sort is higher than expected
  - New DYNAPCT installation and run-time options
- Dynamically adjust secondary extent sizes when work space requirements increase
- Allow you to specify that DFSORT use memory object storage instead of Hiperspace™ for intermediate work storage using a new MOWRK option

## Help With Duplicate Temporary Data Set Names

- Everyone's favorite messages:
  - IGD17001I DUPLICATE DATA SET NAME ON VOLUME volser FOR DATA SET data.set.name
  - IEF453I jobname - JOB FAILED - JCL ERROR - TIME=hh.mm.ss
- Temporary data set name format if you code &&tempname:
  - SYSyddd.Thhmmss.RA000.jjobname.dsetname.Hgg
- Temporary data set name if you do not code a name:
  - SYSyddd.Thhmmss.RA000.jjobname.Rggnnnnn
- When multiple jobs with the same name start within the same clock second, IGD17001I can occur when they both try to allocate a data set:
  - With the same name
  - On the same volume
- New ALLOCxx (and SETALLOC) setting:
  - SYSTEM TEMPDSFORMAT(UNIQUE|INCLUDELABEL)
- UNIQUE specifies that the system should always use the second format
- Vastly decreases the chances of a naming collision causing an allocation failure because Rggnnnnn is changed for each allocation



## EAV Support for 'most everything else'

- z/OS R10 introduced EAV with support for VSAM (incl. zFS)
- z/OS R11 added Extended Format Sequential and support for data sets spanning the 64K cylinder line
- z/OS R12 adds:
  - PDS and PDSE (including load modules and program objects)
  - Plain vanilla (nonextended format) sequential
  - BDAM
  - GDG
  - LPALIB, LPA list, link list data sets, SYSn.IPLPARM, SVCLIB
  - Catalogs, VVDSs
  - JES2 and JES3 spool and checkpoint, JES3 JCT
  - DFSMSrmm, DFSMSHsm™ data sets
  - Standalone Dump data set and AMASPZAP support
  - VSAM AIX support in Language Environment
- No support for above the line for:
  - Imbed and Keyrange attributes, incompatible CA sizes for VSAM
  - NUCLEUS, SVCLIB, LOGREC, VTOC, VTOCIX,
  - RACF databases, Page data sets, HFS data sets
  - Parmlib concatenation data sets
  - XRC Control, Master or Cluster non-VSAM data sets

65,520 Cyls

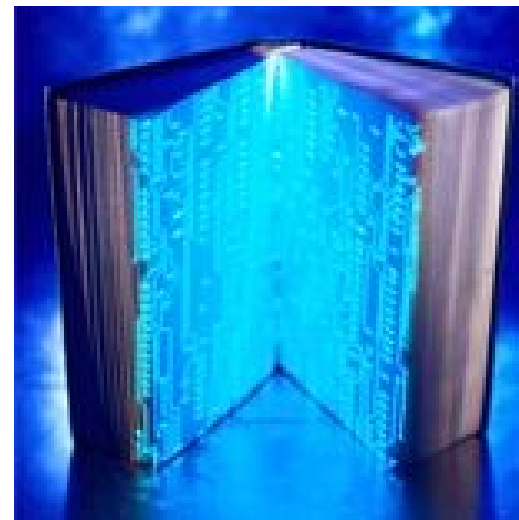


## ■ XL C/C++ Enhancements for z196 Servers

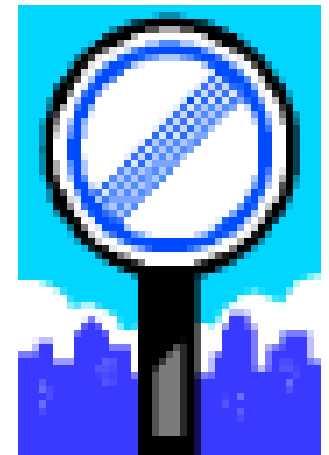
- Benefits from Out-of-Order (OOO) Execution
- New ARCH(9) and TUNE(9) support
- Support for new instructions from the load/store-on-condition and the distinct-operands facilities
- A performance improvement of over 11% was observed using code generated by the z/OS V1.12 XL C/C++ compiler with high optimization when compared to code generated using the z/OS V1.11 XL C/C++ compiler
  - Performance improvements are based on internal IBM lab measurements using the ILP32, XPLINK, ARCH(9), TUNE(9), HGPR, O3, HOT, and IPA(LEVEL(2)) with PDF compiler options. Performance results for specific applications will vary; some factors affecting performance are the source code and the compiler options specified.

**What's New in  
Enterprise PL/I  
V3R9 and C/C++  
V1.12**

**Monday 4:30**



- **Support for three subchannel sets (0, 1, and 2)**
  - On z196 servers
  - Aliases can be defined in any subchannel set
  - PPRC secondaries must all be in subchannel set 1 or in subchannel set 2.
  - Aliases can be defined in the same subchannel set as the PPRC-pair secondary devices
  
- **Parallel subsystem initialization**
  - All subsystems named after a new BEGINPARALLEL keyword in IEFSSNxx will start in parallel
  - Intended to reduce restart time
  
- **BCP exploitation of Large Pages for NUCLEUS**
  - Reduced TLB residency for NUCLEUS pages makes TLB entries available for other things
  
- **DFSMSdss™ Dump/Restore/Copydump performance**
  - Use 256K blocks rather than 64K blocks
  - Expected to improve throughput for some operations



**What's New in  
DFSMSdss and  
System Data Mover**

**Wednesday 11:00**

## ▪ Larger Catalogs

- DFSMS support for catalogs with extended addressability
- Designed to support ICF catalogs larger than 4 GB
- New maximum is same as the volume size, currently 223 GB

## ▪ Parallel processing for DFSMSHsm

- Parallel recovery from multiple dump tapes
  - Specify that up to 64 concurrent tasks be used
  - Also designed to allow you to restore Fast Recovery copy pools from tape using DFSMSHsm
- Parallel processing for Primary Space Management, Interval Migration, and Command Volume Migration
  - Specify using a new option

## ▪ DFSMSHsm tape stacking

- Dump stacking maximum increased from 99 dumps per tape to 255
- Intended to improve utilization for large-capacity tape media

**What's New in  
DFSMSHsm**

**Tuesday 11:00**





## Parallel Sysplex Scalability

- **Support for up to 2047 structures per CF image**

- Up from prior limit of 1023
- Allows you to define more sharing groups
  - Support large SAP configurations
  - Enable large Parallel Sysplex configurations to be merged
- Requires the PTF for APAR OA32807 and a z196 server with CFCC Level 17
- PTFS are also available for z/OS R10 and z/OS R11

**z/OS Parallel Sysplex:  
Update**

**Tuesday 11:00**

- **Larger CF structures**

- New maximum size is 1 TB
- Old maximum was 99,999,999 KB
- IXCMIAPU updated to support unit specifications in KB, MB, GB, and TB

- **Support for more connectors to list and lock structures**

- XES and CFCC already support 255 connectors to cache structures
- XES now supports up to:
  - 247 connectors to a lock structure
  - 127 connectors to a serialized list structure
  - 255 connectors to an unserialized list structure
- Requires the PTF for APAR OA32807 and a z196 server with CFCC Level 17
- PTFS also available for z/OS R10 and z/OS R11

## ■ **VSAM/RLS Striping**

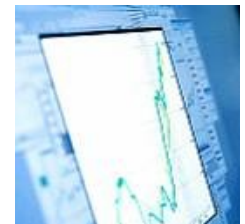
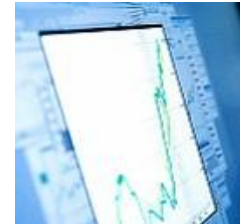
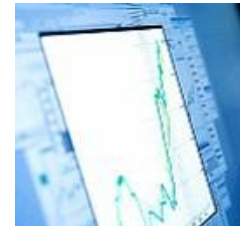
- Extend striping for VSAM to RLS
- Usual advantages of striping available for RLS

## ■ **XTIOT support in:**

- BSAM, BPAM, QSAM, EXCP, DADSM, CVAF
- SVC dump, SYSABEND, SYSMDUMP, and SYSUDUMP
- AMASPZAP, Binder, TSO/E, RACF, DFSORT
- Support for uncaptured UCBs, DSABs above the line
- Provides 24-bit VSCR for exploiters

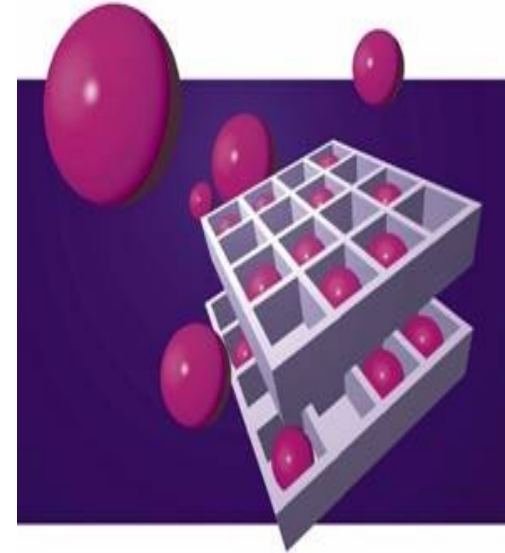
## ■ **Bigger offload and staging data sets for System Logger**

- Raise limit from 2 G to 4 G
- Also, new messages to show key data set characteristics at allocation and deletion time
- Available for z/OS V1.9 and higher with PTFs for APAR OA30548



## ■ OAM

- API support for the Object Storage and Retrieval function (OSR) to run in a CICS threadsafe environment
- Volume Recovery utility will be designed to improve performance in certain situations when recovering object data stored on optical and tape media.
  - Expected to be most noticeable when recovering a backup volume containing objects with primary copies in a large number of different collections on a large number of different volumes



## ■ Language Environment

- BSAM (seek) support for large format sequential data sets (DSNTYPE=LARGE) when using record I/O
- Binary and text I/O with seek continue to be supported for data sets up to 64K tracks in size on any volume when opened for read

## VSAM Control Area (CA) Reclaim

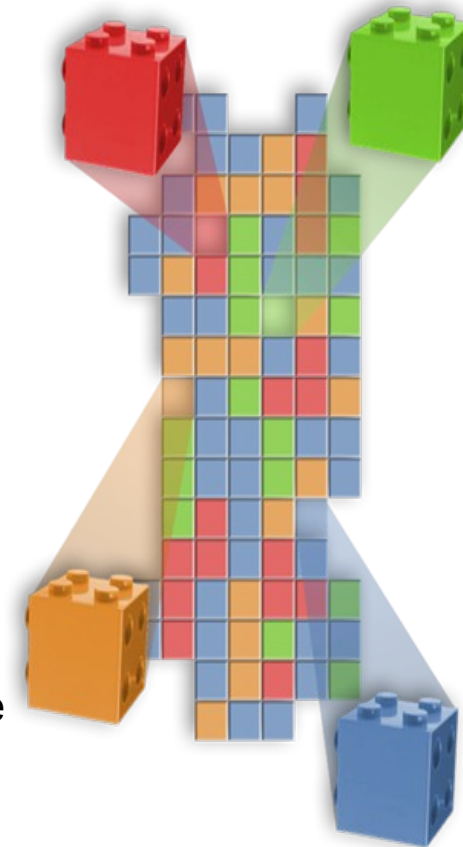
- For VSAM key-sequenced data sets (KSDS) including VSAM RLS data sets *and catalogs*
- Designed to reuse empty CAs and empty index records in place rather than extending the data set
- Intended to eliminate need to copy/delete/reload VSAM data sets to reclaim space taken up by empty CAs, rebuild index, and restore performance
- Substantial performance improvements possible\*
- Toleration on z/OS R10 and z/OS R11 via APARs OA25108, OA26256, OA26466, and OA27557
  - *Be sure the PTFs are on before turning on CA Reclaim!*

**z/OS 1.12 New  
Feature VSAM  
CA Reclaim**

**Monday 4:30**

### Using CA Reclaim:

- Parameter in IGDSMSxx: CA\_RECLAIM(NONE | DATACLAS)
- SETSMS support
- DATACLAS attribute: CA\_Reclaim(Y/N)
- IDCAMS ALTER support for individual data sets
- LISTCAT shows whether CA Reclaim is being used for a data set
  - With the PTF for APAR OA33315, it will also show how many CAs have been reclaimed
- SMF64 records include a Reclaim count field, SMF64DAU



## z/OS UNIX System Services to use GRS latch identity

- New DISPLAY GRS,ANALYZE command introduced in z/OS R11
- Display easier to interpret for latch identity exploiters
- z/OS UNIX is a heavy user of latch services

**Understanding  
GRS ENQ and  
Latch Usage  
and  
Contention  
Wednesday  
3:00**

## SMF record flood detection, filtering

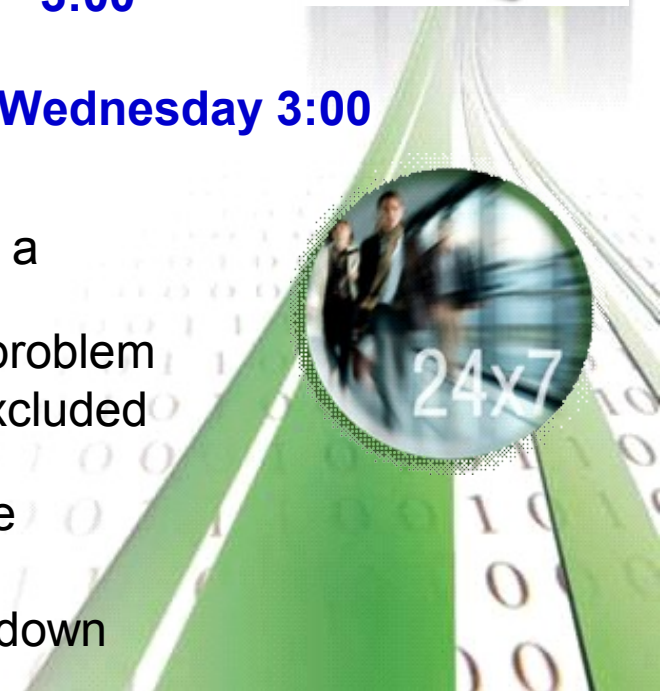
- New FLOOD option in SMFPRMxx and SETSMF
- Specify threshold and action to be taken in SMFPRMxx:
  - Issue console message
  - Suppress record and fail SMF(E)WTM request

## Predictive Failure Analysis

**z/OS PD Update—Wednesday 3:00**

- SMF record arrival rates
  - Too many of the same type records probably indicates a problem
  - Too few records probably indicates a different kind of problem
- Ability to specify atypical jobs and address spaces to be excluded from learning algorithms
- Data capture for exception conditions to help identify cause
- Modeling intervals based on system stability
- Discard LOGREC data from a period of time before a shutdown
- More-granular system AS common storage monitoring
- Common storage modeling now includes (E)SQA

**Detecting Soft Failures Using z/OS PFA: Tuesday 11:00**



## Run Time Diagnostics

- New operator command to analyze key system indicators
- Goal is to help you identify the root of problems before system failure

## Allocation, DFSMSdfp™, GRS performance

- Designed to improve performance for address spaces that allocate a large number of data sets
- Expected to markedly reduce the startup time for address spaces such as:
  - DB2 address spaces
  - Batch jobs that process a large number of data sets per job step



## Hot standby for Sysplex Distributor

- New HotStandby distribution method
- Can specify a preferred server and one or more hot standby servers
- Preferred server gets new incoming connection requests
- Hot standby servers serve when designated preferred server becomes unavailable
  - Can specify which hot standby server becomes active
- Can specify whether the system switches back to the preferred server if it becomes available and whether it switches servers if the active target is not healthy

**What's New in z/OS  
Communications Server  
Monday 3:00**



## Structure-level recovery in Sysplex Failure Manager

- New CFSTRHANGTIME option to specify the time a structure can have outstanding requests
- SFM will drive actions against unresponsive connectors
  - Recovery
  - Termination

Intended to nip sympathy sickness problems in the bud

## New XCF function to identify “critical members”

- New IXCJOIN option
- Member provides a function XCF can use to check on member health
- SFM to partition out systems with unresponsive critical members
- GRS exploitation

## Nondisruptive CF Dumps

- With CFCC Level 17 on z196 servers
- Designed to capture CF data nondisruptively in some circumstances while the CF runs
- Intended to help improve Parallel Sysplex availability

**z/OS Parallel Sysplex:  
Update  
Tuesday 11:00**





## SDUMP and Standalone Dump improvements

- New DEFERTND=(Yes/No) added on CHNGDUMP and DUMP commands, to specify task nondispatchability should be deferred until global capture is complete
- Standalone Dump to dump these system address spaces immediately after ASIDs 1-4, irrespective of their ASIDs:
  - ANTMAIN, CONSOLE, XCFAS, IOSAS, SMXC, WLM, CATALOG, GRS, SMF, ALLOCAS , ANTAS000, DEVMAN, DUMPSRV, GRS, IEFSCHAS, IXGLOGR, JESXCF, JES2, JES3, OMVS, PCAUTH, RASP, SMSPDSE, SMSPDSE1, SMSVSAM, TRACE
- SVC dump and RSM designed to reduce dump capture time
  - Significant improvement expected in auxiliary storage data capture
  - Dump exit exploiters can take advantage of improved RSM services to reduce the system impact of collecting large amounts of data
  - GRS dump exit now takes advantage of the improved RSM services
  - Internal tests show up to a 60% reduction in capture time
    - Based on internal IBM lab measurements

### **Smarter SVC Dump Processing for Improved z/OS Resiliency Wednesday 11:00**

- Standalone Dump
  - Better prioritization of data capture for address spaces, some restartable system address spaces captured irrespective of their ASID numbers
  - You can specify additional address spaces to be dumped using a new ADDSUMM option



## Language Environment support for calendar dates beyond 2038/2042:

- **time\_t** clock overflows in 2038 by UNIX architecture
- New **time64\_t** service provides for creating calendar dates further in the future
- Available on z/OS R8 and up via APAR PK83212

## Language Environment C/C++ support for BSAM Record I/O for >64K tracks

- DSNTYPE=LARGE support

## z/OS R12 XL C/C++ Enhancements

- Metal C RENT support, including support for Metal C CICS transactions
- IPA(OBJECT) option behavior improvements
- More control over temporary data sets used during IPA link
- Implicit RESTRICT support, for deeper pointer analysis is intended to improve the performance
- Functions and parameters can be displayed for optimized code using optimization level O2 or O3 when you debug optimized code
- Many new compiler suboptions and macros, new pragma directives



## CIM Updates

- Storage provisioning CIM providers for SMI-S
  - Storage Management Initiative Specification owned by the Storage Networking Industry Association, also ANSI standard 388-2004 and ISO/IEC 24775
  - DMTF-based management based on CIM for storage
  - Support for mandatory providers for the Host Discovered Resources (HDR) and Host Bus Adapter (HBA) profiles
- CIM Server upgraded to a newer version of the OpenPegasus CIM Server
- CIM Servers Schema repository updated to CIM Schema version 2.22

## WLM Request LPAR data (REQLPDAT) service to include:

- Character data for Machine model (e.g., x'F2F0F9F760F7F1F8' for a 2097-718)
- Character data for Model-Permanent-Capacity Identifier
- Character data for Model-Temporary-Capacity Identifier
- 32-bit unsigned Model-Capacity Rating
- 32-bit unsigned Model-Permanent-Capacity Rating
- 32-bit unsigned Model-Temporary-Capacity Rating



Intended to be used for reporting applications

## SDSF REXX™ Access to SYSLOG

- New ISFLOG command for SDSF REXX
- Designed to read SYSLOG and return records stem variables
- Options to limit the number of records returned, specify start and end times

## SDSF support for Java and XML

- Allow easier access to SDSF functions from Java
- New Java classes, one per supported SDSF panel
- XML document input to SDSF, with XML document output
- SDSF XML schema shipped with z/OS
- Data and actions accessible from SDSF tabular panels available using XML

**SDSF Update  
Thursday 11:00**

## z/OS UNIX support for FILEDATA=RECORD

- Record types now supported include:
  - NA – Not defined
  - Binary – Binary
  - NL – Text delimited using newline characters
  - CR – Text delimited using carriage return characters
  - LF – Text delimited using line feed characters
  - CRLF – Text delimited using both carriage return and line feed characters
  - LFCR – Text delimited using both line feed and carriage return characters
  - CRNL – Text delimited using both carriage return and newline characters
  - **Record – Prefixed records in which the prefix defines the record length**

**z/OS V1.12 UNIX System  
Services Latest Status and New  
Features  
Monday 4:30**

## z/OS UNIX System Services support for mmap for NFS files

- Designed to provide memory mapping for NFS Client files

## z/OS XML System Services enhancements

- Allow applications to extract schema location information from an XML instance document without the application first performing a separate parse
  - More usable, expected to have lower processing cost
- Allow validation of part of an XML document when performing validating parsing
  - Fragment parsing is intended to offer lower processing cost during validation by allowing you to validate only a portion of a document
- New validating parse capability to allow applications to restrict the set of element names to be accepted as valid root elements to a subset of those allowable in an XML schema
  - Intended to provide another level of validation, beyond W3C schema

## Binder Improvements:

- XPLINK version of the Binder C/C++ API DLL functions
  - Designed to offer XPLINK applications improved performance by eliminating expensive XPLINK to non-XPLINK transitions
  - New C/C++ header to map the IEWBMMP structure, to make it simpler to process module map created by MODMAP
- Sample HLASM and C programs for standard and Fastdata Binder APIs
- Character translations in AMBLIST LISTLOAD output for load modules
- Improved AMBLIST header information for z/OS UNIX files
- Support for long names for AMBLIST LISTOBJ for object modules in z/OS UNIX files
- Allow you to specify an RMODE to be applied to all initial load classes of a program object
- Make program object attribute data (PMAR data) available to programs using the fast data interface, and to support programs loaded using the z/OS UNIX System Services load service (loadhfs)

## New ISGENQ Service Option

- Allow unauthorized programs to interrupt serialization processing and choose whether to:
  - Continue to obtain control of a resource
  - Not to continue to attempt to obtain control of a resource
  - Do other work asynchronously while waiting
- For example, you might wish to set a time limit for getting control of a resource
- Expected to help programmers to better manage contention

## System Data Mover (SDM)

- New REXX interface for many ANTRQST functions
- Designed to provide interfaces to FlashCopy®, Global Mirror (XRC), and Metro Mirror (PPRC) SDM services



## IBM Tivoli® Directory Server (LDAP) Improvements

- **Password policy**
  - Lockout
  - Password quality
  - Expiration
  - Password reuse ...
- **ACL extensions to provide access control based on:**
  - IP address
  - Distinguished name (DN)
  - Time of day and week
  - Certain bind characteristics
- **Activity log management**
  - Set maximum size
  - Archive or delete inactive log files
- **Salted SHA for passwords**
  - Help make dictionary attacks more difficult
- **Support for other IBM Tivoli Directory Servers**
  - Designed to allow migration and replication of schema and directory entries from IBM Tivoli Directory Server instances on other platforms





## ICSF\*

ICSF Update

Thursday 9:30

- New PKA Key Translate service designed to translate CCA RSA private keys into a VISA smart card (SC) format or the common ME or CRT format
  - Requires a z196, IBM System z10™, or IBM System z9® server with the Crypto Express2 feature, minimum driver and microcode levels dated April 2009 or later, z/OS V1.11, or the Cryptographic Support for z/OS V1R8-V1R10 and z/OS.e V1R8 Web deliverable and PTF UA46713
- Cryptographic Support for z/OS V1.10 through z/OS V1.12 Web deliverable is planned to be made available September 10, 2010\*, is designed to support:
  - Significantly more keys in a CKDS and reduced update overhead
  - 64-Bit enablement for the full set of ICSF callable services
  - Identity information in ICSF SMF Type 82 audit records
  - API access to new symmetric encryption modes introduced in 196 server's CPACF, including CMAC, CCM, GCM, CFB, OFB, XTS and CBC-S for both CPACF clear keys and CPACF protected keys
  - New functions on z196 servers with the Crypto Express3 feature, with minimum driver and microcode levels dated August 2010 or later, and the PTF for APAR OA33260:
    - CCA key token wrapping designed to meet ANSI x9.24-1 key management requirements for symmetric keys wrapped under symmetric master or key-encrypting
    - Enhanced PIN protection for verification at ATM and POS systems intended to provide defined extensions to ANSI x9.8 and ISO 9564-1 standards
    - New CCA functions implementing ECDSA, including support for NIST and Brainpool standard curves, and for the Crypto Express 3 Coprocessor performing ECDSA within the bounds of the secure hardware
    - New CCA HMAC functions for SHA-1 and SHA-2



## Elliptical Curve Cryptography support in RACF, PKI Services, and System SSL

- SHA224, SHA256, SHA384, SHA512 support
- RACDCERT and PKI certificate support based on draft RFC3279

## SAF controls on sysplex-scope CPF commands

- New authorization check for appropriate MVS.ROUTE.CMD.\* profile in the OPERCMDS class when you define a new profile, MVS.CPF.ROUTE.CHECK

## Digital Certificate support for:

- Prevention of duplicate certificate serial numbers
- Certificate Management Protocol (CMP) in PKI Services to allow clients to request certificate operations

## RACDCERT and PKI support for really long certificate expiration dates and distinguished names

- Dates previously limited to 2038 (PKI) and 2041 (RACDCERT)
- Expiration dates supported up to “only” the year 9999
- DN length limit changed from 255 to 1024
- Available on z/OS R10 and up with PTFs for APARs OA30560 and OA30952

**Understanding Digital Certificates on z/OS**  
**Wednesday 11:00**

**RACF Update**  
**Wednesday 4:30**



## Additional PKI Services enhancements:

- New utility to allow you to post existing certificates in LDAP automatically
- New utility to allow you to post updates to CRLs immediately
- Designs to improve performance for “housekeeping tasks”
  - Removing old and expired certificates and requests
  - Processing certificate expiration notification warning messages
- Ability to specify the time of day and days of the week for housekeeping tasks
- Support for passing the reason a certificate request was rejected from the administrator to the requester in the rejection e-mail
- Custom extensions to X.509 Version 3 certificates, such as:
  - Creating Domain Controller certificates with Certificate Template Name extensions, with an OIDs, and with BMP data "DomainController" for use with Microsoft Exchange or Smart Card Login
- Support for creating certificates with Subject Alternate Names containing multiple instances of each of the General Name forms support
  - For example, specifying multiple IP addresses when one was previously allowed



## Capacity Provisioning

- Capacity Provisioning support for an “averaged rolling” Performance Interval
  - Prior support based on *n* consecutive intervals in which goals were not met
  - Now, can specify that if goals have not been met for most of the intervals CP should consider a provisioning action
  - Available for z/OS R10 and up with the PTF for APAR OA30496
- CP monitoring of CICS and IMS transaction classes
  - Currently, service classes for transactions have zero CPU delay counts
  - New “Total delay count” indicates whether transactions managed this way are delayed due to CPU, so provisioning can be driven if needed
  - Available for z/OS R10 and up with the PTF for APAR OA29641

### Introduction to z/OS Capacity Provisioning Wednesday 4:30

- Command Correlation
  - Help tie command completion events to CP requests
  - Available for z/OS R10 and R11 with the PTF for APAR OA30496



## Improved WLM batch management

- Current and projected resource group maximums considered when starting and rebalancing initiators
- Designed to avoid capping batch address spaces unnecessarily

**Workload  
Management  
Update for z/OS  
V1.11 and V1.12**

**Monday 4:30**

## New **TIMESLICE** parameter in **IEAOPTxx**

- Can help with CPU-intensive discretionary work by letting it get longer time slices when a CPU is available
- Will still be preempted by higher-priority work

## **IMBED/REPLICATE** removal on Recall/Restore

- New function in DFSMSdss and DFSMSHsm will remove these attributes automatically during logical RESTORE and recall processing for logically dumped and migrated data sets
- Does not apply to physical dumps:
  - Full-volume dumps
  - Dumps by track
  - Physical data set dumps



## New SMF30 fields to record initiator time

- Initiator address spaces consume processor time on behalf of starting and ending job steps
- Not previously reported time that could be related to a particular job
- Intended to help you better understand the resources consumed by batch jobs and improve the accuracy of chargeback

## New Auto-Reply function for WTORs

- Starts very early in IPL
- Specify time limit and default response
- Enable/disable via parmlib or command
- New AUTORxx parmlib members
- Default AUTOR00 member



## SMS improvements:

- As volume sizes increase, 1% of a volume is increasingly more storage
  - For example, 1% of a 223 GB volume is more than 2 GB
  - Limit on high threshold for space utilization for pool storage groups increased from 99% to 100%
    - 100% intended to be used for storage groups that hold static data
    - In most cases, IBM recommends a high threshold value less than 100% to allow data sets to expand
- Volume list processing designed to improve allocation performance for large volume lists

## DCCOLLECT

- Data class (DC) records now include information about all data class attributes
- Data set (D) records now include job names
- Storage group (SG) records now include information about OAM Protect Retention and Protect Deletion settings



## DFSMSdss and DFSMShsm now exploit Fast Reverse Restore

- With an IBM System Storage™ DS8000 Series feature
- Designed to allow recovery to be performed from active, original FlashCopy target volumes to original source volumes
- No wait for background copies with full-volume FlashCopy relationships
- DFSMSdss support via a new keyword
- DFSMShsm FlashCopy backup and recovery operations designed to create full-volume FlashCopy relationships for supported devices
- Fast Reverse Restore function intended to support recovery of volumes associated with copy pool backups
  - Includes Space Efficient and Incremental FlashCopy targets
  - DFSMShsm SETSYS parameter allows you to specify whether extent or full-volume FlashCopy relationships are to be established when DFSMShsm invokes DFSMSdss for fast replication backup and recovery





## New callable NMI requests for TCP/IP

- Provide stack network interface information and network interface and global statistics
- Network management applications can use output to monitor interface status and TCP/IP stack activity
- Now supports these new requests:
  - GetGlobalStats - Provides TCP/IP stack global counters for IP, ICMP, TCP, and UDP processing
  - GetIfs - Provides TCP/IP network interface attributes and IP addresses
  - GetIfStats - Provides TCP/IP network interface counters
  - GetIfStatsExtended - Provides data link control (DLC) network interface counters

## New SMF119 subtypes for Communications Server

- 032 - DVIPA status change
- 033 - DVIPA removed
- 034 - DVIPA target added
- 035 - DVIPA target removed
- 036 - DVIPA target server started
- 037 - DVIPA target server ended
- 048 - CSSMTP Configuration data records
- 049 - CSSMTP Target server connection records
- 050 - CSSMTP Mail records
- 051 - CSSMTP Spool records
- 052 - CSSMTP Statistics records

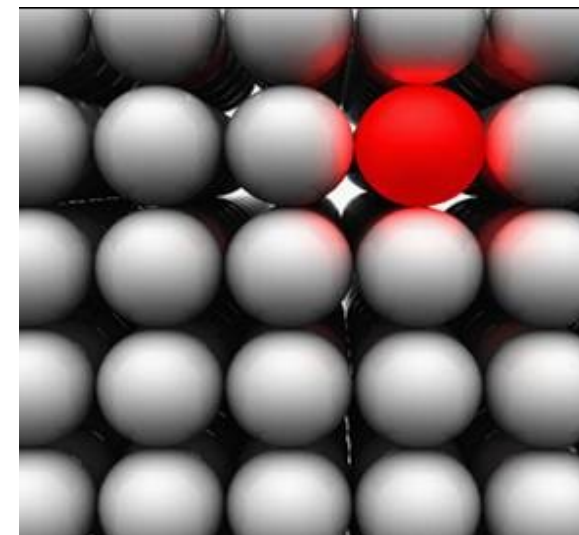


Available in SMF data, SMF exit, and NMI (SYSTCPSM)

## Continued focus on IPv6

- IPv4 address exhaustion expected in the 2011-2012 timeframe
- More than you ever wanted to know at:  
<http://www.potaroo.net/tools/ipv4/index.html>
- Support for security-related RFCs
  - RFC3484, RFC5014, and RFC5175
- Ability to Send DNS Queries Over IPv6
- DFSMSrmm support for IPv6

**IPv6 on z/OS**  
**Tuesday 11:00**



## TN3270

- Virtual Storage Constraint Relief: ECSA utilization cut by over 50% since z/OS R7
- Automatic shutdown on F OMVS,RESTART and F OMVS,SHUTDOWN

## Trusted TCP/IP Connections

- Within a sysplex with a shared RACF database

## Inbound Workload Queueing (IWQ)

- Separate input queue processing for interactive, bulk, and Sysplex Distributor traffic

**What's New in z/OS**  
**Communications Server?**  
**Monday 1:30**

**z/OS V1R12 Communication**  
**Server - A Detailed Look**  
**Wednesday 3:00**

**Understanding z/OS**  
**Communications Server**  
**Storage Usage**  
**Thursday 3:00**

## IKEv2

- IPv4 and IPv6 support
- FIPS-140 mode
- NSSD X.509 support for:
  - Certificate-based signature creation and validation
  - Certificates that contain ECDSA keys
  - Certificate trust chain support
  - IKEv1 or IKEv2 digital signature creation and verification
- New KeyId identity type
- Authentication using pre-shared keys or digital certificates with RSA or ECC keys
- Rekeying and reauthentication of IKE SAs and child SAs
- Hash and URL specification of certificates and bundles
- A new certbundle command to create RFC4306-style bundles

**Excuse me, do I know  
you? Certificate  
Authentication in the  
Internet Key  
Exchange**

**Thursday 1:30**

## IPSec

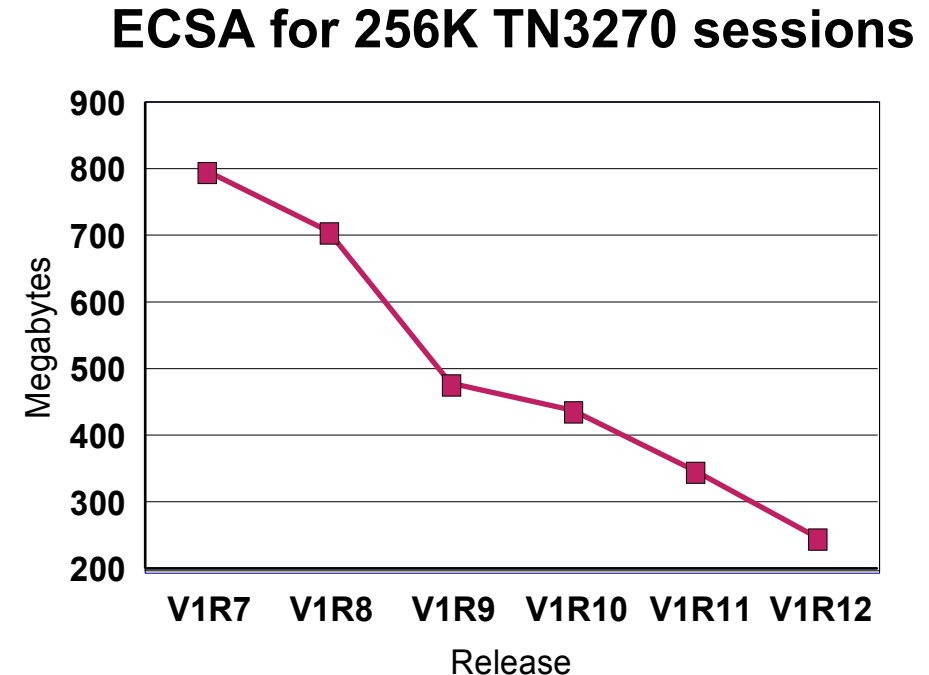
- CRL support
- FIPS 140-2 mode

## Other improvements for:

- AT-TLS
- Resolver
- EE MTU autotuning
- NSS

## TN3270 server ECSA usage improvement up to and including z/OS V1R12 Communications Server

Release	ECSA for 256K TN3270 sessions
V1R7	798M
V1R8	708M
V1R9	480M
V1R10	440M
V1R11	347M
V1R12 <sup>(1)</sup>	249M

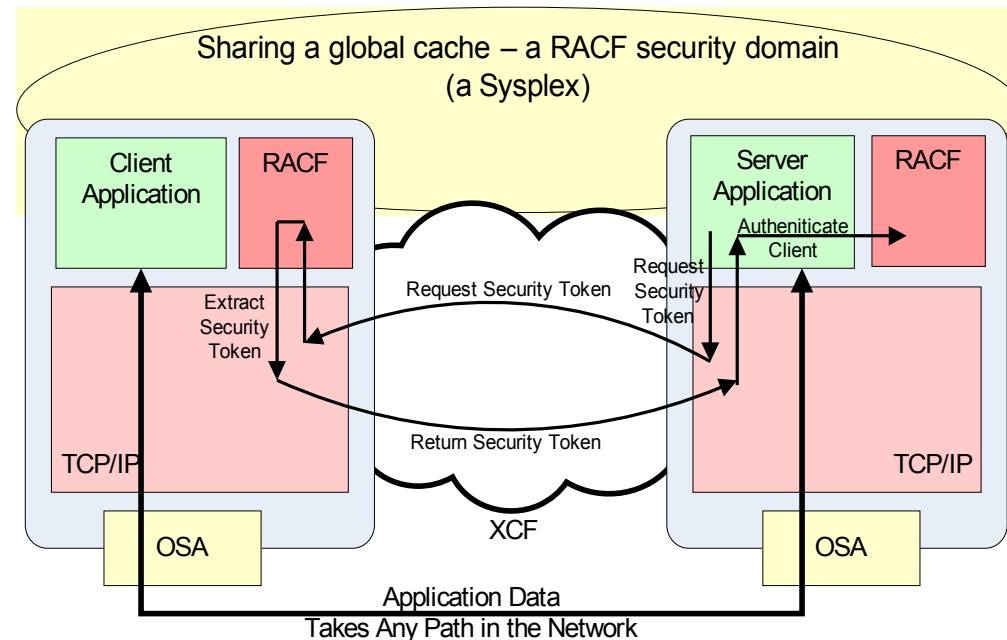


The numbers are configuration dependent, but they should give you an idea of the magnitude of the savings achieved in the recent releases.

**Note (1):** The V1R12 number is a preliminary number based on use of shared ACBs - it may change before general availability of z/OS V1R12 Communications Server

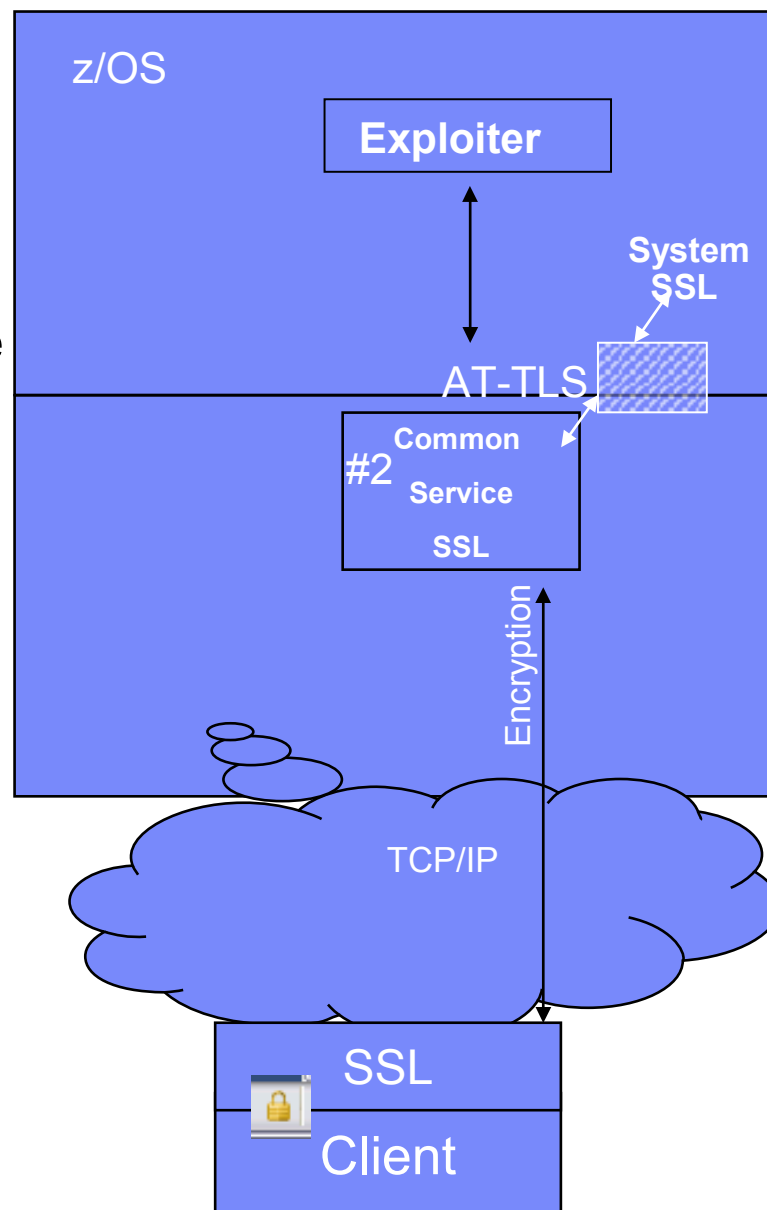
## Trusted TCP/IP Connections

- Allow endpoints within a Sysplex or Subplex to establish a trust relationship
  - Exchanges security information that identifies the security context of the other endpoint
    - Without the overhead and CPU-related costs of SSL/TLS with client authentication
  - Requires no application protocol changes
    - Simple API call to the TCP/IP stack
    - Transparent to the client application
  - Security information exchanged using secure XCF messaging
    - Application traffic may take any network path between the client and server
- Current plans are to support these new socket API options for C/C++ (Language Environment), z/OS UNIX System Services Callable (BPXxxxx) and Java
  - Considering whether support will be provided for TCP/IP native socket APIs (EZASMI, Callable, etc.)
  - Implementation is in z/OS V1R12 limited to connections between z/OS systems in a Sysplex within a single RACF security domain



## Path-length reduction in data processing between AT-TLS and System SSL

- Expected to provide improved performance in encrypted data handling and improve price/performance for workloads using System SSL encryption
- Network CPU overhead for Application Transparent — Transport Layer 3 Security (AT-TLS) can be improved by 30%\*.
  - \*Based on internal IBM laboratory measurements. The AT-TLS CPU consumption results were obtained on System z10, model 2097-E64. Actual AT-TLS CPU consumption improvement will depend on amount of data being transmitted and whether the workload is interactive or streaming.



## Inbound Workload Queueing

- 30-50% increase in network throughput expected for interactive workloads with z/OS V1.12 and OSA-Express3 in QDIO mode with IWQ on z196 and System z10 servers\*
- IWQ creates multiple input queues
  - Allows OSA to differentiate workloads "off the wire" and then assign work to specific input queues to z/OS.
  - With each input queue representing a unique type of workload, each having unique service and processing requirements, WQ allows z/OS to use appropriate processing resources for each input queue.
  - Concurrent z/OS processing threads can process each queue, avoiding resource contention.
- In a heavily mixed workload environment, this "off the wire" network traffic separation provided by IWQ reduces processing required to identify and separate work
- Bulk-data (streaming) workloads can also benefit due to fewer network retransmissions (by reducing the incidence of out-of-order packets).
- A streamlined z/OS Communications Server execution path for Sysplex Distributor over IWQ is expected to improve performance for sysplex-distributed traffic

\* The interactive networking throughput measurements were obtained on System z10, model 2097-E64. Actual benefit will depend on amount of data being transferred, presence of bulk-data traffic in the mix, and whether communication is z/OS to z/OS, or z/OS to distributed system. Performance for interactive workloads depends on amount of data being transferred, presence of bulk-data traffic in the mix, and whether communication is z/OS to z/OS, or z/OS to distributed system.

## Resolver Improvements

- Resolver to monitor DNS server responsiveness
  - When too many requests (default 25%) are not responded to within a 5-minute window, a message will be issued
- Support for IPv6 connections to DNS name servers

## Stack Isolation

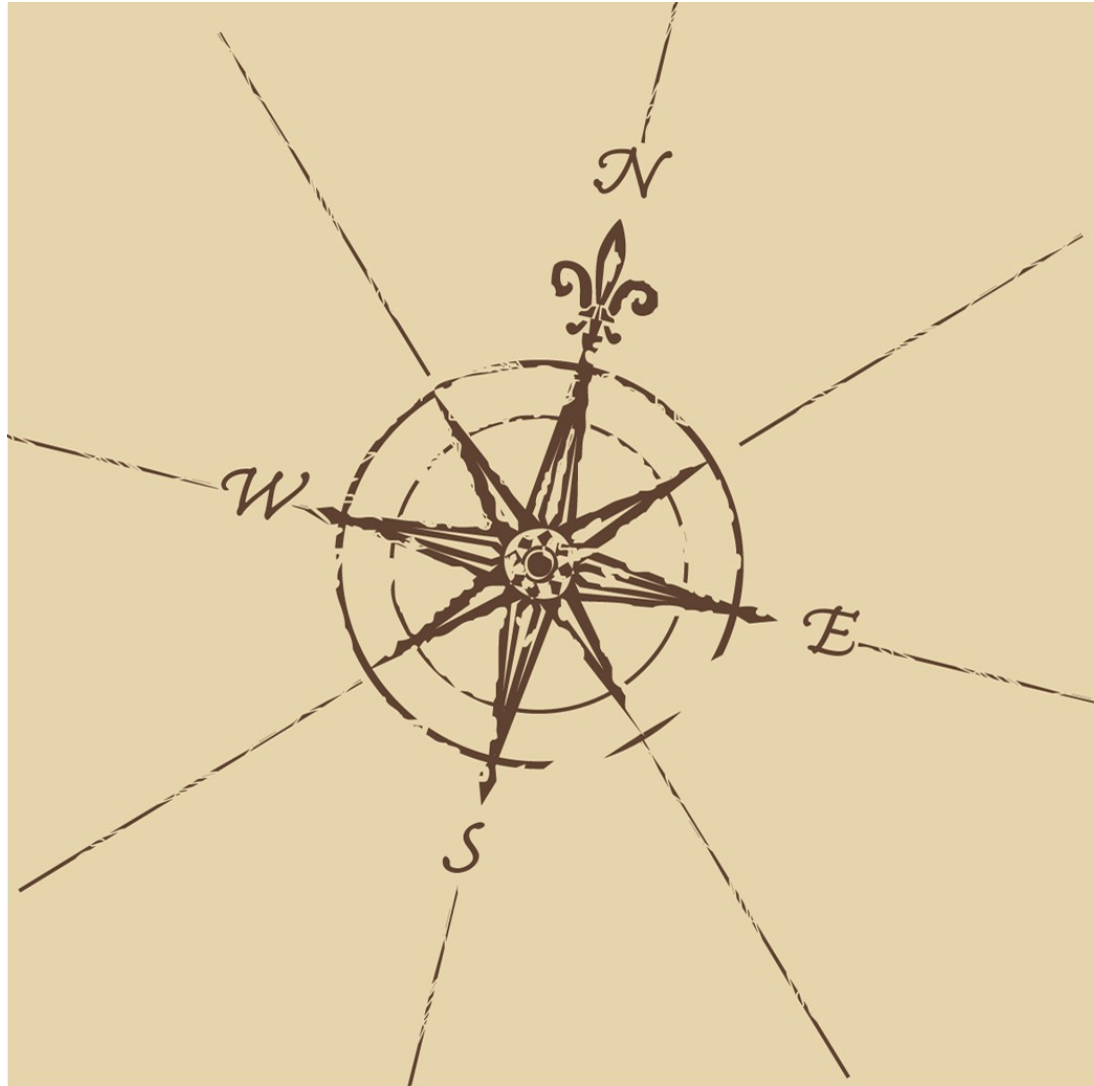
- New the option to keep a TCP/IP stack isolated from the sysplex
- New configuration parameter
- Can have the stack join the sysplex group at a later time using VARY TCPIP,,SYSPLEX,JOINGROUP

## Enterprise Extender maximum transmission unit autotuning

- Local and path MTU discovery to determine best MTU size for Enterprise Extender (EE) connections
- MTU size used to modify link size for EE connections
- In z/OS V1.12, the link size will be updated at the RTP pipe endpoints in addition to the EE endpoints when the MTU size changes.



# Statements of Direction



## Reminders\*:

- IBM plans to discontinue software delivery on 3480, 3480 Compressed (3480C), and 3490E tape media.
- Concurrently with z/OS V1.12 availability, ServerPac and CBPDO; the SystemPac<sup>®</sup>, ProductPac<sup>®</sup>, and FunctionPac fee-based offerings; and selective follow-on Service (SFS) for the fee offerings will be orderable on DVD.
- In the first quarter of 2011, ordering the COD on DVD will be supported.
  - IBM recommends using Internet delivery, but DVD support may provide an option for those who cannot use it
- IBM plans to remove the Enhanced PSP Tool, host compare program, and the associated extract files from the IBM Technical Support Web site ([software.ibm.com/webapp/set2/psp/srchBroker](http://software.ibm.com/webapp/set2/psp/srchBroker)) at the end of 2010.
  - Function replaced by FIXCAT HOLDDATA and SMP/E's REPORT MISSINGFIX command
  - SMP/E function available for all supported releases; Enhanced HOLDDATA is available in all IBM service delivery offerings and in the 730-day file from the Enhanced HOLDDATA Web site at: [service.software.ibm.com/holddata/390holddata.html](http://service.software.ibm.com/holddata/390holddata.html)

## Reminders:

- The native SSL/TLS support in the TN3270 server and FTP client and server will not be enhanced to address FIPS 140-2 requirements
  - Use AT-TLS instead
- IBM intends to withdraw BIND DNS 9.2.0 function from z/OS Communications Server
  - IBM recommends you use the Resolver cache function in z/OS V1.11 to cache DNS responses
  - If you use the z/OS BIND 9.2.0 function as a primary or secondary authoritative name server, you should investigate using BIND on Linux for System z

In a future release, IBM plans to withdraw support for zFS multi-file system aggregates

- When this support is withdrawn, only zFS compatibility mode aggregates will be supported. (A zFS compatibility mode aggregate has a single file system per data set.)

## Reminders:

- Infrastructure for RTLS for Language Environment
  - Last release to support Run-Time Library Services z/OS V1.5
  - In z/OS V1.12, IBM removed the underlying CSVRTLS services
  - A way to track usage so you can find any programs that using these services available for z/OS V1.9, V1.10 with the PTF for APAR OA29019
- msys for Setup element of z/OS has been removed from z/OS V1.12
  - IBM intends to continue to deliver improvements to help with z/OS setup and configuration in the future
- IBM no longer plans to withdraw support for VSAM IMBED, REPLICATE, and KEYSRANGE attributes in a future release
  - Based on customer feedback
  - IBM recommends that you stop using these attributes
  - IBM still plans to remove IMBED and REPLICATE attributes during logical DFSMSdss restore operations and DFSMSHsm recall operations as announced in IBM United States Software Announcement 207-175, dated August 7, 2007

## Reminders:

- IBM plans to pursue an evaluation to the FIPS 140-2 using NIST's Cryptographic Module Validation Program (CMVP) for the PKCS #11 capabilities of ICSF. The scope of this evaluation will include algorithms provided by the CPACF that are utilized by ICSF. This is intended to help satisfy the need for FIPS 140-2 validated cryptographic functions when using z/OS Communications Server capabilities such as the IPsec protocol.
- Plans related to Extended Address Volume (EAV) larger volume sizes as described in 5694-A01, Preview: z/OS V1.10, announced in Software Announcement 208-042, dated February 26, 2008, will be communicated at a later date.



## New news

- IBM plans to add support for Microsoft® Windows® 7 64-bit Professional Edition to z/OS Management Facility V1.12 with the 32-bit version of Internet Explorer 8 and Mozilla Firefox 3.5. IBM plans to add support for the 32- and 64-bit versions of Windows 7 Professional Edition to DFS SMB Client, Hardware Configuration Manager, and NFS.
- z/OS V1.12 is the last release to include z/OS Distributed Computing Environment (DCE) and Distributed Computing Environment Security Server (DCE Security Server).
  - IBM recommends the IBM WebSphere® Application Server, the IBM Network Authentication Service, and the IBM Directory Server as replacements. See the DCE Replacement Strategies Redbook for more details:

<http://www.redbooks.ibm.com/redbooks/pdfs/sg246935.pdf>



## New news

- z/OS V1.12 is the last release to include z/OS Distributed File Service support using the Distributed Computing Environment (DCE) architecture
  - IBM recommends the z/OS Network File System (NFS) as a replacement
  - Support in Distributed File Service for Server Message Block (SMB) architecture remains, and is not affected by this withdrawal of support
- In a future release, IBM plans to remove the capability to change the default Language Environment run-time options settings via SMP/E installable USERMODs. IBM recommends using the CEEPRMxx parmlib member to change the default Language Environment run-time options for the system.
  - Support for NONOVR added in z/OS R12
- z/OS V1.12 is planned to be the last release to include the z/OS UNIX System Services Connection Scaling functions provided by the Connection Manager and Process Manager components.



# The Future Runs on System z

Optimize your z/OS environment



z/OS

