z/OS Version 2 Release 2 highlights designed to support:

Exceptional service levels with:
- Simultaneous multithreading on zIIP specialty engines on z13 processors for higher overall throughput
- Up to 141 configurable processors or up to 128 processors per LPAR on z13 processors when running in SMT mode
- Improved autonomics for health-based workload routing in a Parallel Sysplex(R) with new z/OS Workload Manager (WLM) and XCF functions to help improve availability

• **Analytics enablement with information management, storage, and delivery capabilities:**
- Support for up to 4 TB of RAIM memory per LPAR to improve performance of IBM DB2 (R) and other data-intensive processing workloads
- Fabric I/O Priority, extending Workload Management into the SAN fabric to prioritize your most important workloads and help improve service levels
- 16 Gb FICON(R) links to help reduce I/O latency
- A new IBM designed zHyperWrite™ capability that helps you achieve better DB2 log write performance when using Metro Mirror (PPRC) in a HyperSwap-managed environment

z/OS V2.2 - planned to run with z10 Processors and later

• **A trusted and resilient system of record:**
- Faster data encryption to handle increased transaction volume with both a new Crypto Express5S cryptographic adapter and improved compressor-based, on-chip cryptography
- Digitally signed SMF records designed to provide a trusted audit repository
- Improvements to secure communications, additional support for ciphers and RACF(R) enhancements

• Capturing the potential of the mobile enterprise:
- System SSL's new OCSP support is designed to help reduce risk and improve the security of mobile and other transactions by checking certificate revocation status over the network.
- Mobile Workload Pricing programs help you reduce software costs during periods of peak mobile transaction workload processing.
- The z/OS Connect software interface between mobile and backend systems is designed to help you easily integrate your z/OS systems into your mobile computing environment.

Exceptional scalable environments with clouds

- Any company implementing a private cloud will appreciate the scale of z/OS with up to 141 configurable processors or up to 128 processors per LPAR on z13 when running in SMT mode, and support for up to 85 LPARs to accommodate huge, diverse workloads and cloud environments.
- Simultaneous multithreading (SMT) support for zIIP processors is expected to offer throughput improvements you can use to address the growing volume of zIIP-eligible work, such as Java-based IBM WebSphere(R) Application Server and CICS(R) Transaction Server Java-based transactions, in addition to XML parsing.
- Enhanced WLM and XCF infrastructure designed to adjust server health values and help optimize workload routing.
- Infrastructure as a Service (IaaS) REST-based z/OS interfaces that let you build and deploy services like cryptographic services, file management services, and z/OS batch services that can be used to build cross-platform, browser-based, client-facing applications.

Enable analytics with information management, storage, and delivery

- Analytics applications are enabled through enhancements such as large memory--up to 4 TB per z/OS image on z13--to unleash the power of large data in memory for processing big data.
- Enhancements to vector processing can be used for analytics acceleration, using new SIMD facilities.
- 16 Gb FICON support can reduce I/O latency.
- Fabric I/O Priority helps ensure that your most important work is processed first to help you meet critical service levels.
- A new zHyperWrite capability helps you achieve better DB2 log write performance when using Metro Mirror (PPRC) in a HyperSwap-managed environment.

Deliver a trusted and resilient system of record

- SMF record signing intended to make your SMF-based auditing data a highly trusted repository
- A new RACF read-only auditor capability for stronger separation of duties between security auditors and security administrators
- Increased protection against attacks with a variety of strengthened security capabilities in RACF and other system components
- Faster data encryption to handle increased transaction volume with the new Crypto Express5S cryptographic adapter and improved performance for on-chip cryptographic coprocessors; also, improved virtualization of the cryptographic adapter across up to 85 domains for improved economics.

Capture the potential of the mobile enterprise

- Enhancements to communications can help you reduce the time to respond, even more critical in the new mobile landscape. For instance, the enhanced Communications Server support for RDMA over converged Ethernet (RoCE), which is designed to reduce communications latency and improve bandwidth for many workloads, is designed to offer improved economics by allowing as many as 31 z/OS images to share each adapter.
- z/OS uses fast Crypto Express5S functions to help you encrypt more transactions in the same period of time, ideal for mobile banking.
- z/OS V2.2 System SSL enhancements support the online certificate status protocol (OCSP) to help detect revoked certificates.
- Enhanced vector facilities and support for large memory make it possible to incorporate real-time analytics processing in transactions for retail, healthcare, financial, and other mobile applications.
- A new Mobile Workload Pricing strategy can help you address the cost of mobile workloads during peak processing periods.
- The WebSphere Liberty z/OS Connect function enables z/OS-based systems such as those built using CICS and IMS™ to easily participate in mobile computing environments.

z/OS V2.2 is planned to be the last release to include the RMF XP support for Microsoft Windows Server.

Note: To find the complete set of PTF requirements for z13 processors, IBM recommends you use the appropriate FIXCAT category and the SMP/E REPORT MISSINGFIX command.

The z13 server with z/OS V2.2 enables a new tier of innovation that can catalyze your ability to reach new markets and capture new revenue opportunities.

Planned z/OS enhancements are designed to leverage the new z13 chip multithreading design, vector processing, and huge amounts of memory to help with throughput, performance, and latency.

Data serving is promoted to a new level with new I/O capabilities designed for throughput and autonomics, enhanced vector processing support, and memory scalability designed to improve performance.

With new mobile capabilities you can understand customer sentiment in real time, process information in your cloud, conduct transactions with a mobile device, and serve customers across the globe

z/OS V2.2 run on these z Systems servers:
- IBM z13
- IBM zEnterprise(R) EC12 (zEC12)
- IBM zEnterprise BC12 (zBC12)
- IBM zEnterprise 196 (z196)‡
- IBM zEnterprise 114 (z114)‡
- IBM System z10(R) (z10™ EC, z10 BC)‡

‡ These products are withdrawn from marketing

IBM continues to simplify z/OS administration and management, and to extend the reach of your existing skills. By improving administrative ease, z/OSMF can help your company gain quality and productivity improvements while reducing opportunities for error. z/OS V2.2 z/OSMF offers many enhancements.

IBM Knowledge Center is IBM's strategic framework for providing Internet-based product documentation. z/OS V2.2 is planned to include IBM Knowledge Center for z/OS, which is designed to provide enhanced search technology similar to that used for Information Centers.

JES2 is planned to provide new function to eliminate the need to tune the checkpoint HOLD and DORMANCYtimes in a multiaccess spool (MAS) environment. The system will be designed to allow you to specify that it automatically react to changes within a MAS and adjust these values dynamically. This is intended to help simplify JES2 management.

Availability

A new z/OS V2.2 **WLM service** will be designed to accept server health adjustments from other servers in a sysplex. Cross-system coupling facility (XCF) processing will be designed to provide server health adjustment factors to WLM based on how well servers are processing XCF messages, lowering or raising the health factors as circumstances warrant. This new function is expected to help workload balancers that use WLM services to route work to servers that are working well and away from those that are not, helping improve application and Parallel Sysplex availability.

z/OS **Runtime Diagnostics (RTD)** is planned to identify servers having health values that fall below the maximum (100), to help you identify server health issues that might be causing system problems.

z/OS V2.2 DFSMS will be designed to provide **new FlashCopy(R) function** by supporting up to 12 targets for incremental FlashCopy. z/OS V2.2 will be designed to allow LOGREC data sets to be deallocated without an IPL.

New keywords for CFRM policy definition to allow you to specify which sites should be preferred when a structure is duplexed

Predictive Failure Analysis (PFA) will be designed to monitor several ranges of private area virtual storage for multiple address spaces and to warn you when one or more of those address spaces exceeds criteria that can indicate eventual private area virtual storage exhaustion.

System logger is planned to provide support for preallocating offload datasets.

SLIP processing is planned to be changed to allow you to specify an operator console command to be issued when the trap is matched (flexible way to issue operator commands during problem diagnosis).

Scalability and performance

I/O priority is set throughout much of the system by the I/O supervisor (IOS) and z/OS Workload Manager (WLM) components and honored by the channel subsystem and IBM System Storage DS8000 series control units. z/OS V2.2 will be designed to provide additional prioritization data for the **FICON fabric** so that the **highest priority write** operations can be done first when the fabric becomes congested.

New **vector extension** facility (**SIMD**) instructions available on **z13 servers** (single instruction, multiple data) enabled for high-performance analytics processing and is planned to be exploited by z/OS XML System Services; IBM 31-bit SDK for z/OS, JavaTM Technology Edition, Version 8 (5655-DGG); IBM 64-bit SDK for z/OS, Java Technology Edition, Version 8 (5655-DGH Enterprise PL/I for z/OS, V4.5 (5655-W67); and Enterprise COBOL for z/OS, V5.2 (5655-W32) in February 2015. WebSphere Application Server for z/OS, V8.5 (5655-W65) workloads running with Java 8 are expected to benefit from SIMD exploitation.

z/OS Global Mirror (XRC) will be designed to work with z/OS Workload Manager and IBM System Storage DS8000 with the z/OS Global Mirror feature to automatically throttle low-priority write operations when they would cause significant delays that might affect response time.

IBM **zHyperWrite** is a new technology that combines DS8000 and z/OS enhancements that deliver performance benefits for writing operations to DB2 logs in the Metro Mirror (PPRC) environment. This new technology can help reduce up to 43% of the DB2 log write time (Note – performed under IBM laboratory tests).

zEnterprise Data Compression (zEDC) with DFSMSdss and DFSMShsm are designed to exploit this capability for dumping and restoring data and when DFSMShsm uses DFSMSdss to move data. This is intended to provide efficient compression with lower CPU overheads than the processor-based and software-based compression methods already available.

Library Lookaside (LLA) will be designed to make it more likely that certain program objects, such as those compiled using COBOL Version 5 (5655-W32), can be cached by LLA in VLF.

DFSMSdfp VSAM record-level sharing (RLS) processing will be designed to use a control area (CA) level lock rather than a data set level lock for operations that affect only a single CA.

DFSORT is planned to provide support for high-performance FICON (zHPF), when available, for SORTIN, SORTOUT, and OUTFIL data sets.

z/OS V2.2 is planned to support up to **four subchannel sets** on **z13 servers**. This helps relieve subchannel constraints, and can allow you to define larger I/O configurations that support multi-target Metro Mirror (PPRC) along with large numbers of PPRC secondaries and Parallel Access Volume (PAV) aliases.

A number of improvements are planned for **z/OS V2.2 zFS**, which will be designed to provide significant performance improvements for directory update processing. Also, the **zFS kernel** is planned to support 64-bit addressing (AMODE64).

UNIX System Services will be designed to support a substantially increased number of threads. The current limit on the # of threads that can run in the kernel is approximately 32,000. The new expected limit is approximately **10X the current limit**. Support up to **4 TB of real memory in a single LPAR** on **z13 processors**. This is intended to help support more workload per z/OS image and more memory-intensive applications.

Generation data group extended (GDGE), which is planned to allow you to specify that up to 999 generations be kept when the function is enabled in an IGGCATxx member of parmlib.

Simplification and usability

z/OSMF is planned to include a number of new functions:

An enhanced **File and Data Set REST API**, designed to allow you to edit and browse data sets and files and intended to support data sets and files up to 8 MB in size.

Two enhancements for the **workflow engine**: First, a REST API is planned to allow exploiters to initiate, monitor, and terminat workflows. Second, support to allow one workflow to call another is planned. These new functions will be intended to make the workflow engine's functions easier to integrate seamlessly with other configuration applications and to allow workflows to become reusable building blocks.

Support for the **definition of systems and user-defined groups**. These will be intended to allow you to drive actions across appropriate groups, in addition to driving actions for specific members of a group. Also, graphical display support is planned to make it easy to see the topology view.

Configuration is planned to be simplified in a number of ways**. Plug-in configuration** is planned to make further use of the workflow engine to help guide and simplify plug-in enablement.

The Jobs **REST API** is planned to allow you to retrieve the new step-level completion codes in JES2 environments.

JES2 and SDSF will be designed to support a new way to track job step completion codes.

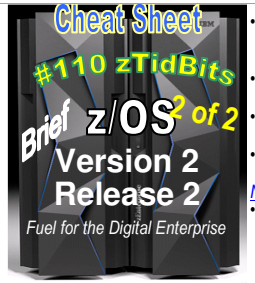
SMP/E will be designed to enhance ZONEMERGE command processing.

A **new SCHEDULE JCL** statement is planned; STARTBY and HOLDUNTL keywords of SCHEDULE will be designed to make it easier for you to submit jobs intended for later execution without the need to log onto a system at the time you want the jobs to run.

z/OS UNIX System Services bpxmtext command can be used to retrieve information about return codes from various messages, including z/OS UNIX, Language Environment(R), Communications Server, zFS, and TFS. In z/OS V2.2, support is planned to be added for NFS messages. This is intended to make it faster and easier to interpret return codes from NFS messages.

Infoprint Server will be designed to support a new TSO/E command intended to allow authorized users to start and stop Infoprint Server PrintWay™ extended mode printers.

DFSMSdfp will be designed to improve the processing for DEVSUPxx parmlib members.planned to include **IBM Knowledge Center for z/OS,** which is designed to provide enhanced search technology similar to that used for Information Centers. It is also designed to allow you to create your own local repositories and tailor the content presented from them.



Simplification and usability continued

z/OS V2.2 DFSMSdfp will be designed to improve the processing for **DEVSUPxx parmlib members**. The system is planned to:

- Allow a subset of them to be specified in a member used for a SET DEVSUP command.
- Allow you to specify more than one DEVSUPxx member in a single SET command.
- Continue processing keywords after a keyword error is detected during IPL.
- Display additional information about tape-related DEVSUPxx parameters with new support in the DEVSERV command. A new DEVSERV QLIB operand will be intended to display settings for TAPEAUTHDSN, TAPEAUTHF1, TAPEAUTHRC4, and TAPEAUTHRC8.

CommServer is planned to improve scalability for Enterprise Extender connections.

Systems management

IBM plans a number of enhancements related to **System-Managed Storage (SMS).**

- SMS will be designed to allow you to specify up to three symbols in an IGDSMS*xx* member of parmlib to be used within automatic class selection (ACS) routines.
  - This is intended to make it easier for you to reuse ACS routines on different systems.
- Second, SMS will be designed to allow you to specify a new, optional data class attribute for data sets allocated using **Guaranteed Space** to indicate whether they are eligible for space reduction.
  - This is intended to help reduce allocation failures when the requested space is not available.
- The DISPLAY SMS,SG command will be designed to display the space usage statistics for the specified pool storage group.
  - This is intended to make it easier to see when it might be necessary to change a storage group's space management settings or add volumes to a storage group.

CommServer is planned to help simplify security configuration for IPSec.

- SMS will be designed to allow you to specify storage group space warning thresholds separately from the high allocation thresholds.
  - This is intended to allow you to set a lower threshold for warning messages, which can provide more time to react to storage group space shortage conditions.
- DFSMSdfp is planned to support a new secondary space reduction specification for data classes.
  - This will be intended to allow the system to extend data sets by less than their originally specified secondary space allocation amounts when doing so would avoid allocation of space on additional volumes.
  - This function will be designed to provide support for SMS-managed nonstriped VSAM data sets and non-VSAM data sets, and is intended to help you improve disk space utilization.
- The **DADSM preprocessing exit IGGPRE00** will be designed to allow you to modify SMS Space parameters.
  - This is intended to improve the flexibility you have available in this exit.
- A new **health check for FICON dynamic routing**.
  - This function will require function **planned for z13 processors** and **IBM System Storage DS8000 series** devices with a minimum MCL and designed to check all components of a dynamic routing fabric. Note:. This support, also planned to be available for z/OS V1.13 and z/OS V2.1 with APAR OA43308, is intended to help you identify misconfiguration errors that can result in data integrity exposures.

z/OS V2.2 is planned to include OpenSSH 6.4p1.

- A number of **catalog-related enhancements** are planned.
  - DFSMSdss will be designed to allow you to specify that a catalog be restored to any volume with like geometry.
  - A new setting for parmlib member IGGCATxx will be designed to allow you to change the scratch default for generation data group (GDG) and generation data group extended (GDGE) base entries.
  - A new health check will be designed to identify catalogs residing on volumes whose devices are defined as shared in the active IODF that might have their SHAREOPTIONS set incorrectly too provide additional recovery options, improve usability, and help you prevent catalog data integrity exposures.
- **DFSMShsm** will be designed to support distributed dump processing across multiple LPARs for Fast Replication operations in a Parallel Sysplex.
- **DFSMShsm Fast Replication** processing will be designed to support stacking multiple copy pools on a single tape & to allow you to specify that it use multitasking to process Fast Replication requests even when doing so would use more tapes.
  - Fast Replication processing designed to optionally write messages issued during the operation to a data set.
  - These enhancements are expected to be particularly valuable in DB2 environments.
- **DFSMShsm** is planned to extend its support for storage tiering.
  - These extensions will be designed to support command-initiated transitions and data movement.
  - They will be intended to allow you to specify that inactive data sets be moved between storage tiers, moved from one storage group to another, and moved from one volume to another volume within the same storage group.
- **IBM System Storage Easy Tier(R)** is now designed to allow software-defined policy information to be communicated to Easy Tier control units, to help them efficiently deploy storage.
- **RMF** is designed to support a **new Monitor III report**, the Job USAGE report, to display information about address space resource consumption, including I/O-related, CPU-related, memory-related, and GRS-related information.
  - **RMF** is planned to provide **RMF Monitor III** support for the zEnterprise Data Compression (zEDC) and RDMA over Converged Ethernet (RoCE) features available on zEC12, zBC12, and z13 servers.
- **Capacity Provisioning Manager** and the corresponding z/OSMF plugin are planned to support the provisioning of capacity based on overall CPC-wide utilization. This new function will be designed to allow you to specify that when the sum of LPAR busy for all LPARs approaches a particular percentage of the capacity of the entire CPC, more capacity should be added automatically.
- **Health Checker** is planned to provide **System REXX (SYSREXX)** language support to allow health checks to store and retrieve persistent data, as is already supported for checks written using High Level Assembler.
- Support for **specifying limits on 24-bit, 31-bit, and 64-bit storage** ina new parmlib member is planned.
- **ISPF** is planned to provide a **new option** you can use to completely disable the **use of ISPF Edit Pack**.
  - This function will be designed to allow you to help control CPU utilization for ISPF users by preventing the overhead of software compression and inflation for data sets used in conjunction with ISPF and ISPF services, and assure that newly created and unpacked data sets processed by ISPF can be easily processed by other programs.
- **Common event adapter (CEA)** is planned to support new CEAPRMxx parmlib specifications to allow you to control the limits on the number of TSO/E address spaces available for the z/OSMF ISPF task and the number of concurrent TSO/E address spaces allowed for each ISPF task user.

z/OS V2.2 will be designed to support a number of enhancements for system symbols. The system will be intended to support symbols that are up to 16 characters in length, to allow you to assign values with lengths greater than their symbol names, to support values up to 44 characters long, and to support a larger symbol table intended to accommodate more symbols, or longer symbol names and values.

In addition to providing improved usability for system symbols, this is intended to allow you to fully represent data set names and complete IP v4 /v6 addresses in system symbols.

System SSL will be designed to allow SSL sessions to be reused across different TCP ports, and FTP will be designed to allow new data connections to reuse associated SSL sessions for better compatibility and performance with certain FTP servers and clients.

z/OS support for z Systems

z/OS exploits many of the new functions and features of z13

- z13 provides SMT support for certain specialty engines. z/OS V2.2 is planned to support the use of SMT for zIIP processors.
  - IPL-time controls to enable SMT and set the SMT mode
  - Post-IPL controls to dynamically switch the SMT mode
  - SMF Type 30 record fields with a normalized value for CPU time spent on a processor running in SMT mode
  - SMF Type 70 records with new SMT-related fields
  - Parallel Sysplex services (XES) use of SMT mode for workloads using zIIPs to help improve physical processor utilization for synchronous requests
  - Hardware Instrumentation Services (HIS) updates to provide measurement data in SMT mode
  - New RMF metrics to help you with capacity planning and performance analysis.

- **IBM Tivoli Directory Server (ITDS, LDAP**) will be designed to allow you to specify that a number of additional events be recorded in the LDAP activity log and in SMF Type 83 records. This data is intended to help you diagnose problems with LDAP servers, help you detect denial of service attacks, and help improve auditability for LDAP-related activities.
- z/OS V2.2 will be designed to provide additional information when the system is **IPLe**d using **an alternate nucleus,** by adding the IPL device number and volume serial number to an operator message.
- **Server Timer Protocol (STP**) is planned to issue additional z/OS console messages to notify you of events that can affect sysplex timing.
- **Infoprint Server** will be designed to support converting its daemons to started tasks in sysplex (monoplex) and Parallel Sysplex environments intended to make it easier for you to automate startup and recovery actions.

Networking

CommServer is planned to enhance the CICS Sockets Listener interface.

- z/OS **V2.2 Communications Server** is planned to support the new virtualization capability planned for RDMA over Converged Ethernet (RoCE Express) features on z13 processors. This new support will be designed to allow you to fully utilize the ports in the RoCE adapter and to share adapters across up to 31 z/OS images on a z13 processor. Also, z/OS V2.2 Communications Server is planned to support selecting between TCP/IP and RoCE transport layer protocols automatically based on traffic characteristics, and to support MTU sizes up to 4K for RoCE adapters.
- z/OS **V2.2 Communications Server** is planned to support a number of capabilities intended to make the V2.2 Communications Server meet the requirements of the United States **National Institute of Standards and Technology** (NIST) Special Publication SP800-131A, with:
  - Updates to the **z/OS UNIX System Services** based Sendmail client and server, with support for **TLSv1.2, SHA-2 hashes**, and encryption key strengths of 112 bits or more. This capability is also available on z/OS V2.1 with PTF UI13138 for APAR PM96896.
  - Updates to the **SNMP Agent**, the z/OS UNIX System Services SNMP command, and the SNMP manager API to support the Advanced Encryption Standard (AES) 128-bit cipher algorithm.
    NOTE: This capability is also available on z/OS V2.1 with PTF UI13140 for APAR PM96901.
  - An updated Digital Certificate Access Server (DCAS), with support for TLSv1.1 and TLSv1.2, including a new set of TLSv1.1 and TLSv1.2 2-byte ciphers.
    NOTE: This capability is also available on z/OS V2.1 with PTF UI13139 for APAR PM96898.
  - Support for **centralized policy agent clients** to communicate with policy agent servers using both TLSv1.1 and TLSv1.2, including support for a new set of TLSv1.1 and TLSv1.2 2-byte ciphers.
    NOTE: This capability is also available on z/OS V2.1 with PTF UI13120 for APAR PM96891.
- Communications Server is planned to enable the TCP/IP stack and strategic device drivers, including OSA-Express QDIO, HiperSocketsTM, and RoCE, to **run in 64-bit addressing mode (AMODE 64).**
- **Communications Server** is planned to increase the maximum number of application-instance dynamic virtual IP addresses (DVIPAs) for a single TCP/IP stack from 1,024 to 4,096.
- **Communications Server** is planned to help improve load balancing on systems where system resolver cache has been implemented to allow systemwide round-robin reordering of the IP address lists associated with each cached hostname.

Application development

- z/OS V2.2 **XL C/C++** is planned to provide support for the new z13 processor, with ARCH(11) and TUNE(11) parameters designed to take advantage of the new instructions to better optimize your generated code.
- Additionally, z/OS V2.2 **XL C/C++** is planned to deliver a number of usability and performance enhancements:
  - **Inline assembler statements** support will be designed to allow you to insert assembler statements inlined with XL C and XL C++ code. This support will be designed to not require Metal C compilation and to allow you to easily use specialized instructions with your C and C++ objects..
  - **Runtime architecture blocks** will be designed to allow you to use a single source file with sections designed to take advantage of various hardware architecture levels and select the appropriate path to be run at execution time. This function will be designed to allow a single executable to have optimized paths for various hardware levels to deliver improved performance.
- **XL C/C++** is also planned to deliver automatic conversion of code to take advantage of the vector facility, to allow more efficient use of the hardware, and to parallelize code for better performing applications.
- Introduction of a new **z/OS Client Web Enablement Toolkit**, designed to enable applications written in C/C++, COBOL, PL/I, and High Level Assembler to participate more easily as a client in a RESTful web application programming model.
- **Infoprint Server** is planned to provide new function in IP PrintWay extended mode that you can use to add personalized text to emailed notes that include print output.
- **DFSORT** is planned to support two new date functions. A WEEKNUM function will be designed to convert input dates to numbers representing corresponding weeks of the year. An AGE function will be designed to calculate the time between a given date and the current date.
- V1.13 introduced support for user-defined line commands for **ISPF Edit and View**. In z/OS V2.2, this **support is extended** to allow you to pass predefined line commands to the Edit and View interface services (EDIF and VIIF) and to allow you to specify a set of line commands in a new global line command table.
- IBM **HTTP Server Powered by Apache** is planned to replace IBM HTTP Server powered by Domino (R).
- **Program Management Binder** is planned to support a new dynamically linked library (DLL) for C/C++ language AMODE 64 callers of binder services.
- **NFS** will be designed to support being called from **clients in 64-bit addressing mode (AMODE 64).** This is intended to help support the placement of z/OS UNIX System Services data areas above the 2 GB bar and to reduce the overheads required to switch into and out of AMODE 64.
- **CIM** is planned to include Version 2.2 of the Standards Based Linux™ Instrumentation for Manageability (SBLIM) CIM client for Java, which is designed to be a JSR48-compliant implementation.
- A number of small enhancements are planned for z/OS V2.2 **System REXX (SYSREXX**), including support for commands designed to allow you to:
  Cancel requests / Terminate TSO=YES address spaces / Initiate TSO=NO requests / Stop the AXR address space
- Planned to support for the **new vector extension facility (SIMD) instructions** available on z13 servers.
  - WebSphere Application Server for z/OS Liberty Profile V8.5.5.5 (5655-W65) applications using the Liberty profile and running with Java 8 are expected to benefit from SIMD exploitation.
- **XL C/C++** is planned to provide support for the new z13 processor, with **new ARCH(11) and TUNE(11)** parameters designed to take advantage of the new instructions and better optimize the generated code.
- z/OS V2.2 will be designed to **support up to 4 TB of real memory** in a single LPAR on z13 processors.
  - This is intended to help support more workload per z/OS image and **more memory-intensive applications.**
- z/OS V2.2 is planned to be the **last release to support the HCD LDAP** backend for use with the IBM Tivoli Directory Server for z/OS (LDAP).