z/OS V2R1 Questions and Answers

Q. CF Structure Rebuild Performance Enhancement - how do you specify the priority/how do we prioritize what get rebuilt first?

A. This question pertains to the z/OS 2.1 "Serial rebuild" line item, in which the rebuild of multiple structures is done serially instead of in parallel and in a defined order so that the more important structures get rebuilt first.

z/OS defines a default prioritization for the structures, so that by default, we rebuild first the structures that z/OS likes -- XCF signaling structures, lock structures, etc.

If you don't like this prioritization, you can define your own using new keywords in the STRUCTURE definition in the CFRM policy, for each structure. This overrides the z/OS default prioritization. There are two stages of rebuild; system (e.g., XCF signaling) structures and "other structures." The system structures are rebuilt in a fixed order that you cannot change, and they will have QUASTRSYSRECPRTY set in IXCYQUAA; and, if message IXC360I is issued after a DXCF command, a system-determined priority will be displayed. The other structures will be rebuilt according to their priority in the CFRM policy, using the new RECPRTY keyword.

Q. About the RACF Health Check for "impending certificate authorization". How far out is it checking and can those parameters for the expiration dates be altered or changed?

A. The check (RACF_Certificate_Expiration) defaults to 60 days, but can be set by parameter to zero (0) to 366 days.

This check is designed to detect that a trusted certificate connected to one or more key rings is due to expire within a time period you specify. This is intended to help alert you of pending certificate expiration in time to enable you to take an action to prevent applications that rely on valid certificates from failing.

Q. For the “ISPF Edit support for regular expressions in FIND and CHANGE commands” – what does this mean? Are these UNIX terms? Are these commands Posix or Perl standards/format?

A. Regarding the regular expression support in the ISPF editor, this is implemented using the z/OS XL C/C++ regcomp() and regexec() functions. ISPF uses the extended regular expression support provided by regcomp(). These functions are implemented based on the XPG4 standard, which is a POSIX standard.

For information on the regcomp() function and supported regular expression see:

http://publib.boulder.ibm.com/infocenter/zos/v1r13/topic/com.ibm.zos.r13.bpxbd00/regcomp.htm#regexdf

Q. Regarding z/OSMF - Client asks if there is any interface, now or planned for the future, between z/OSMF and IBMLink
A. Not at present, and no plans that I know of, but I believe you can add your own links to the z/OSMF navigation tree.

Q. Also about z/OSMF - is there a plug in for Eclipse for z/OSMF?
A. z/OSMF's User Interface is web-based, and Eclipse is workstation-based. There's one connector I know of.

Q. For the Health Check for VLF cache object age – can we provide more information about what this means? How early does it let you know about an object in the VLF?
A. This health check helps you manage the amount of virtual storage used by the virtual lookaside facility (VLF). This is designed to enable you to specify a minimum age for VLF-cached data and notify you when the time objects that have been cached fall below that minimum. This is intended to help you choose the best settings for the MAXVIRT parameters for each class of objects specified in the COFVLFx member of parmlib to improve overall system performance.

Q. Client wants information about what DCM is and what is the enhancement provided for FICON channels?
A. DCM dynamically assigns channel paths to disk control units as needed to meet demands for bandwidth. With DCM you assign a (minimum) number of "unmanaged" channels for availability purposes and then specify a number of managed channels. DCM moves the managed channels around to meet the peak I/O rate demands for each control unit. Because I/O peaks are rarely seen on all control units at the same time, DCM can allow you to use fewer channels, switch ports, and control unit ports. Alternatively, with the same numbers, you can see better performance as channel paths are moved from control units that don't need them to control units that do need them. DCM in conjunction with High Performance FICON (zHPF) can have a very nice effect on effective bandwidth and maximum sustainable I/O start rates.

Q. Client asks if ZDAC interfaces with HCD, then how or where does that occur?
A. zDAC is used via HCD. You define a policy and zDAC discovers the devices. In HCD, you can display and edit the policy-based configuration zDAC creates and then create and activate an IODF. The idea is that you can do this more quickly than you can do the updates by hand.

Q. Client asks if existing zFS file systems have to be “converted” to zFS V5?
A. You are not required to convert them to V5 in z/OS V2.1. In fact, you should not convert them until you are on V2.1 to stay (beyond the back out window).

Q. Also do existing zFS file systems automatically become useable under zFS V5?
A. z/OS V2.1 supports both zFS V4 and V5 file systems

Q. Regarding symbol updates, client does not understand what new capability is being provided with this, what's different about sym update?

A. The new capability is supported, and a **SETLOAD IEASYM command** reads an IEASYMxx member of parmlib to apply the changes to system symbol definitions. It also issues an ENF signal so programs that cache symbols can listen for it to update or invalidate their caches. Last, the processing differs and it is not compatible with IEASYMUP or SYMUPDTE. However, due to customer demand, we have added an IEASYMU2 program you can use in place of IEASYMUP; but, understand that updates made with this program are not honored by SETLOAD and no ENF signal is issued when you use it.

Q. Regarding zHPF, Client explains that their EMC VMAX devices do support zHPF – I had thought this was an exclusive with IBM storage – can you comment?

A. While we generally do not provide information about what other vendors have or don't have, I am told that other storage vendors currently support a subset of zHPF functions. You should contact EMC for questions about EMC support for zHPF.

Q. One slide describes a new IXCNOTE interface for XCF - Client wants to know what IXCNOTE is and what the enhancement is in z/OS 2.1

A. IXCNOTE is a brand new programming interface in V2.1. It's easier to use than other list structure APIs, but for some purposes less robust (and for others, just fine).

Q. Regarding TMP Support for SYSRESXX - Client wants to know what SYSREXX is and what the enhancement are for it in z/OS 2.1.

A. SYSREXX is System REXX, which allows you to do a number of things you cannot do in TSO/E REXX (notably, write exits). The enhancement in 2.1 is support for the consoles environment so that a SYSREXX exec can open and use a subsystem (EMCS-type) console.

Q. Regarding Statements of Direction, is BookManager itself “going away”, or is it just the ability for a customer to write a document?

A. With z/OS V2.1, the capability to build a book is removed. The capability to read them remains in V2.1.

Q. Also in the Statements of Direction, there is mention of the Domino API - is that going away?
A. The HTTP Server Powered by Domino is going away in the release after 2.1. We suggest people migrate to the Apache-based one that is part of IBM Ported Tools (a no-charge product).

Q. Client does have security/crypto appliances out in the network – they are interested in learning more about “Crypto as a Service”

A. It's accessible through an LDAP Extended Operation in 2.1, and we plan to provide some support for another platform that I cannot disclose yet to make it easier to use. The basic idea is that you can drive operations such as Secure Key crypto via LDAP from other platforms, so that the keys used for encryption are never exposed in programmaticaly-accessible memory anywhere.

Q. Re zAware – does it deal with messages that are produced from the IBM Healthchecker facility? In other words, if the Healthchecker produces a message indicating something in the customer environment is at odds with best practices.. does zAware read that message and does it assign an anomaly score to it?

A. The strength of zAware is that it does not require hard-coded rules which need updating but 'learns' what's normal for a system and dynamically highlights what's different. That said, because we are IBM and we know certain messages are always indicative of a problem, we built into the scoring of zAware knowledge of a certain subset of messages, some of which happen to be some Healthchecker messages. In other words, zAware uses many factors to impact both a message score, and a (10-minute) interval score, including rarity of a message, it's frequency, if it's within its normal context of messages, and finally, if it happens to contain a message we know is either critical, or possibly of concern. A Healthchecker message by itself may not cause the score to rise, and in some cases that's good because if Healthchecker is already catching it, you don't need zAware to also do so (we don't want to create more work for an admin.)

Q. Re z/OSMF – does the z/OSMF 2.1 release have any enhancements to make it easier to add a new reporting class?

A. Of course the z/OSMF WLM task supports adding new report classes and the user can take advantage of the z/OSMF benefits. Administering a WLM policy in z/OSMF should be much more user friendly than the ISPF Administrative Application. There were no z/OSMF V2.1 enhancements with respect to report classes compared to earlier z/OSMF releases - if that was the intent of the question.

Q. Also re z/OSMF and it’s new configuration workflow application – do we have any examples of workflows that we can show to our clients?

A. Not at present. The only exploiter in V2.1 is z/OSMF itself. Some capabilities have to be created before they can be exploited, and this is one of them.

Q. Client has hand written channel programs and IOS driver. They do page translation and lookups based on 4K page size. Will the new large 1Mb pages foul things up for them? Programs are written in assembler.

A. 1MB pages will not foul them up from an I/O perspective. I/O architecture still uses 4K boundaries.
Q. Can an application take advantage of $Tbegin$ and $Tend$ for transactional memory? What exploits it today, and how?

A. Yes, an application can take advantage of Transactional Memory. Java exploits it today, but the implementation is not public. The COBOL 5.1 and z/OS C/C++ compilers also exploit it with the appropriate ARCH settings. It can also be done in HLASM. IBM recommends that, except for Java, you migrate to z/OS V2.1 before using Transactional Memory. This is because diagnostic fields were added to control blocks such as the SDWA to make it easier to understand what went awry in the middle of a transaction.

Q. Re zHPF: if you run assembler programs do you have to change them for zHPF and z/OS 2.1?

A. If you use one of the supported access methods or drivers (VSAM, QSAM, BSAM, BPAM, EXCP, or EXCPVR) the channel programs should be converted for you. EXCP and EXCPVR channel programs are not converted automatically. The channel programs must be rewritten to use zHPF. The access methods (VSAM, QSAM, BPAM, and BSAM) do generate zHPF channel programs without applications changes.

Q. Is there a PTF for z/OS 1.13 for the SMF 104 records?

A. The SMF104s are created by z/OS V1.13 already. I believe the new support (data for Microsoft® Windows® 2008 Server running on zBX blades) is only in z/OS V2.1.

Q. How does RLS differ from ECS (record level sharing verses enhanced catalog sharing)?

A. They differ completely. I suggest starting with this SHARE presentation:

https://share.confex.com/share/121/webprogram/Session14142.html

This URL points to Part 1 of a 2-part session but all the charts are posted at the link above. pp. 13-16 provides a graphic view of the differences, and pp. 37-40 and pp. 58-63 have more detail on performance. (It's worth reading all of it; these pages just seem to answer your question most directly.)

Q. Can you explain for DESENQSHR the function of the AUTO-ALLOW-DISALLOW options?

A. Because we cannot know what dependencies might exist among batch jobs, which might deliberately "overserialize" a data set for a variety of reasons or use Dynamic Allocation to change the serialization requirements for data sets on the fly, we had to have some controls over ENQ downgrade. One of them is a system-wide control to prevent people from using it at all, or to allow it. The complete explanation of the syntax is in the JES2 Initialization and Tuning Reference at http://publibz.boulder.ibm.com/epubs/pdf/has2u600.pdf on p. 147.

Another is a job-level control to allow it to be used or not (default is "not"). This provides the capability for the JCL coder to assert that it is OK to downgrade an ENQ obtained by a DISP that requires an exclusive ENQ. This helps prevent a job that used to run to completion from being stalled when another job obtained exclusive use of a resource (a data set) it needed, as well as helping prevent deadly embraces (Job A has resource X and wants Y; Job B has Y and wants X; both wait "forever").
Q. Batch Runtime Environment: There was a bullet for VSAM as a resource manager. What does that mean?

A. That means that, within the BRE that enables interoperability among them, COBOL, PLI, and Java programs can use DFSMSstvs (transactional VSAM) with integrity in addition to DB2.

Q. Regarding the z/OSMF 2.1 new feature "Software Management" that shows the customer information about SMP/E-installed software, a customer asked: "I have many different LPARs. Can this feature somehow differentiate from what is installed or active on one LPAR from another? Or does this feature only know to look at SMP/E zones?"

A. Software Management looks at the zones associated with Software Instances defined within it to determine what is installed. Software Instances are not tightly bound to LPARs (or system names), and there is currently a 1:1 relationship between an SI and a system even though one SI could be used on many systems simultaneously. So you still need to be aware of those relationships to determine which systems are affected.

Further explanation from client about previous question - my request for information was about the slide that stated it could differentiate between having a PTF applied or not, but can it at the LPAR level when all the LPARS access the same target zone but may not have been IPL’ed off the new maintenance RESET yet as IPL’S are rolled in by LPAR within a SYSPLEX?

Further answer - z/OSMF does not know which systems are IPLed from which software instances, nor does it know which subsystems were started with which software instances. It reports at the software instance level, not at the LPAR or subsystem instance level.

Q. The new z/OSMF workflow feature sounds good. But how would such a workflow, for example, to install a new software product, how would that feature interface with or be cognizant of if an account has a very rigorous and thorough change management process?

A. In its current design there is no interaction or integration between z/OSMF workflows and change management systems.

Further explanation of previous question from client - The second question was about interfacing the z/OSMF with server based Change Management software as most large customers would have one that they are required to use which would make the workflow procedure duplicate what has to be done with server software for audit requirements. Looks like we would have to ignore the z/OSMF workflow process other than to verify all parties are included in the change management document. With this said, pretty sure that if we even tried to use z/OSMF the workflow process would be ignored or bypassed because of duplication."

Further answer - The purpose of workflow is to provide a guided procedure for accomplishing some set of goals. In this way, it can partially replace the use of documentation for performing these tasks. If you have a need for the workflow function to interact with change management products, I'd encourage you to submit a requirement for IBM to provide an API in z/OSMF that could some day be used to make this work, and one to your change management product vendor (which might also be IBM, of course) to exploit it once available.

Q. Regarding ISPF, what is Path Mask Support?
A. I believe "Path Mask Support" is referring to the enhancement which allows glob or pattern matching characters to be entered in a z/OS UNIX path name field in order to get a directory list display showing those files and directories with path names that match the specified pattern.

Information on this support is documented here in the ISPF for z/OS V2R1 User's Guide Volume I:

There is a set of questions related to batch, JCL, symbols. Before these specific questions get addressed, here are some overall comments on this topic:

Let me go over some of the issues that JES is trying to deal with. As you know, there are 2 JESes, JES2 and JES3. There are lots of reasons why, and no-one is trying to eliminate one over the other. But there are customer who, due to mergers and other situations end up having both JES2 and JES3 in their enterprise. This becomes a major issue for their newly combined application shops (not to mention their system programmer staff). Application programmers want to code JCL that gets the job done. They do not want to care about JES2 or JES3. So the more these products differ from an application point of view, the more difficult it is to work in this mixed environment. We have been working to reduce these differences over the years. Things like having SDSF work in a similar way for both JES2 and JES3 is one example. SDSF is built on a set of common interfaces that other vendors can use to interact with JES in a common way, That theme is one of the underlying forces in some of these changes.

Q. For the new JOB JCL keywords Systems= and SYAFF =
What problem or issue do these new keywords solve? Or better stating it - what capability will these gives customers? How will customers exploit them?

A. One common requirement of batch jobs is to run on a particular system (or set of systems). Currently the JCL to specify what system to run on is done in JES specific JECL ("/JOBPARM and /*MAIN statements). Though scheduling environment does some of this, there are still times when a job must run on a specific system. This provides a JES independent way to limit where a job can run. It is also the only way to specify MVS system names in JES2 where a job must run (vs JES2 member names).

Q. JES2 supports up to 8 character job class names - to the layman (me), that seems like a very large number of job class names ... what type of situation or customer has been running into this as a requirement?

A. There are 3 things happening here. First is the basic JES3 does 8 character names so we should support that in JES2. The second (related to the first) is that if you are used to job classes like SHORT, LONG, FAST, OFFSHIFT, etc, then it is a big change to try to change back to one character classes like S, L, F, O. Also, in many shops, you start asking what they use a class for (i.e. what is class X for), many times its usage is lost to history. SHORT and LONG at least have a better chance of being remembered. The final reason is that we are adding new keywords to job classes to control processing. If a customer wants to turn these on for certain classes or jobs, having only 36 one character classes will make that more difficult.

Q. Various slides describe capabilities for symbols, including
Any system symbol (IEASYMxx) can be referred to in JCL -
Makes JCL symbols available to running job

JCL symbol service IEFSJSYM

JES symbol service IAZSYMBL

JES or JCL symbols can be passed on INTRDR

It's not clear to me in general how customers benefit from or use Symbols... so it is difficult for me to understand the impact of these new enhancements. So first, is there any way you could either briefly explain or point me to some documentation that explains what customers do today with Symbols. And then give me your perspective on what benefit these new enhancements provide customers?

A. This is an interesting one. Going back to the original requirement, we had a customer that wanted to write JCL that could be tested in their test environment and then move into their production environment without ANY changes. So in their test environment, the accessed data sets that had a high level qualifier of TEST (so data sets like TEST.ORDER.STATUS). Then in their production environment, the real data sets started with PROD (so the data sets were PROD.ORDER.STATUS). They wanted to be able to set their JCL to reference &ENV.ORDER.STATUS and then have an &ENV symbol set to TEST on the test system and PROD on the production system. Symbol substitution allowed the correct data set to be used based on where the JCL was used. This is just a simple example of the idea here. Write the JCL once and have the JCL work differently based on the variables set on the system.

Q. Another slide relating to batch describes a New Job Correlator Function and a 64 byte unique identifier to track and manage jobs
Why do customers need 64 byte unique identifier? What was the limit before? Is this something that other IBM or ISV software will exploit?

A. This has a long history. Lets start with a simple problem. I have a job I want to cancel. I look and it has a job number of 1234. What I do not know is that someone else also sees the job and wants to cancel it. So before I can issue my $CJ1234 command, someone else issues the same command. AND after the job is purged, a new job comes in and is assigned the same job number (this can happen with NJE). So in the time it took me to decide to cancel a bad job number 1234, a new good job was created and I end up canceling the good job. This is where a unique identifier comes in.

But it is more than just that. Many customers use positions in the job name to convey meaning about a job. So the first character being B means the Boston office. Or maybe, they use the 3 character airport designation. So things like LAX or RST. Then they use other positions to indicate other attributes of the job. Perhaps original company from before a merger. The problem is that 8 characters is not enough for some companies. The user portion of the correlator (32 characters) is designed to provide a way to provide the additional meaning that was in the job name. So you can tag each job with 32 characters of data that can then be used to better identify a job or a group of jobs and also take action on a group of jobs. In some ways it is just a longer job name.

The correlator is also intended for use in looking at things like SMF records and associating them appropriately.

Q. In the z/OS 2.1 Migration presentation, there is a slide describing “z/OS V2R1 Elements (changing in z/OS R13 and V2R1)” which mentions
Communication Server Security Level 3
and
z/OS Security Level 3
What are these?

A. These are the export-restricted optional security features. Some technologies have restricted distribution (as in France, where only banks are allowed to use certain encryption options) and some cannot be sent to embargoed countries (where the US Government wants to make life slightly more difficult for some reason or another).

Q. Several presentations and documents mention that in z/OS 2.1 we have the "z/OS Font Collection". I read the description, but what I don't understand is why this was added to z/OS 2.1 and what is the significance?

A. z/OS was the only operating system that we could find that did not include fonts. The fonts alone made up a substantial percentage of the ordering checklist, too.

Q. The z/OS Migration presentation has a slide which describes "Element and Functions Withdrawn from z/OS V2R1" which mentions zFS multifile system aggregate and zFS cloning file systems

I am not sure what these are, why they are being removed and what impact this has on a client

A. It used to be possible to have multiple logical file systems (including clones) in a single zFS linear data set. Now, it's not. If customers implemented multifile system aggregates they had to allocate additional file system data sets and copy the logical file systems to separate "compatibility mode aggregates" (a misnomer because they're not actually aggregates at all, but nonetheless what they're called).

Q. Also in the z/OS Migration presentation, a slide mentions as being withdrawn "Bind 9.2.0 function - use Resolver"

What was the Bind 9.2.0 function and what is the Resolver?

A. BIND is the Berkeley Internet Name Domain server, which is a DNS (Domain Name Server). DNSs, in turn, provide an IP address when given a URL (e.g., http://www.ibm.com resolves to something in the 9.x.x.x domain). Resolver is a CommServer function that caches DNS responses to shorten the time required to resolve a URL to an IP address.

Q. What is the difference between a ServerPac, a SystemPac and a CBPDO?

Why do some customers choose one over another?
Is there a most popular of the above that most customers choose?

A. CBPDO delivers "installable" products in SMP/E format. For a large number of products, and for large products like z/OS, it is very labor-intensive and can take weeks. ServerPac delivers "SMP/E-installed" products with an ISPF-based dialog to manage common choices like data set names and volume placement. It's a lot faster. SystemPac exists now only in Europe. It offers a choice between a ServerPac-like installation and making the common choices at ordering time so that the installation phase is a DFSMSdss RESTORE.

Q. For the z/OS 2.1 enhancement that provides RLS support for catalogs, is a Coupling Facility structure required?

A. RLS Catalogs require the same types of CF structures as any other VSAM RLS data set (i.e.: cache and lock structure). The RLS catalogs can use existing structures or can be assigned new
structures. It is recommended that the RLS catalogs have a separate cache structure from other VSAM RLS data sets

Q. DFSORT has a new 1 TB parameter, is this new default in 2.1?

A. The installation default for MOSIZE is MAX. So long as the customer has not changed this default then, then Yes, they will get the increase to 1TB by default. If the customer has restricted MOSIZE to a value other than MAX then the MO storage will continue to be limited as the customer has specified.

Q. z/OS 2.1 presentations describe separation of System Logger CF-based & DASD-only logs. A client thinks this is already being done. So what is new with z/OS 2.1?

A. It is correct that there already exists separation of log stream connection processing between the CF-based and DASD-only types of log streams. However, common tasking threads were used for all log stream offload data set management, which could lead to interference for any types of log streams requiring offload data set management..

Goal of enhancements in z/OS v2r1 and on v1r13 (with the appropriate PTF) --- significantly reduce interference between log stream offload instances on the same system.

Further details:

**Multiple log stream service task instance per logger address space:**
24 tasks, specialized by:
- Log stream type
  - CF
  - DASDONLY
- and for each type, grouped by purpose:
  - Data set switch (allocation)
  - Data set deletion
  - Misc.

**Route work to “best fit” task for offload data set allocation requests.**
First look for an available task first (one with no work). Otherwise, find one that appears to not be stuck (no outstanding monitoring delayed indications).

Q. Can you provide more detail regarding the z/OS 2.1 enhancement having to do with DVIPA “affinity”? What does this really mean?

A. When multiple instances of an application (often DB2) are running in the same LPAR and listening on the same port, the DVIPA affinity enhancement allows each instance to establish an affinity between an application-instance DVIPA and that instance's address space, thereby ensuring an inbound connection goes to the intended target in a sysplex distributor/SHAREPORT environment.

Q. Can you provide more information about HFS to zFS Migration?

A. The official procedure is documented in chapter 7 of the Distributed File Services zFS Administration book.
The recommendation is to use version 5 file systems when migrating from HFS to zFS as shown in slide 48 rather than using the current version 4 to ensure good performance for larger directories, if possible.
Q. Can you provide more information about the changes in JES2 for z/OS 2.1 related to Job Classes?

A. Essentially, JES2 now supports installation defined job classes. They can be added in the JES2 initialization deck or via the new ADD JOBCLASS(xxxx) command. JES2 supports a total of 512 job classes (somewhat arbitrary limit based on some performance concerns). That includes the existing 38 job classes (A-Z, 0-9, STC, and TSU). The job classes can be created once all members are at z/OS 2.1 and the system is $ACTIVATEd at the z11 level. The new job classes work the same as the existing job classes.

You can also delete job classes that are no longer needed ($DEL JOBCLASS(xxx) command). You cannot delete the standard IBM job classes (A-Z, 0-9, STC, and TSU). However, if there is a job class that you no longer (or never) used, it can be marked ACTIVE=NO. This allows you to turn off one of the standard classes even though you cannot delete it. Classes that are not active cannot be specified on job cards being submitted. Otherwise there are no restrictions on ACTIVE=NO commands.

Since IBM recommends a job class be marked inactive for some time before it is deleted, to allow work in the class to be processed, there is a requirement that a job class must be set ACTIVE=NO before JES2 will accept a $DEL JOBCLASS command.

Job classes can be deleted so long as there are no jobs in the class that have not gone past execution.

CLASS= specification on initiators and job related offload devices support 8 character job classes. CLASS=ABC, for compatibility with older releases, is the 3 single character job classes A, B, and C. Multi-character job classes are specified in parenthesis and separated by commas. So CLASS=(ABC) is the single 8 character job class ABC while CLASS=(A,B,C) are the 3 single character classes A, B and C. In the parenthesis format, up to 8 classes can be specified.

To allow larger number of classes to be specified on operands, you can group classes together into job class groups. This is done by setting the GROUP= keyword on the job class. The group name cannot match any existing job class (so no single character group names). So you can specify:

$TJOBCLASS(A,B,C,PROD),GROUP=MAIN

and then specify on an initiator

$T11,CLASS=(MAIN,X,Y)

This sets the initiator to set classes A, B, C, PROC, X, and Y. A, B, C, and PROD rotate through the values on each select. X and Y are selected when none of the MAIN group classes have work.

Note the JCL JOB card only allows specifying a job class NOT a group name. Group names can only be used on initiators, offload job transmitters and offload job receivers.

SMF records and other MVS control blocks have been updated with the new 8 character job classes. Note that for fields in SMF records that are only one character in length are set to the first character of an 8 character job class.

Q. Can long term pages be moved in and out of flash memory?

A. Assuming the question is referring to fixed pages here. If that is the case then fixed pages can not move in and our of Flash it is only pageable data that can move in and out of Flash memory.

Q. Are DB2 2GB large buffer pools supported in DB2 10 or 11?

A. 2GB pages are V11 only.

Q. Any plans for VSAM and HSM support of zEDC?
A. Nothing announced for VSAM. DFSMShsm, when using DFSMSdss as the data mover, is planned to use zEDC when the migration target is on DASD. (In other words, we will not compress when migrating to tape, only to disk.)

Q. What is the recommended structure size for the RLS Catalog feature?

A. The CFSIZER can be used to calculate the cache structure size. The algorithm used is based on the number of LPARs combined sizes of the local buffer pools (RLS_Max_Pool_Size and RLSAbiveTheBarMaxPoolSize) on each LPAR. For example, if I have 2 LPARs and the RLS_Max_Pool_Size is 100M on each, the ideal cache size is 200M. However, since some data sharing is probably occurring between the LPARs cache size could be reduced (for example to 100M). Once sized, the RMF reports for CFACUT or RLS will show XI Reclaims (for space) or BMF False Invalids (respectively), which indicate a too small cache structure relative to the buffer pool sizes. Note, avoid very small cache sizes (less than 30M) since some room is needed for internal control structures.

Since the size of the local buffer pool is dictating the cache size, then the more important decision is on how large the buffer pool should be. If VLF or ISC was in use with non RLS, then allowing for the same amount of combined space for RLS would give equivalent buffering. Since RLS provides for 64 bit buffering, a lot more space can be used if desired.

Q. What IDCAMs statement is used to enable the RLS Catalog feature?

A. This can be found in the Access Method Services Commands book. (Hint: ALTER command.)

Q. How does CA Reclaim work for RLS Catalogs?

A. The same as it works for any other catalog. Also, the same as it works for any KSDS.

Q. What applications use EXCP for zHPF?

A. Any that have been rewritten to do so. EXCP channel programs are not automatically converted to HPF. They can now be modified to use TCWs.

Q. Does Health Checker check certificate expiration across all products / vendors?

A. It checks all certificates in the entire RACF database (not only from a key ring).

Q. Is there a way to measure the RLS Catalog performance improvement after implementation of this new feature?

A. Definitely. For elapsed time improvements, the command “F CATALOG,REPORT,CATSTATSX(ucatname) “ will show the average elapsed time for catalog requests issued against this catalog. You would need to measure before implementing RLS and after. Also, the F CATALOG,REPORT,PERFORMANCE will show average response times and SYSIGGV2 enq times. Unfortunately this report combines ALL catalogs, so if there are only a few RLS catalogs compared to many
nonRLS it may not be as obvious. For CPU improvements, the GRS address space should be measured before and after implementing RLS for Catalog.

Q. I don’t understand and never used the “Console Tracker” facility. Now, in z/OS 2.1 I see that it is replaced by the new “Generic Tracker” facility. Can you explain the two?

A. The old Tracker was created originally to detect programs that used 1-byte console IDs, for which we basically dropped support. The idea was to have a low-overhead program call that logged the event and captured the name of the program using the 1-byte ID. The program call was inserted in the Consoles code in a spot traversed only when a 1-byte ID was used. Customers could use the Tracker to find out what programs they had using 1-byte console IDs and either update them if they were locally-written or get updates from their friendly software vendors.

Other developers thought this was an outstanding idea, and they inserted their own Console Tracker calls in several components to detect the use of various things. We based some health checks on this function as well.

The Consoles developers never intended to support a generic tracking facility and weren’t really funded for it. Also, it lacked some functions people wanted to have. So a new Generic Tracker was created as the basis for all the new functions people wanted, and it’s formally owned by its developers. Not all of the functions we want are there yet but we hope to add them as we go.

So the answer to “what can you track” is basically, “anything you want to.” We can create tracker calls for functions we want to remove in the future and base migration health checks on them, for example. Or we can create health checks to determine whether people’s settings are those we recommend.

Q. Could ISV products use the zEDC feature?

A. Yes. We provide three sets of programming interfaces for vendors or client applications to use zEDC and we have had ISV interest. For example PKWare has made available some material based on their results of using the support with their products (http://www.pkware.com/documents/IBMzNext-PKZIP-SecureZIPv15_overview.pdf).

IBM is also providing zEDC access for SMF, QSAM/BSAM and HSM/DSS. Further to that we are looking at how different middleware will use the device however we do not have any announced material yet.

Q. Can you provide any information that describes paging performance improvements for 4KB vs 1MB pages?

A. In general for dumps with equal amount of data out on AUX we have seen Flash Express be at least 4X better than disk.

Q. Is CFCC level 19 supported on the z196?

A. No. It is for the zEC12 and or zBC12 only.

Q. Does the zEDC adapter support DB2? If so, what level of DB2 and or PTFs are required?

A. DB2 does not use zEDC directly today, and there is nothing announced for the future. But the CPMSC facility is well-optimized for DB2 today.
Q. There is a slide in the “What’s New with z/OS 2.1 presentation” titled “RLS Enhancements - Directory Only Caching”. The question is whether this will allow a customer to optionally bypass CF caching?

A. This enhancement allows data sets which specify new option DIRONLY in the DATACLAS to bypass storing the data sets CIs (both data and index) in the CF cache structure. The cache structure is still required in order for the CIs to be registered with the CF for cross invalidates, but will only use directory entries and no data elements. Using this option would greatly reduce the size of the cache and may shorten the path length. On the other hand, if the data is not stored in the CF, the advantage of a "global buffer pool" is lost.

Q. Does DFSORT provide any support for z Flash Express?

A. DFSORT does not use 1M pages (pageable or otherwise), so it does not benefit directly from Flash today. (As with everything else that does not benefit directly, it should benefit indirectly if 1M page exploiters are in use on the system.)

Q. Does the D MATRIX command consume bandwidth? And does it stop I/O when it is running?

A. Not really (it might store subchannel status and will do I/O to switches if ROUTE is specified but these are trivial in the grand scheme of things), and no.

Q. Does the z/OS Security Portal "push" security alerts to registered users or must they make their own inquiries?

A. Registered users can subscribe to an automatic notification process.

Q. Are there any CSA and ECSA improvements coming for example “fragmentation recovery”?

A. Nothing in plan. Also, it’s not clear how it would be possible to recover (E)CSA fragmentation without causing unacceptable disruption. The whole point of (E)CSA is to let programs put stuff there for other programs in different address spaces to use. Any of those programs that store the address of a memory location from (E)CSA would have to know to go get it again if the system moved things around to reduce fragmentation; this would include the programs that store the data there and the programs that might run in different address spaces that read the data. There is no way to tell either of them today, and if there were a way, they would all have to be changed to notice that things had been moved and re-retrieve the addresses. This would be a big incompatible change. ("Who moved my cheese!?") We try not to make those. The best answer here is usually for (E)CSA users to use the common area above the bar, where there's plenty of room for virtual storage to fragment. We do have people migrating stuff from (E)CSA to HVCOMMON but there is no list of exploiters.