## I Didn't Know You Could Do That With z/OS !

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#### Agenda

- 1. System control for GDGE maximum specification
- 2. z/OS UNIX commands using MVS data sets "natively"
- **3.** z/OSMF Incident Log to send redacted dumps
- 4. Install a single "Product" using z/OSMF
- 5. Looking at SNA application activity on a system
- 6. JES2 Emergency Subsystem
- 7. Sneak preview! z/OS Universally Unique Identifier (UUID)



<u>Why would I use this?</u> Extended GDGs (GDGEs) were introduced in z/OS 2.2, which extended the maximum number of GDSes to 999 from 255.

- IGGCATxx's GDGEXTENDED (YES) allowed GDGEs to be used, which made a system limit of 999 generations.
- However, the GDGE LIMIT of 999 may be too high, not only for space reasons, but also for space management reasons.

Now, an installation can indicate what the limit can be!

#### What it is: GDGLIMITMAX in IGGCATxx. Can be o-999.

- Specifies the maximum number allowed for the LIMIT parameter on an IDCAMS DEFINE GDG
- o means no maximum value for the limit, and the value in the DEFINE GDG LIMIT is used. Default.
- This statement is a system-wide change, it is a system wide change to both classic and extended GDGs.

#### How to use:

To change dynamically for definitions of new GDGEs, update your IGGCATxx with GDGLIMITMAX(nn), then F
 CATALOG, RESTART

#### Handy commands: MODIFY CATALOG, REPORT

Delivered on Idea ZOS-I-2195, with 11 votes



T DI	WOIL CONSULE HWALLE ACIIV			
-F (	CATALOG, REPORT			
IEC	C351I CATALOG ADDRESS SPACE	EN	10DIFY COMMAND ACTIVE	
IEC	359I CATALOG REPORT OUTPU	Г		
*C/	<b>A</b> S************************************	e se s	******	* *
*	CATALOG COMPONENT LEVEL	=	HDZ3310	*
*	CATALOG ADDRESS SPACE ASN	=	0015	*
*	SERVICE TASK UPPER LIMIT	=	180	×
*	SERVICE TASK LOWER LIMIT	=	60	*
*	HIGHEST # SERVICE TASKS	=	11	*
*	# ATTACHED SERVICE TASKS	=	11	*
*	# ACTIVE SERVICE TASKS	=	0	2#C
*	MAXIMUM # OPEN CATALOGS	=	1,024	*
*	ALIAS TABLE AVAILABLE	=	YES	3 <del>4</del> 4
*	ALIAS LEVELS SPECIFIED	=	1	o∯¢
*	SYS% TO SYS1 CONVERSION	=	OFF	*
	are maxings that			
*	DEFAULT VVDS SPACE	_	C 15 1 RKS	*
*			(NONE)	*
*			DSNCHECK SYMPEC HEDTEATL	*
*				*
-	ENABLED FEATURES			-
-T-	IIINARIEN EEAINREN		DELEURIEWNG, VVRLHELK	1





NONVSAM--MWALLE.TPS.REPORTS.G0002V00 NONVSAM--MWALLE.TPS.REPORTS.G0003V00





IEC351I CATALOG ADDRESS SPACE MODIFY COMMAND ACTIVE \*0036 IEC363D IS THIS RESTART RELATED TO AN EXISTING CATALOG PROBLEM (Y OR N -R 36,N IEE600I REPLY TO 0036 IS;N IEC378I CATALOG.ADSW IS NOT USING ENHANCED CATALOG SHARING



– F	CATALOG, REPORT			
ΙE	C351I CATALOG ADDRESS SPAC	Е	MODIFY COMMAND ACTIVE	
IE	C359I CATALOG REPORT OUTPU	Т		
*(	AS**********	*	*****	<b>ic</b> 3 <b>i</b> c
*	CATALOG COMPONENT LEVEL	=	HDZ3310	*
*	CATALOG ADDRESS SPACE ASN	=	00EC	2#C
*	SERVICE TASK LIPPER LIMIT	=	180	2#C
*	SERVICE TASK LOWER LIMIT	_	60	×
*	HIGHEST # SERVICE TASKS	=	9	2#C
*	# ATTACHED SERVICE TASKS	_	9	*
*	# ACTIVE SERVICE TASKS		9	*
	# ACTIVE SERVICE TASKS	_		-1-
-	MAXIMUM # OPEN CATALOGS	=	1,024	344
*	ALIAS TABLE AVAILABLE	=	YES	*
*	ALIAS LEVELS SPECIFIED	=		×
	CAS SYSPLEX QUIESCE TASK		0088BA28	*
×	VOLCAT HI-LEVEL QUALIFIER	=	SYS1	s <b>∔</b> c
×	NOTIFY EXTENT	=	85	*
×	DEFAULT VVDS SPACE	=	( 15, TRKS	*
ĸ	GDG LIMIT MAXIMUM	=	500	*
ĸ	ENABLED FEATURES	=	DSNCHECK SYMREC UPDTFAIL	*
	ENADLED FEATUDES		CDCEVTENDED	sile



IDCAMS SYSTEM SERVICES

ALTER MWALLE.TPS.REPORTS LIMIT(501) IDC0016I GDG LIMIT PARAMETER EXCEEDS THE TEM LIMIT MAXIMUM. THE IDC0016I SYSTEM LIMIT OF 500 IS USED IDC0531I ENTRY MWALLE.TPS.REPORTS ALTERED IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 4

IDC0002I IDCAMS PROCESSING COMPLETE. MAXIMUM CONDITION CODE WAS 4

```
IDCAMS SYSTEM SERVICES
                                                             TIME: 16
    LISTCAT LEVEL (MWALLE.TPS.REPORTS) ALL
                                                                  00
IDCAMS SYSTEM SERVICES
                                                             TIME: 16
                          LISTING FROM CATALOG -- CATALOG.COMBAT.TSOIDS
GDG BASE ----- MWALLE.TPS.REPORTS
    IN-CAT --- CATALOG.COMBAT.TSOIDS
    HISTORY
      DATASET-OWNER-----(NULL) CREATION-----2016.344
      RELEASE-----2 LAST ALTER-----2020.049
    ATTRIBUTES
      LIMIT-----500 NOSCRATCH EMPTY
    ASSOCIATIONS
      NONVSAM--MWALLE.TPS.REPORTS.G0001V00
      NONVSAM--MWALLE.TPS.REPORTS.G0002V00
```

TIT

<u>Why would I use this?</u> Plenty of z/OS UNIX commands are wonderful to use (and familiar to many!), but what if you wanted to use them on an MVS data set?

- Some (not all) z/OS UNIX commands have been modified such that they can accept an MVS data set name, using a convention like "//USER.MVS.DATASET (MEMBER)".
- Those that didn't support direct invocation on data sets, meant the user usually had to copy to a z/OS UNIX file, use the z/OS UNIX command, and usually, copy back into a data set. More work!

#### Now, by using Data Set File System, you can use z/OS UNIX commands on MVS data sets\* "natively".

<u>What it is:</u> A facility in which z/OS UNIX applications can access data sets transparently by presenting them in a tree-structure, available from the /dsfs mount point in z/OS UNIX.

\*As of now, supported MVS data sets are: Sequential, PDS, PDSE. RECFM=F,FB,FBS,V,VB,U.

- Must be cataloged.
- Compressed and/or encrypted ds are supported.
- If you want more functions, Ideas are very welcome!



\$ grep '[Ll]ove' "//mwalle.sonnets.txt"	
grep: FSUM6003 input file "//mwalle.sonnets.txt": EDC5049I The specified 1	file na
me could not be located.	<u>_</u>
\$ grep '[Ll]ove' /dsfs/txt/mwalle/sonnets.txt	
Thou art more lovely and more temperate: 00	0000200
In praise of ladies dead, and lovely knights, 00	0001900,
When my love swears that she is made of truth 00	0003100 <sup>4</sup>
0, <b>\$</b> wc -w "//mwalle.sonnets.txt"	
<sup>Anc</sup> wc: file "//mwalle.sonnets.txt": EDC5049I The specified file name cou	ld not be
Folocated.	
\$ We w /defe/tyt/mwalle/connete tyt	,
\$ diff /dsfs/txt/mwalle/sonnets.txt /dsfs/txt/mwalle/util.jobs/iefbr14	
\$ 1,74c1,5	
== < Shall I compare thee to a summers day?	000001
00	
< Thou art more lovely and more temperate:	000002
00	
< Rough winds do shake the darling buds of May,	000003
00	
< And summers lease hath all too short a date;	000004
00	
< Sometime too hot the eye of heaven shines,	000005
00	

**How to use**: *z*/OS Data Set File System Administration book.

High level configuration steps:

- 1. Set up the DSFS user id, and the DSFS started task.
- 2. Define the FILESYSTPE of DSFS in BPXPRMxx. FILESYSTYPE TYPE (DSFS) ENTRYPOINT (IDFFSCM) ASNAME (DSFS)
  - DSFS is its own colony address space. It can be started at IPL, or later with SETOMVS RESET = (xx).
- 3. Optional: Set up IDFPRMxx parmlib member for overrides of DSFS options, one per system in sysplex.
- 4. Create the utility file system for DSFS use.
  - The utility file system is a VSAM LDS that is formatted as a zFS. It is used internally by DSFS, but doesn't need to be explicitly mounted.
- Refer to the book for additional information on:
- Creating new data sets with DSFS
- Monitoring and tuning
- Handy DSFS commands

- What is this and why would I use this?
- z/OSMF Incident Log can streamline and automate collection of problem determination data across sysplexes.
  - Incident data includes system-detected and user-initiated dumps, log, and other information for sending to a software vendor.
- **Data Privacy for Diagnostics (DPfD**, z/OS V2.3+, generated on z15+) can tag sensitive data and subsequently produce redacted dumps which do not contain the tagged sensitive data.
  - The redacted dumps can then be made to software vendors for problem determination.
  - Use SMP/E FIXCAT IBM.Function.DataPrivacyForDiagnostics for all necessary PTFs.
- Combining two can allow redacted dumps to be forwarded to software vendors!

#### How to use:

- z/OSMF Incident Log configuration is found in IBM z/OS Management Facility Configuration Guide
- DPfD set up is documented in *z*/OS MVS IPCS Customization
- Incident Log determines the dump data set name via the Sysplex Dump Directory, therefore, putting the redacted dump name in that location allows it to be recognized and forwarded.
  - The Sysplex Dump Directory can be updated with a batch job, suitable for adding at the end of the redaction process using DPfD



See the incident and notice that you have a dump to redact

Incident Log								
cident Log ▶ View Dia	gnostic Details		Не					
General Diagnostic L	stic Data							
Diagnostic Data								
Data Type	Source	Sysplex	System					
SVC dump	PEV206.DUMP.D230206.T063011.SY1.S00002	PLEX1	SY1					
Operations log	CEA.Y00.DCD12728.J75E5005.X00.VEW	PLEX1	SY1					
Error log summary	CEA.S00.DCD12728.J75E5005.X00.VEW	PLEX1	SY1					
<i>Total: 3 Selected: 0</i> You can attach up to te not cleared. Attachments	n additional files to send with this incident. When you c	lose the panel, the At	tachments table is					
Actions *								
Data Type	Source							
ок	Apply Cancel							





- 1	IPCS MVS DUMP BATCH JOB OPTI	ION MENU		
he dump:	<pre>OPTION ===&gt; 1 SADUMP - Prepare stand alone dump for 2 SVCDUMP - Prepare SVC dump for analysis 3 SYSMDUMP - Prepare SYSMDUMP for analysis 4 SUPPLEMENT - Perform supplementary dump ar 5 EREP - Process software data using E 6 DPfD - Data Privacy for Diagnostics JOB STATEMENT INFORMATION: (Verify before proce)</pre>	analysis a nalysis EREP eeding)	**************************************	
Redact t	<pre>===&gt; //MWALLEDP JOB 'D98A,B9211068','UTILILITY ===&gt; // MSGLEVEL=(1,1),CLASS=U,MSGC ===&gt; //* ===&gt; ===&gt; Enter END to terminate batch job processing.</pre>	COMMAND === Press ENTEF	ION=ØK, TTFY=MWALLF => R to edit parameters, END FUNCTION ===> ANALYZE (	Data Privacy for Diagnostics Request to terminate without job submission. ANALYZE, REPORT, FEEDBACK, INGEST, EXTRACT)
	*BLSPBKG -ISRBROB	ANALYZE REPORT	<ul><li>Analyze the input file</li><li>Generate a user friend</li></ul>	using built-in and custom identifiers
M	IPCS dialog options or provided samples can be	FEEDBACK INGEST EXTRACT	<ul> <li>Provide feedback to fi</li> <li>Ingest the user provid</li> <li>Extract identifier inf</li> </ul>	ne-tune future analysis ed data ormation

----- Data Privacy for Diagnostics Parameters - Analyze

COMMAND ===>

Press ENTER to submit the job, END to terminate without job submission.

DATA SET NAME	===>	'PEV206.DUMP.D230206.T063011.SY1.S00002'
NEW DATA SET NAME	===>	'PEV206.DUMP.D230206.T063011.SY1.REDACT'
TEMP DATA SET/PAT	===>	'PEV206.DUMP.D230206.T063011.SY1.TEMP'
BYPASS DP ANALYSIS	===>	N (Y or N)
REDACTION STRING	===>	(0-32 characters)
NUMBER OF THREADS	===>	4 (1-8)
ALLOW PAGE LEVEL	===>	Y (Y for page-level or N for token-level)
SENSITIVE REPORT	===>	N (Y or N)
DPfD HOME DIR	===>	/u/mwalle/dpfd/
JAVA HOME DIR	===>	/PRIPKT/J8.0_64
JAVA OPTIONS	===>	-Xms2g -Xmx4g
JZOS LOAD MODULE	===>	JVMLDM86 (JVMLDMxx, see JZOS Batch Launcher Toolkit)
MIGLIB DATASET	===>	'SYS1.MIGLIB'
TEMP ALLOC PARMS	===>	UNIT(SYSALLDA)
EDIT CONFIG FILE?	===>	N (Y or N)



IPCS dialog options or provided samples can be used



Update the Sysplex Dump Directory to add the redacted dump which you just created

```
//IPCS EXEC PGM=IKJEFT01,DYNAMNBR=20
//IPCSDDIR DD DSN=SYS1.DDIR,DISP=SHR
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
IPCS
ALTER DSNAME('PEV206.DUMP.D230206.T063011.SY1.S00002') -
NEWNAME(DSNAME('PEV206.DUMP.D230206.T063011.SY1.REDACT'))
END
```

#### Send the incident to your software vendor in z/OSMF

	Incident Log								
ident Log									
Actions *									
Set Tracking ID									
Set Case or Problem Number					1				
Add Notes		Date and Time (GMT)	Sysplex	System	Case or Problem				
Delete Incident		past 5 days	riter	Filter	Filter				
Send Diagnostic Data		Eab 1 2023 8:08:27 PM	LITCELXCE	CR88					
View Diagnostic Details		1 ED 1, 2020, 0.00.211 W	UTOF EXOD	0000					
FTP Job Status	Story Points Bunny	Jan 31, 2023, 7:27:43 PM	UTCPLXCB	CB8A					
Allow Next Dump	illed BPXAS server (Alex Savas)	Jan 31, 2023, 7:32:38 AM	UTCPLXCB	CB89					
Search for Matching Service		Ian 31, 2023, 7-02-05 AM	LITCELXCB	CB80					
Create Incident		381 31, 2023, 1.02.00 AM	UTOF EXOD	0000					
Search for Service	COMPID=SCPX1,ISSUER=BPXMIPCE,M	Jan 31, 2023, 6:51:32 AM	UTCPLXCB	CB8A					
FTP Servers	iq check (Alex Savas)3	Jan 31, 2023, 3:57:18 AM	UTCPLXCB	CB8A					
FTP Profiles	=MK01_SEC_INT - OK TO MIGRATE -	Jan 30, 2023, 1:00:07 PM	UTCPLXCB	CB8B					
Select All	FO EMAIL MKASPER@US.IBM.COM	5511 55, 2020, 1.50.51 F H	01012100	0000					
Deselect All	I.COMPID=SC1CR ISSUER=IARQEDMP	Jan 30, 2023, 7:25:07 AM	UTCPLXCB	CB8D					
Configure Columns									
Hide Filter Row	FMK00, SEC INT - OK TO MIGRATE - FO EMAIL MKASPER@US.IBM.COM	Jan 30, 2023, 6:42:01 AM	UTCPLXCB	CB8D					
Clear Sorts									



Total: 9 Selected: 1 Refresh

Last refresh: Feb 1, 2023, 6:11:18 PM local time (Feb 1, 2023, 11:11:18 PM GMT)

Send the incident, with the redacted dump, to your software vendor

Incident Log								
ncident Log View Diagnostic Details								
ew Diagnostic Deta	ils							
General Diagnostic E	Data							
Diagnostic Data								
Data Type	Source	Sysplex	System					
SVC dump	PEV206.DUMP.D230206.T063011.SY1.REDACT	PLEX1	SY1					
Operations log	CEA.Y00.DCD12728.J75E5005.X00.VEW	PLEX1	SY1					
Error log summary CEA.S00.DCD12728.J75E5005.X00.VEW PLEX1 SY1								
<i>Total: 3 Selected: o</i> You can attach up to ten add not cleared. Attachments	ditional files to send with this incident. When you clo	se the panel, the Atta	achments table is					
Actions 👻								
Data Type	Source							
ОК	Apply Cancel							



# ce

### "Product" z/OSMF Portable Software Instance

<u>Why would I use this?</u> z/OSMF portable software instances (i.e. ServerPacs) are a simple method of installing a couple of products or middleware. The advantages are clear, over CBPDO, and remain IBM's strategic software package:

- FMIDs are pre-installed and have current service levels
- Data sets are pre-allocated and are rightsized.
- z/OSMF GUI makes installing products between vendors is consistent, and easier to use for those less experienced.

<u>What it is:</u> One or more products (which does <u>not</u> include the z/OS operating system), shipped in its own SMP/E CSI zones, fully installed and serviced and ready to deploy to your volumes with a couple of jobs.

#### How to use:

- Order a **ServerPac** from Shopz, select any product you want from the list. Deploy with z/OSMF.
  - Reminder: any and every Shopz ServerPac order is a z/OSMF portable software instance, as of July 10, 2022.

**Limitations:** Portable software instances, just like the legacy ServerPac, arrive in their own new SMP/E CSI zones.

- These zones cannot be added (or "merged") into an existing SMP/E zone today within the GUI. However, experienced folks could do an SMP/E ZONEMERGE, if desired, themselves.
- Vote! <u>https://ibm-z-hardware-and-operating-systems.ideas.ibm.com/ideas/ZOS-I-2828</u> "Add Ability to install new products into existing CSI with z/OSMF Software Management"



Note: "Product ServerPac" (triangle) precisely means that the product can be installed and serviced in its own SMP/E zones, without the z/OS operating system being in the same zone. (Circle indicates license, diamond is internet delivery)

<u>Why would I use this?</u> To easily find current information about the maximum number of SNA applications and sessions on each system.

Knowing this information allows you to have insights into the amount of SNA application workload executing on z/OS.

<u>What it is:</u> Communications Server has exploited the z/OS Function Registry to store current information about SNA usage. No setup by the user is necessary.

- Function Registry is a set of in-memory control structures (FXEXR) organized to keep track of functions which have or have not been in used, according to the exploiter's need.
- Users or programs can access this Function Registry to understand better about system characteristics
- For now, IBM has limited exploitation of the Function Registry. However, other software providers have been using it, and it offers a simple method for identifying what is currently in use on your system.

#### How to view information:

- System command, D FXE
- Batch invocation, PGM=FXEPRINT. Sample is SYS1.SAMPLIB((FXEPRNTJ)
- Programmatic retrieval from FXEFR, <u>MVS Data Areas (ABE IAR)</u>





-D FXE VN=\*,PN=\*,FN=\*,STATE FXE0010I 16.30.07 FXE STATE 357 MATCHING FUNCTION ENTRIES:

VENDOR: IBM PRODUCT: z/OS Communications Server PRODUCTID: HVT6250 INSTANCEID: VTAM FUNCTION: SNA - General SLOTPATH: VS(1) PS(1,-) FS(1,AUTHONLY) ENABLED: YES



- /FXEPRINT EXEC PGM=FXEPRINT,TIME=1440,REGION=0K Via batch
  - DD SYSOUT=\*,DCB=(LRECL=80) //SYSOUT
  - /SYSIN DD DUMMY

**Details!** High Water Marks

**************************************	0F	DATA	*****	
--	----	------	-------	--

		Function Parent:	z/OS Communications Server
Vendor Name:	IBM	Function Used:	YES
Vendor Description:	International Business Machines Corporation	Function Enabled:	YES
Vendor Slot Path:	VS(1)	Function Attributes:	
		Attribute Name:	Maximum number of RAPI only applications
Product Name:	z/OS Communications Server	Attribute Value:	73
Product Release:	02.05.00	Attribute Name:	Maximum number of APPC capable applications
Product ID:	HVT6250	Attribute Value:	17
Instance ID:	VTAM	Attribute Name:	Maximum number of TSO applications
Product Description:	VTAM	Attribute Value:	109
Product Slot Path:	VS(1) PS(1,-)	Attribute Name:	Maximum number of TN3270 applications
Product Parent:	IBM	Attribute Value:	120
Product Attributes:		Attribute Name:	Maximum number of RAPI sessions
Attribute Name:	Last Updated	Attribute Value:	7
Attribute Value:	01/27/23 15:42:04	Attribute Name:	Maximum number of APPC sessions
		Attribute Value:	22
Function Name:	SNA - General	Attribute Name:	Maximum number of TSO sessions
Function Description:	General SNA Information	Attribute Value:	108
Function Slot Path:	VS(1) PS(1,-) FS(1,AUTHONLY)	Attribute Name:	Maximum number of TN3270 sessions
Function Parent:	z/OS Communications Server	Attribute Value:	120

#### Detailed notes on Attributes reported (from SNA Network Implementation Guide):

- The report is session counts for the high-water mark of the number of SNA session endpoints in this host.
  - A a session might have two endpoints in the same host, if so both endpoints will be counted.
- RAPI (Resource Reservation Setup Protocol API ) only applications are non-TSO, non-TN3270, and non-APPC=YES applications.
- APPC capable applications are applications whose APPL definition says APPC=YES. APPC capable applications can have RAPI sessions.
- RAPI sessions are the total number of non-TSO, and non-TN3270 sessions using VTAM's RAPI interface.
- APPC sessions are the 6.2 sessions established using the VTAM/APPC interface.
- Only non-internal applications and LU-LU sessions get counted.
  - This explains the discrepancy observed in the number of LU-LU sessions displayed in the FXEPRINT output and the d net, sessions, list=all command.



<u>Why would I use this?</u> When there is a JES2 critical resource shortage, you need to perform systems management tasks for analysis and resolution.

<u>What it is:</u> By having an emergency subsystem (which is the same, yet separate from the JES2 main subsystem), privileged work can occur.

- The emergency subsystem, defaulting to HASP, reserves a small percentage of BERTs, JQEs, JOEs, and SPOOL/Tracks for privileged use.
  - Emergency subsystem name is Identified with ESUBSYS keyword on MASDEF statement, if you want to specify the name.
  - Identifies a static subsystem (SUBSYS in IEFSSNxx), or if not defined JES2 dynamically adds one.

Emergency Subsystem Default and Small environments possible:

- Small environment is intended when limited resources are defined; maximum of 10 privileged jobs can be started at once.
  - 1. First turn off privilege support using \$T LIMITS,PRIV=OFF
  - 2. Then, turn on privilege support requesting Small environment by using \$T LIMITS, PRIV=ON, SMALLENV=ON.
- Privileged resource activation and reservation rules for environments are determined by JES2 (in JES2 Init and Tuning Guide)

#### How to use:

- LOGON SUBSYS(),
  - From VTAM prompt: logon applid(tso) data('logon <userid> subsys(hasp)')
- submit a job to the emergency subsystem with SUBMIT SUBSYS parameter (z/OS V2.5 ISPF),
- issue commands,
- ..

... to the emergency subsystem which will use privileged resources to reduce shortage.

READ required to JES.EMERGNCY.<subsys> in FACILITY class for privileged work. Try this out ahead of time, so you know how to do this when you need to use it!

#### logon mwalle subsys(hasp)

Note: This simple logon may not work due to a resource shortage! If so, then logon direct from the VTAM prompt.

TSO/E LOGON KJ56477I Enter logon information for subsystem HA	 SP
Enter LOGON parameters below:	RACF LOGON parameters:
Userid ===> MWALLE	
Password ===>	
Procedure ===> SHARE	Group Ident ===>
Acct Nmbr ===> PEL	
Size ===> 1000000	
Perform ===>	
Command ===> ex (setup)	
Enter an 'S' before each option desired below: -New Password -Nomail -Nonotice -Recon	nect -0IDcard
F1/PF13 ==> Help PF3/PF15 ==> Logoff PA1 ==	> Attention PA2 ==> Re



Handy commands: **\$D LIMITS** , **\$T LIMITS** 

• \$D LIMITS displays allocation history of a resource type. It also presents a prediction for exhaustion of that resource, if it might be fully utilized soon.

```
$D LIMITS
$HASP1490 LIMITS(1) 058
LIMITS(1)
PRIVILEGE SUPPORT IS ON, SMALL ENVIRONMENT IS ON
SPOOL PRIVILEGE SUPPORT IS OFF
SPOOL UTILIZATION ON 25 JAN 2023 AT 19:21:18
           NON-PRIVILEGED ----- PRIVILEGED
            WARN% IN-USE % MAX AVAILABLE
   MAXIMUM
                80
                           111 63
       175
                                       Ø
                                                  0
SPOOL
           T: 27 JAN 2023 AT
                            07:30
```

• LONG keyword is very helpful for displaying the top 10 jobs that are using a resource – both by count and rate. Use this to help further your analysis to relieve the shortage.

\$D LIMITS (	SPOOL),LONG								
SHASP1490 LIMITS(SPOOL) 232									
LIMITS(SP00	LIMITS(SP00L)								
PRIVILEGE S	UPPORT IS ON,S	MALL ENV	IRONMENT IS	ON					
SPOOL PRIVI	LEGE SUPPORT I	S OFF							
SPOOL UTILI	ZATION ON 25 J	AN 2023							
	NON-PRIVILEGE	D	TOD 10 001						
MAXIMUM	WARN%	IN-USE	TOP IN CON	SUMERS OF SPO	OL BY RATE				
175	80	175			COUNT	TOTAL		ACTIVE	
SPOOL EXHAU	ST: 26 JAN 202	3 AT 06:	JOB NAME	JOB ID	PER M	COUNT	%	ON MBR	
RESOURCE SH	ORTAGE REPORTE	D FOR SP							
			TOMUCEDA	10000037		10	C	CV1	
TOP 10 CONS	UMERS OF SPOOL	BY COUN	IBMUSER4	J0B00037	50.688	10	b	STI	
		TOTAL	SYSLOG	STC00002	0.007	5	3	SY1	
JOB NAME	JOB ID	COUNT	SDSF	STC00006	0.003	4	2	SY1	
			\$MASCOMM	STC00001	0.000	0	0		
MEGAN	J0B00028	27	VTAM	STC00003	0 000	1	1	SY1	
MEGAP	J0B00029	27	DME	CTC00000	0.000	-	-	011	
IBMUSER1	J0B00034	27	RME	5100004	0.000	T	T	STT	
IBMUSER2	J0B00035	27	HZSPROC	STC00005	0.000	1	1	SY1	
			ZFS	STC00007	0.000	1	1	SY1	
			INIT	STC00008	0.000	1	1	SY1	
			INIT	STC00009	0.000	1	1	SY1	
			*******	****	*****	******	****	******	
			\$HASP355 S	SPOOL VOLUMES	ARE FULL				



<pre>Eile Edit Edit_Settings Menu Utilities Compo EDIT MMALLE.UTIL.JOBS(LIST(AT2) - 01.00 Command ===&gt; submit subsys(hasp) ****** ******************************</pre>	<pre>ilers Test Help Columns 00001 00072 Scroll ===&gt; HALF ************************************</pre>	
IKJ56250I JOB MWALLEZ1(JOB17520) SUBMITTED ***	<u>D</u> isplay <u>F</u> ilter <u>View P</u> rint SDSF STATUS DISPLAY ALL CLASSES COMMAND INPUT ===> PREFIX=* DEST=(ALL) OWNER=MWA NP JOBNAME JobID Owner MWALLE TSU17518 MWALLE MWALLE TSU09628 MWALLE MWALLEZ1 JOB17520 MWALLE	<u>Options Search Help</u> LINE 1-3 (3) SCROLL ===> HALF ALLE SYSNAME= Prty Queue C Pos SAff ASys 15 EXECUTION S2 S2 1 OUTPUT 1 PRINT A 800 PRIVILEGED
SDSF OUTPUT DISPLAY MWALLEZ1 JOB17520 DSID COMMAND INPUT ===> 1 //MWALLEZ1 JOB 'D98A,B9211068','SHARE // MSGLEVEL=(1,1),CLASS=A, 2 //LISTCAT EXEC PGM=IDCAMS 3 //SYSPRINT DD SYSOUT=* 4 //SYSIN DD * ICH70001I MWALLE LAST ACCESS AT 15:28:55 ON MU IEFA111I MWALLEZ1 IS USING THE FOLLOWING JOB RE SWA=ABOVE,TIOT SIZE=32K,DSENQSHR=DISAL IEF236I ALLOC. FOR MWALLEZ1 LISTCAT IEF237I HASP ALLOCATED TO SYSPRINT IEF142I MWALLEZ1 LISTCAT STEP WAS EXECUTED - IEF285I MWALLEZ1 JOB17520.D0000102.? IEF373I STEP/LISTCAT /START 2023023.1534 IEF032I STEP/LISTCAT /START 2023023.1534 IEF032I STEP/LISTCAT /STOP 2023023.1534 IEF032I STEP/LISTCAT	3 LINE 1 COLUMNS 02- 81 SCROLL ===> HALF /EXPO SMPE LAB',REGION=0K, MSGCLASS=H,NOTIFY=MWALLE ONDAY, JANUARY 23, 2023 LATED SETTINGS: LOW,GDGBIAS=JOB COND CODE 0000 SYSOUT SYSIN : 0 HR 00 MIN 00.00 SEC 8K SYS: 9224K	Also in SDSF, check out these associated options! JRI: JES2 Resource Information, for JES2 resource usage JRJ: JES2 resource usage and rates by job.

## z/OS 3.1: z/OS Universally Unique Identifier(UUID)

<u>What it is</u>: Knowing what SMP/E CSI "covers" a specific active z/OS system hasn't been possible, at least in any official programmatic way. This information is always just known by the z/OS System Programmer.

Planned for z/OS 3.1, is the capability to correlate a UUID with a running z/OS system, which can then programmatically retrieve the SMP/E CSI which represents the running system <u>when used as directed</u>.

This function is limited to the z/OS operating system Software Instance only. Separately deployed program products and middleware are not applicable.

#### What must I do to have this capability?

- ✓ You must have an SMP/E CSI that accurately reflects your z/OS system in the first place. If you have no SMP/E CSI that is specific to that running z/OS system, this capability is not applicable.
  - We've always strongly recommended that you deploy z/OS with its own CSI so that you always have an accurate CSI that represents what was deployed!
- ✓ You must install a provided usermod during deployment, which contains the UUID. We'll provide the SMP/E usermod and UUID when using z/OSMF Software Management and Workflow.
  - Re-deployment, with a different CSI would mean the UUID must be updated.
- ✓ You must be using z/OSMF Software Management to generate the Software Instance UUID.
  - z/OSMF Software Management keeps track of the UUID-Software Instance, which then gives us the CSI(s).

Why would I use this? For any programmatic usage to find out what is installed on the running system, with confidence.

## z/OS 3.1: z/OS Universally Unique Identifier(UUID)



#### Summary

1. System control for GDGE maximum specification

\* You determine the limit for the maximum number of GDGE generations you want, system-wide.

- z/OS UNIX commands using MVS data sets "natively"
   Now, use any z/OS UNIX command on MVS data sets, by referencing them like a file.
- z/OSMF Incident Log to send redacted dumps
   Data Privacy for Diagnostics + z/OSMF Incident Log = sensitive information redacted for program determination.
- Install a single "Product" using z/OSMF
   A great way to add just a product or two into your enterprise, with ease.
- 5. Looking at SNA application activity on a system

\* z/OS Functional Registry helps to surface this information, for SNA usage insights.

6. JES2 Emergency Subsystem

\* For urgent system management tasks you need to do, to keep the system running.

7. Sneak preview! z/OS Universally Unique Identifier (UUID)

**\*** A breakthrough for having the z/OS system tell you where its SMP/E CSI is.

