

# New SDSF Functions in z/OS 3.1 - Preview

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# New SDSF Functions in z/OS 3.1 - Preview

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# Agenda

- Architectural Changes
- SDSF Event Log
- Module Fetch Monitor
- RACF Panels
- MEM Enhancements
- Useability Enhancements

# Architectural Changes

# Architectural Changes

- New SDSF concept of a “feature”
  - Optional component of SDSF that can be configured via new FEATURE and FEATENT statements in ISFPRMxx
  - Certain SDSF panels can depend on a specific feature being active
  - FEATURE statement
    - Initial status of the feature when SDSF server starts
    - Resource limits for any data collection
    - Level of detail maintained
  - FEATENT statements
    - One or more optional filters for the data collected
  - Features can be dynamically started and stopped using operator commands
  - SDSF for z/OS ships with two features available
    - Module Fetch Monitor
    - Event Log

# SDSF Event Log

# Event Log Implementation

- Enabled by new FEATURE statement in ISFPRMxx
  - Is active by default
- Captures important recent system events (default 10,000) and presents the SDSF user with a summary row for each event
- The “L” action against the row takes the user to the nearest OPERLOG record to the event timestamp
  - Can save numerous “FIND xxx PREV” activities in the LOG panel
- Data sources include :
  - ENF signals
  - SMF records
  - Dynamic exits
- SDSF assigned category and event names can be used to filter data collected on FEATENT statements in ISFPRMxx

# Event Log Captured Data Examples

- System status changes
  - I/O configuration
  - WLM policy
  - Boost activity
  - SET operator commands
  - RSM detected shortages and any subsequent relief
- Dynamic updates to system resources
  - APF list
  - Link list
  - LPA
- Abnormal end to jobs
- SVC dump creation

# Event Log Panel (ELOG)

RS22

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF EVENT LOG RS22 RS22 ACTIVE LINE 3248-3303 (10000)  
COMMAND INPUT ==> SCROLL ==> CSR

NP	NAME	SysName	Date	Description
	SYSTEM_DUMP	RS22	2022/11/10 07:53:59.71	System dump detected : ERROR IN INITIATOR, ABEND=878, COMPOIN=INIT, COMPID=SC1B6, ISSUER=IEFIB620
	JOB_ABEND	RS22	2022/11/10 07:53:58.33	Jobname ARYG651(J0732449) OWNER=TS6509 ended abended CC=S922
	SMF_SYNC	RS22	2022/11/10 07:45:00.40	SMF SYNC interval ended
	JOB_ABEND	RS22	2022/11/10 07:42:08.10	Jobname PDILYA(T0733595) OWNER=PDILYA ended abended CC=S622
	SMF_SYNC	RS22	2022/11/10 07:30:00.60	SMF SYNC interval ended
	JOB_ABEND	RS22	2022/11/10 07:25:13.62	Jobname TS6025(T0733807) OWNER=TS6025 ended abended CC=S222
	JOB_ABEND	RS22	2022/11/10 07:18:04.89	Jobname TSTB235(J0733545) OWNER=TS4890 ended abended CC=S0C4
	JOB_ABEND	RS22	2022/11/10 07:15:32.93	Jobname TSTB235(J0732990) OWNER=TS4890 ended abended CC=S0C1
	SMF_SYNC	RS22	2022/11/10 07:15:00.44	SMF SYNC interval ended
	SWITCH_SMF	RS22	2022/11/10 07:14:40.56	SWITCH SMF command issued
	JOB_ABEND	RS22	2022/11/10 07:06:00.66	Jobname TS4883(T0732676) OWNER=TS4883 ended abended CC=S622
	JOB_ABEND	RS22	2022/11/10 07:05:48.52	Jobname ARYJ32A2(J0732691) OWNER=TS4883 ended abended CC=S222
	JOB_ABEND	RS22	2022/11/10 07:02:21.87	Jobname TS46189(S0732927) OWNER=TS4618 ended abended CC=SEC6
	SMF_SYNC	RS22	2022/11/10 07:00:00.39	SMF SYNC interval ended
	JOB_ABEND	RS22	2022/11/10 06:45:19.01	Jobname TSTB235(J0732117) OWNER=TS4890 ended abended CC=S0C1
	JOB_ABEND	RS22	2022/11/10 06:45:13.61	Jobname CSMVDQ0(T0732661) OWNER=CSMVDQ0 ended abended CC=S0C1
	SMF_SYNC	RS22	2022/11/10 06:45:00.75	SMF SYNC interval ended
	JOB_ABEND	RS22	2022/11/10 06:35:13.61	Jobname TS3482(T0731793) OWNER=TS3482 ended abended CC=S0C1
	SMF_SYNC	RS22	2022/11/10 06:30:00.40	SMF SYNC interval ended
	JOB_ABEND	RS22	2022/11/10 06:25:13.62	Jobname TS4618(T0731739) OWNER=TS4618 ended abended CC=SEC6
	JOB_ABEND	RS22	2022/11/10 06:25:13.62	Jobname TS4618(T0732110) OWNER=TS4618 ended abended CC=SEC6
	JOB_ABEND	RS22	2022/11/10 06:25:13.30	Jobname TS5835(T0727810) OWNER=TS5835 ended abended CC=S522
	DYNAMIC_APF_ADD	RS22	2022/11/10 06:24:47.38	Data set ARY.TS4883.ARYTEST.SARYLOAD (SMS) added using CSVAPF by jobname ARYJ32A2
	SMF_SYNC	RS22	2022/11/10 06:15:00.09	SMF SYNC interval ended
	JOB_ABEND	RS22	2022/11/10 06:05:13.61	Jobname TS3654(T0731910) OWNER=TS3654 ended abended CC=S222
	JOB_ABEND	RS22	2022/11/10 06:03:12.12	Jobname TS3357(T0727515) OWNER=TS3357 ended abended CC=S522
	SMF_SYNC	RS22	2022/11/10 06:00:00.74	SMF SYNC interval ended
	SWITCH_SMF	RS22	2022/11/10 05:59:57.58	SWITCH SMF command issued
	JOB_ABEND	RS22	2022/11/10 05:52:15.35	Jobname TS60645(S0731701) OWNER=TS6064 ended abended CC=SEC6
	JOB_ABEND	RS22	2022/11/10 05:51:58.81	Jobname TSTB235(J0731712) OWNER=TS4890 ended abended CC=S0C1
	JOB_ABEND	RS22	2022/11/10 05:50:58.87	Jobname TS60644(S0731705) OWNER=TS6064 ended abended CC=SEC6
	JOB_ABEND	RS22	2022/11/10 05:50:23.60	Jobname TS60641(S0731702) OWNER=TS6064 ended abended CC=SEC6
	SMF_SYNC	RS22	2022/11/10 05:45:13.61	Jobname TS3654(T0731264) OWNER=TS3654 ended abended CC=S222
	DYNAMIC_APF_ADD	RS22	2022/11/10 05:34:35.08	Data set ADB.GDI.RB1056.LINKLIB (SMS) added using CSVAPF by jobname RB1BIND
	DYNAMIC_APF_ADD	RS22	2022/11/10 05:34:35.07	Data set ADB.GDI.RB1056.ISPLLIB (SMS) added using CSVAPF by jobname RB1BIND
	JOB_ABEND	RS22	2022/11/10 05:30:51.75	Jobname TSTB235(J0731633) OWNER=TS4890 ended abended CC=S0C1
	SMF_SYNC	RS22	2022/11/10 05:30:00.00	SMF SYNC interval ended
	JOB_ABEND	RS22	2022/11/10 05:26:11.37	Jobname TS3556(T0730820) OWNER=TS3556 ended abended CC=SEC6
	JOB_ABEND	RS22	2022/11/10 05:25:13.61	Jobname TS3556(T0730740) OWNER=TS3556 ended abended CC=SEC6
	JOB_ABEND	RS22	2022/11/10 05:25:02.10	Jobname TSTB235(J0731575) OWNER=TS3556 ended abended CC=SEC6
	JOB_ABEND	RS22	2022/11/10 05:23:52.77	Jobname TS5034(T0726454) OWNER=TS5034 ended abended CC=SEC6
	JOB_ABEND	RS22	2022/11/10 05:18:51.91	Jobname TSTB235(J0730953) OWNER=TS3556 ended abended CC=SEC6
	SMF_SYNC	RS22	2022/11/10 05:15:00.00	SMF SYNC interval ended
	DEVICE_ONLINE	RS22	2022/11/10 05:08:03.33	Device number C3C4 (ARYSXAA) placed online
	DEVICE_ONLINE	RS22	2022/11/10 05:08:03.30	Device number C3C6 (ARYSXCA) placed online
	DEVICE_ONLINE	RS22	2022/11/10 05:08:03.30	Device number C3C5 (ARYSXBA) placed online
	VOLUME_AVAILABLE	RS22	2022/11/10 05:08:03.29	Device number C3C4 (ARYSXAA) made available
	VOLUME_AVAILABLE	RS22	2022/11/10 05:08:03.29	Device number C3C6 (ARYSXCA) made available
	VOLUME_AVAILABLE	RS22	2022/11/10 05:08:03.29	Device number C3C5 (ARYSXBA) made available
	DEVICE_ONLINE	RS22	2022/11/10 05:08:02.24	Device number C1B6 (ARY27C) placed online
	DEVICE_ONLINE	RS22	2022/11/10 05:08:02.19	Device number C1B5 (ARY321) placed online
	VOLUME_AVAILABLE	RS22	2022/11/10 05:08:02.18	Device number C1B6 (ARY27C) made available
	VOLUME_AVAILABLE	RS22	2022/11/10 05:08:02.18	Device number C1B5 (ARY321) made available
	DEVICE_ONLINE	RS22	2022/11/10 05:08:02.18	Device number C1B4 (ARY27D) placed online
	VOLUME_AVAILABLE	RS22	2022/11/10 05:08:02.18	Device number C1B4 (ARY27D) made available

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# Module Fetch Monitor

# Module Fetch Monitor Implementation

- Enabled by new FEATURE statement in ISFPRMxx
  - Is inactive by default as non-trivial overhead
- Captures program fetch data from CSVFETCH and CSVLLIX1 dynamic exits
- Support 3 levels of data collection detail on FEATURE statement
  - LEVEL(1) Only collect module fetch data for data set names
  - LEVEL(2) Collect module fetch data for both data set and module name
  - LEVEL(3) Collect module fetch data for data set name, module name and job names
- FEATENT statements can filter on data set name, module name and fetch-causing jobname

# Module Fetch By Data Set Name

RS88 Standard

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF FETCH DATA SETS RS88 RS88 ACTIVE

COMMAND INPUT ==>  
PREFIX=\*& DEST=( ALL ) OWNER=\*& SYSNAME=

NP	DSNAME	Fetch	AvgDASD	MaxDASD	AvgVLF	MaxVLF
	DEVRTE.HSF.HSFA0301.SISFLOAD	24	25.385	316.175	0.000	0.000
	ISP.SISPLLOAD	13	0.135	0.679	0.007	0.014
	PDSCOT.LINKLIB	2	0.760	0.978	0.000	0.000
	REXX.SEAGALT	4	0.061	0.071	0.015	0.016
	RSRTE.LINKLIB	4	0.944	1.118	0.009	0.009
	SYS1.CMDLIB	125	1.018	16.642	0.023	0.075
	SYS1.CSSLIB	2	3.381	6.334	0.000	0.000
	SYS1.LINKLIB	304	0.112	1.043	0.047	0.610
	SYS1.SGRBLINK	137	13.847	494.057	3.300	104.418

Columns also include first and last fetch datestamps.

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# Module Fetch By Module Name

xxxDASD indicates program fetch  
versus xxxVLF for LLA fetch.

NP	MODULE	Fetch	Type	Size	AvgDASD	MaxDASD	AvgVLF	MaxVLF	Dataset	APF	AC	AM	RM
	ALLOC	36	PGMF	0000D8E8	0.060	0.091	0.000	0.000	SYS1.CMDLIB	YES	0	31	31
	ALLOCATE	6	PGMF	0000D8E8	0.081	0.111	0.000	0.000	SYS1.CMDLIB	YES	0	31	31
	ALTLIB	8	PGMF	00004310	0.139	0.621	0.000	0.000	SYS1.CMDLIB	YES	0	31	31
	ATTR	12	PGMF	00003360	0.371	0.623	0.000	0.000	SYS1.CMDLIB	YES	0	24	24
	BPXWREXX	6	LLAF	00023800	0.121	0.141	0.087	0.101	SYS1.LINKLIB	YES	0	31	24
	EAGRALT	3	LLAF	00005F80	0.000	0.000	0.015	0.016	REXX.SEAGALT	YES	0	31	24
	EAGRTPRC	3	PGMF	00005F80	0.063	0.071	0.000	0.000	REXX.SEAGALT	YES	0	31	31
	EXEC	9	PGMF	000007D8	0.901	2.867	0.000	0.000	SYS1.CMDLIB	YES	0	31	31
	EXECUTIL	3	PGMF	00001698	0.063	0.075	0.000	0.000	SYS1.CMDLIB	YES	0	31	31
	EZAFTPKR	6	LLAF	00000A4C0	0.057	0.065	0.024	0.026	SYS1.LINKLIB	YES	0	31	24
	FLMTABLE	1	PGMF	000000CC0	0.679	0.679	0.000	0.000	ISP.SISLOAD	YES	0	24	24
	FREE	6	PGMF	00003E48	0.481	0.880	0.000	0.000	SYS1.CMDLIB	YES	0	31	31
	GRBMFDCX	1	PGMF	000000C70	494.057	494.057	0.000	0.000	SYS1.SGRBLINK	YES	0	31	31
	GRB3GCFI	18	LLAF	0002EC90	11.736	104.461	11.691	104.418	SYS1.SGRBLINK	YES	0	31	24
	GRB3GCPD	18	LLAF	000016B0	0.051	0.059	0.006	0.007	SYS1.SGRBLINK	YES	0	31	24
	GRB3GCRY	18	LLAF	00007E80	0.063	0.077	0.020	0.028	SYS1.SGRBLINK	YES	0	31	24
	GRB3GCSR	9	PGMF	00000678	21.464	105.157	0.000	0.000	SYS1.SGRBLINK	YES	0	31	31
	GRB3GGSS	18	LLAF	00000ADE8	12.173	104.439	11.653	104.360	SYS1.SGRBLINK	YES	0	31	24
	GRB3GIQD	18	LLAF	0000096C0	11.635	104.186	0.025	0.028	SYS1.SGRBLINK	YES	0	31	24
	GRB3GPCI	18	LLAF	0000113E0	0.358	1.578	0.045	0.063	SYS1.SGRBLINK	YES	0	31	24
	GRB3GVRI	18	LLAF	00000A8A0	0.138	0.490	0.027	0.031	SYS1.SGRBLINK	YES	0	31	24

# Module Fetch By Job Name

RS88

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Display Filter View Print Options Search Help

SDFS FETCH JOBNAMES RS88 RS88 ACTIVE LINE 265-285 (285)  
COMMAND INPUT ==> SCROLL ==> CSR

PREFIX=\*& DEST=( ALL ) OWNER=\*& SYSNAME=

NP	JOBNAME	Module	Fetch	AvgDASD	MaxDASD	AvgVLF	MaxVLF	ASIDX	Dataset	DASD	Last
	PDSCOT	ISPLINK	3	0.000	0.000	0.007	0.015	009C	ISP.SISPLLOAD	0	2022
	PDSCOT	ISPPXMXN	2	0.823	0.823	0.009	0.009	009C	RSRTE.LINKLIB	1	2022
	PDSCOT	ISPQRY	3	0.044	0.057	0.000	0.000	009C	ISP.SISPLOAD	3	2022
	PDSCOT	LISTALC	6	0.047	0.051	0.000	0.000	009C	SYS1.CMDLIB	6	2022
	PDSCOT	LISTC	1	0.034	0.034	0.000	0.000	009C	SYS1.CMDLIB	1	2022
	PDSCOT	LU	8	0.200	0.225	0.000	0.000	009C	SYS1.LINKLIB	8	2022
	PDSCOT	TSOLIB	1	0.048	0.048	0.000	0.000	009C	SYS1.CMDLIB	1	2022
	RMF	GRBMFDCX	1	494.057	494.057	0.000	0.000	0073	SYS1.SGRBLINK	1	2022
	RMFGAT	GRB3GCFI	20	10.577	104.461	10.531	104.418	0094	SYS1.SGRBLINK	10	2022
	RMFGAT	GRB3GCPD	20	0.050	0.059	0.006	0.007	0094	SYS1.SGRBLINK	10	2022
	RMFGAT	GRB3GCRY	20	0.062	0.077	0.020	0.028	0094	SYS1.SGRBLINK	10	2022
	RMFGAT	GRB3GCSR	10	19.525	105.157	0.000	0.000	0094	SYS1.SGRBLINK	10	2022
	RMFGAT	GRB3GGSS	20	11.146	104.439	10.494	104.360	0094	SYS1.SGRBLINK	10	2022
	RMFGAT	GRB3GIQD	20	10.478	104.186	0.025	0.028	0094	SYS1.SGRBLINK	10	2022
	RMFGAT	GRB3GPCI	20	0.331	1.578	0.045	0.063	0094	SYS1.SGRBLINK	10	2022
	RMFGAT	GRB3GVRI	20	0.131	0.490	0.028	0.031	0094	SYS1.SGRBLINK	10	2022
	RMFGAT	GRB3GXCF	20	0.125	0.543	0.037	0.043	0094	SYS1.SGRBLINK	10	2022
	STARTING	IRRSPW00	1	0.429	0.429	0.000	0.000	0095	SYS1.CSSLIB	1	2022
	STARTING	IRRSPW00	1	6.334	6.334	0.000	0.000	0095	SYS1.CSSLIB	1	2022
	STARTING	IRRSPW00	1	0.431	0.431	0.000	0.000	0095	SYS1.CSSLIB	1	2022
	STARTING	IRRSPW00	1	0.406	0.406	0.000	0.000	009C	SYS1.CSSLIB	1	2022

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FJ action on DA can show this panel  
filtered by the job name.

# RACF Panels

# RACF Panels

- Several RACF-related panels added
  - RACF classes
  - RACF profiles
  - Access lists for specific profile
  - Connected groups list for specific userid
  - Profile “browse”
  - RACF options (SETROPTS)
- Uses IRRSEQ00 (Radmin) to collect data
  - For performance reasons, SDSF will not check the IRR.RADMIN.\* profiles in the FACILITY class
  - Ability to see RACF data based purely on READ access to ISFCMD.ODSP.RACLIST.sysname in the SDSF class

# RACF Classes (RAC)

RS88

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Display Filter View Print O

SDSF RACF CLASSES RS88 ACTIVE LINE 1-21 (65) SCROLL ==> CSR

PREFIX=\*= DEST=(ALL) OWNER=\*= SYSNAME=

NP	NAME	Xref	Active	Dynamic	MaxLen	DfltrC	Raclist	Group	UACC	Oper	Genlist	Signal	Seclabel	IBM	Posit	KeyQual	MAC
	ACCTNUM		YES	NO	39	4	ALLOWED	NO	NONE	NO	NO	NO	NO	YES	126	0	NORMAL
	ACICSPCT	BCICSPCT	YES	NO	13	4	NO	NO	NONE	NO	NO	NO	NO	YES	5	0	NORMAL
	APPL		YES	NO	8	4	YES	NO	NONE	NO	YES	NO	YES	YES	3	0	EQUAL
					13	4	NO	YES	NONE	NO	NO	NO	NO	YES	5	0	NORMAL
					41	8	YES	NO	ACEE	NO	NO	NO	NO	YES	545	0	NORMAL
					21	4	NO	NO	NONE	NO	NO	NO	NO	YES	5	0	NORMAL
					8	4	ALLOWED	NO	NONE	NO	NO	YES	NO	YES	572	0	NORMAL
					26	4	NO	NO	NONE	NO	NO	NO	NO	YES	588	0	NORMAL
					8	8	YES	NO	NONE	NO	NO	NO	NO	YES	107	0	REVERSE
	CSFKEYS	GCSFKEYS	YES	NO	246	4	YES	NO	NONE	NO	NO	YES	NO	YES	98	0	NORMAL
	CSFSERV		YES	NO	246	4	YES	NO	NONE	NO	NO	YES	NO	YES	98	0	NORMAL
	DATASET		YES	NO	44	0	NO	NO	NONE	YES	NO	NO	NO	YES	1024	0	NORMAL
	DCICSDCT	ECICSDCT	YES	NO	13	4	NO	NO	NONE	NO	NO	NO	NO	YES	5	0	NORMAL
	DIGTCERT		YES	NO	246	4	YES	NO	NONE	NO	NO	NO	NO	YES	550	0	NORMAL
	DIGTRING		YES	NO	246	4	YES	NO	NONE	NO	NO	NO	NO	YES	550	0	NORMAL
	DSNR		YES	NO	39	4	ALLOWED	NO	ACEE	NO	YES	NO	YES	YES	7	0	EQUAL
	ECICSDCT	DCICSDCT	YES	NO	13	4	NO	YES	NONE	NO	NO	NO	NO	YES	5	0	NORMAL
	EJBROLE	GEJBROLE	YES	NO	246	4	ALLOWED	NO	NONE	NO	NO	NO	NO	YES	568	0	NORMAL
	FACILITY		YES	NO	39	4	YES	NO	NONE	NO	YES	NO	NO	YES	8	0	NORMAL
	FCICSFCT	HCICSFCT	YES	NO	17	4	ALLOWED	NO	NONE	NO	NO	NO	NO	YES	5	0	NORMAL
	FIELD		YES	NO	26	4	YES	NO	NONE	NO	YES	NO	NO	YES	121	0	NORMAL

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# RACF Profiles (RACP)

The screenshot shows the RS88 terminal window with the following details:

- Title Bar:** RS88
- Menu Bar:** File, Edit, Font, Transfer, Macro, Options, Window, Help
- Toolbar:** Includes icons for Copy, Paste, Find, Replace, and others.
- Text Area:** SDSF RACF PROFILES RS88 FACILITY  
COMMAND INPUT ==> \_  
PREFIX=\* DEST=(ALL) OWNER=\* SYSNAME=  
NP Profile  
\*\*  
AOPADMIN  
BBG.SYNC.IZUDFLT  
BLSACTV.ADDRSPAC  
BPX.CONSOLE  
BPX.DAEMON  
BPX.DAEMON.HFSCTL  
BPX.DEBUG  
BPX.FILEATTR.APF  
BPX.FILEATTR.PROGCTL  
BPX.FILEATTR.SHARELIB
- Message Bar:** LINE 2-22 (94) SCROLL ==> CSR
- Bottom Status Bar:** 0.1 11/14/22.318 12:56PM RS88 4,21

Annotations:

- A callout bubble points to the command input field with the text: "Class name can be passed as keyword on command. Default is DATASET."
- A callout bubble points to the "Profile" entry in the list with the text: "Highlighted profile name means that there are entries in the access list."

# RACF Profile Access List (RACA)

Display shown in response to "L" action on RACP panel.

SCROLL ==> CSR

PREFIX=*	DEST=(ALL)	OWNER=*	SYSNAME=
NP	ID	Access	Cond WhenClass WhenEntity
	--UACC--	NONE	NO
	CBLDAP	UPDATE	NO
	CFZSRV	UPDATE	NO
	DBMUSS	READ	NO
	GPMSERVE	READ	NO
	IMWEBSRV	UPDATE	NO
	IPVSRV1	READ	NO
	KBMUSER	READ	NO
	PDMGK	READ	NO
	ROOT	READ	NO
	STCRSE	UPDATE	NO
	WEBSRV	UPDATE	NO

Special value of “—UACC—” in access list for the profile universal access.

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# RACF Connected Groups (RACC)

Display shown in response to "L" action on RACP panel for class USER.

PREFIX=*	DEST=(ALL)	OWNER=*	SYSNAME=	NP	GROUP	Special Operations	Auditor	Owner	Connected	Class	Profile	SysName	SysLevel
					#PSPRG	NO	NO	#PSPRG	2022/01/05	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0
					AOPADMIN	NO	NO	AOPADMIN	2014/12/02	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0
					CPAC	NO	NO	CPAC	2014/12/02	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0
					CSUSER	NO	NO	CSUSER	2014/12/02	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0
					IMSGRP	NO	NO	IMSGRP	2014/12/02	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0
					IMSSYSP	NO	NO	IMSSYSP	2018/02/15	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0
					IMS810	NO	NO	IMS810	2014/12/02	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0
					IRLMV2	NO	NO	IRLMV2	2014/12/02	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0
					PDUSER	NO	NO	PDUSER	2014/12/02	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0
					RMMGROUP	NO	NO	RMMGROUP	2014/12/02	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0
					SMPE	NO	NO	SMPE	2014/12/02	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0
					STORADM	NO	NO	STORADM	2014/12/02	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0
					SYSPROG	NO	NO	SYSPROG	2014/12/02	USER	TSSPD	RS88	z/OS 03.01.00 HBB77E0

File RACF General Dataset User Group

MXI--RL---RS88----HOME----CPU 12 UIC 65535 PAG 0-----2022/11/14-08:01:10--->- Row 000129 of 000180  
M8 0.1 11/14/22.318 01:01PM RS88 4,21

# RACF Profile Browse

RS88

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF RACF BROWSE CATALOG.\*.MASTER\*.\* LINE 0 COLUMNS 02- 80  
COMMAND INPUT ==> \_ SCROLL ==> CSR

\*\*\*\*\*  
CLASS : DATASET  
PROFILE : CATALOG.\*.MASTER\*.\*  
SEGMENT : BASE  
CREATDAT: 05/28/15  
OWNER : SYS1  
LREFDAT : 05/28/15  
LCHGDAT : 05/28/15  
ACSALTR : 0  
ACSCNTL : 0  
ACSUPDT : 0  
ACSREAD : 0  
UACC : READ  
GROUPDS : YES  
RAUDIT : FAILURES( READ )  
GROUPNM : SYSPROG  
DSTYPE : NON-VSAM  
LEVEL : 0  
RGAUDIT : NONE  
WARNING : NO  
ERASE : NO  
ACLCNT : ( REPEAT GROUP )  
  ACLID : SYSPROG  
  ACLACS : ALTER  
  ACLID : SMSVSAM  
  ACLACS : UPDATE  
  ACLID : SUBJCL

Display shown in response to "S" action on various RACF panels.

LHS column shows the RACF database template field name.

First field in repeat group highlighted.

MA 0.1 11/14/22.318 01:05PM RS88 4,21

# RACF Options (RACO)

The image shows two side-by-side terminal windows, both titled "RS88".

**Left Window (Line 0):**

- File Edit Font Transfer Macro Options Window Help
- Display Filter View Print Options Search Help
- SDSF RACF OPTIONS RS88
- COMMAND INPUT ==> \_
- \*\*\*\*\* TOP OF DATA \*\*\*\*\*
- RACF GLOBAL OPTIONS AND SETTINGS**
- INITSTATS : YES
- TERMINAL UACC : READ
- LOG COMMAND VIOLATIONS : YES
- AUDIT OPERATIONS : NO
- AUDIT SPECIAL : YES
- AUDIT APPC TRANSACTIONS : NO
- AUDIT SECLABEL : NO
- PASSWORD MIXED CASE : NO
- ADD CREATOR TO ACCESS LIST : NO
- AUTOMATIC DATA SET PROTECTION : NO
- SECLABEL COMPATABILITY : NO
- ENHANCED GENERIC NAMING : YES
- GENERIC OWNER : YES
- LIST OF GROUPS CHECKING : YES
- MULTI-LEVEL QUIET : NO
- MULTI-LEVEL STABLE : NO
- MULTI-LEVEL NAME HIDING : NO
- SECLABEL BY SYSTEM : NO
- MULTI-LEVEL IPC : INACTIVE
- MULTI-LEVEL FILE SYSTEM : INACTIVE
- PROTECT ALL DATA SETS : NO
- REAL DATA SET NAMES : NO
- RETENTION PERIOD : 00000
- RVARY SWITCH PASSWORD : DEFAULT
- RVARY STATUS PASSWORD : DEFAULT

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**Right Window (Line 42):**

- File Edit Font Transfer Macro Options Window Help
- Display Filter View Print Options Search Help
- SDSF RACF OPTIONS RS88
- COMMAND INPUT ==> \_
- LINE 42 COLUMNS 02- 80
- SCROLL ==> CSR
- PASSWORD HISTORY DEPTH : 003
- PASSWORD INTERVAL DAYS : 180
- PASSWORD MINIMUM CHANGE DAYS : 000
- PASSWORD SPECIAL CHARS : NO
- PASSWORD ALGORITHM : LEGACY
- PASSWORD ATTEMPTS REVOKE : 010
- PASSWORD WARNING DAYS : 005
- PASSWORD SYNTAX RULES : NO
- JES NJE USERID : ????????
- JES UNDEFINED USERID : +++++++
- KERB LEVEL (IGNORED) : 000
- ACTIVE CLASSES

DATASET	USER	GROUP	ACCTNUM	ACICSPCT	APPL	BCICSPCT	CBIND
CDT	CFIELD	CONSOLE	CSFKEYS	CSFSERV	DCICSDCT	DIGTCERT	GCICSTRN
DSNR	ECICSDCT	EJBROLE	FACILITY	FCICSFCT	FIELD	GCICSTRN	IDTDATA
GEJBROLE	GSDSF	GXCSFKEY	GXFACILI	GZMFAPLA	HCICSFCT	IDTDATA	PCICSPSB
JESSPOOL	KCICSJCT	LOGSTRM	MCICSPPT	NCICSPPT	OPERCMD	PCICSPSB	PTKTDATA
PTKTDATA	PTKTVAL	QCICSPSB	RCICSRRES	RRSFDATA	SCICSTST	SDSF	SERVAUTH
SERVER	STARTED	SURROGAT	TAPEVOL	TCICSTRN	TSOAUTH	TSOPROC	UCICSTST
UNIXPRIV	VCICSCMD	WBEM	WCICSRRES	WRITER	XCSFKEY	XFACILIT	ZMFAPLA

- STATISTICS
- UNIXPRIV
- GENERIC COMMAND CLASSES

DATASET	ACCTNUM	ACICSPCT	AIMS	ALCSAUTH	APPCLU	APPCCPORT	APPCSERV
APPCSI	APPCTP	APPL	CACHECLS	CBIND	CCICSCMD	CIMS	CONSOLE
CPSMOBJ	CPSMXMP	CSFKEYS	CSFSERV	DASDVOL	DBNFORM	DCEUUIDS	DCICSDCT
DEVICES	DIGTCERT	DIGTCRIT	DIGTNMAP	DIGTRING	DIRACC	DIRAUTH	DIRECTRY

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Similar data to that shown on  
SETROPTS LIST.

# MEM Enhancements

# MEM Enhancements

- Structure format now uses SDSF table display instead of browse
  - “D” and “G” actions supported on the MEM MAP panel
  - No longer need “MEMCSR” assigned to PF-Key
- Structure definitions externalized to new ISFPRMxx statements
  - MAP
  - MAPENT
  - MAPOPT
  - MAPDEF
- New “RC” action added to MEM display to perform a “run chain” to process linked lists

# MEM MAP Table Format

RS88

File Edit Font Transfer Macro Options Window Help

Display Filter View

SDSF MAP RS88 RS88 SSCT 0001 \*MASTER\* LINE 1-20 ( 20 )  
COMMAND INPUT ==> SCROLL ==> CSR

PREFIX=*	DEST=( ALL )	OWNER=*	SYSNAME=	Off	Key	FProt
NP	NAME		Content	0000	0	NO
SSCTSID			SSCT	0004	0	NO
SSCTSCTA			00C37828	0008	0	NO
SSCTSNAME			JES2	000C	0	NO
SSCTFLG1		A0	B'10100000'			
+EQUATED VALUES		--	-----			
+SSCTSFOR		80	B'10000000'			
+SSCTUPSS		40	B'01000000'			
+SSCTARDR		20	B'00100000'			
+SSCTLDEL		10	B'00010000'			
SSCTSSID		02	B'00000010'	000D	0	NO
+EQUATED VALUES		--	-----			
+SSCTJES3		03	B'00000011'			
+SSCTJES2		02	B'00000010'			
+SSCTUNKN		00	B'00000000'			
SSCTRSV1( 2 )		0000		000E	0	NO
SSCTSSTVT		129499E8		0010	0	NO
SSCTSUSE		00C186FC		0014	0	NO
SSCTSYN		00C37BE8		0018	0	NO
SSCTSUS2		00C18308		001C	0	NO
SSCTSCTX		00C3796C		0020	0	NO

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Structure format now shown in SDSF table.

"D" and "G" actions available to invoke MEM on address value in Content field.

"M" action against a row will invoke MEM for the address and then format the new content inheriting the same map.

This allows user to process linked list in structure format.

# Example MAP Structure Definition

S1 - Mainframe Display

File Edit Session Options Transfer View Script Help

Menu Utilities Compilers Help

BROWSE DEV RTE.HSF.HSFA0301.SISFJCL(ISFM7E00) Line 0000003276 col 001 080  
Command ==> Scroll ==> CSR

```

MAP NAME(SSCT) REFNAME(IEFJSCVT) LENGTH(36)
  MAPENT FIELD(SSCTID) LENGTH(4) TYPE(CHAR) OFFSET(0000)
  MAPENT FIELD(SSCTSCTA) LENGTH(4) TYPE(ADDR) OFFSET(0004)
  MAPENT FIELD(SSCTSNAME) LENGTH(4) TYPE(CHAR) OFFSET(0008)
  MAPENT FIELD(SSCTFLG1) LENGTH(1) TYPE(BYTE) OFFSET(000C)
  MAPENT FIELD(SSCTSFOR) LENGTH(1) TYPE(BIT) REF(SSCTFLG1) VALUE(80)
  MAPENT FIELD(SSCTUPSS) LENGTH(1) TYPE(BIT) REF(SSCTFLG1) VALUE(40)
  MAPENT FIELD(SSCTARDR) LENGTH(1) TYPE(BIT) REF(SSCTFLG1) VALUE(20)
  MAPENT FIELD(SSCTLDEL) LENGTH(1) TYPE(BIT) REF(SSCTFLG1) VALUE(10)
  MAPENT FIELD(SSCTSSID) LENGTH(1) TYPE(BYTE) OFFSET(000D)
  MAPENT FIELD(SSCTUNKN) LENGTH(1) TYPE(BIT) REF(SSCTS...  
DUPLICATION(2)
  MAPENT FIELD(SSCTSSVT) LENGTH(4) TYPE(ADDR) OFFSET(0010)
  MAPENT FIELD(SSCTSUSE) LENGTH(4) TYPE(HEX) OFFSET(0014)
  MAPENT FIELD(SSCTSNT) LENGTH(4) TYPE(ADDR) OFFSET(0018)
  MAPENT FIELD(SSCTSUS2) LENGTH(4) TYPE(HEX) OFFSET(001C)
  MAPENT FIELD(SSCTSCTX) LENGTH(4) TYPE(HEX) OFFSET(0020)

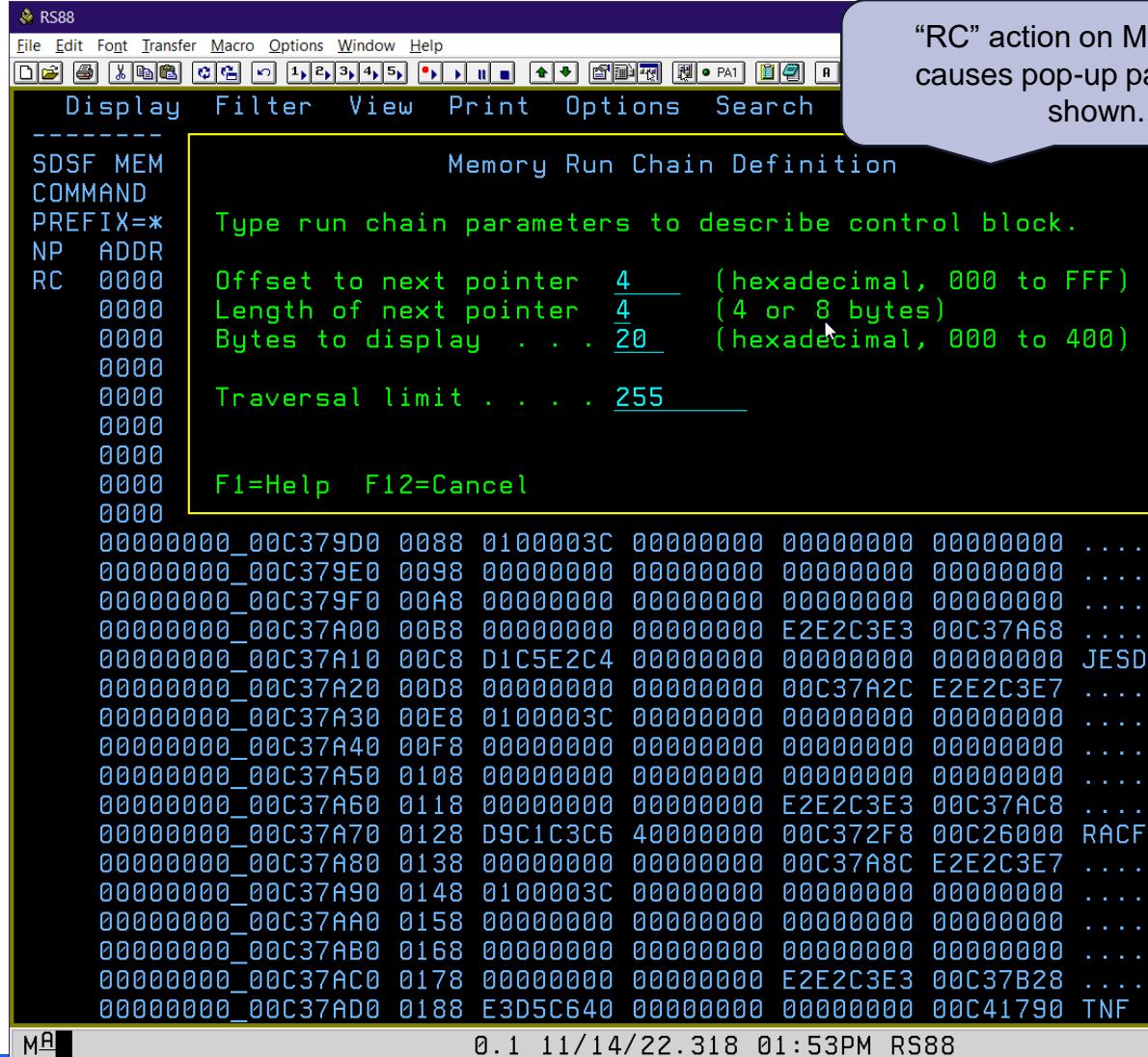
MB 01A          S88TCP13    04/015
  
```

Bitmask values specify the associated byte using “REF”

TYPE(ADDR) makes the field active for memory browse

S1/A | 192.168.55.188 | S88TCP13 | NUM | 00:00:125 | 04.015

# MEM Run Chain



“RC” action on MEM panel causes pop-up panel to be shown.

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search

SDSF MEMORY CHAIN RS88      RS88      0001 \*MAS

COMMAND INPUT ==> \_

PREFIX=\* DEST=(ALL) OWNER=\* SYSNAME=

NP	ADDRESS	Seq	Contents	LCBLCB	SSCT.C .JES2 .
	00000000_00C37948	1	E2E2C3E3 00C37828 D1C5E2F2	A0020000	SSCT.C .JES2 .
	00000000_00C37958		129499E8 00C186FC 00C37BE8	00C18308	.mrY.Af .C#Y.Ac.
	00000000_00C37828	2	E2E2C3E3 00C37888 D4E2E3D9	00000000	SSCT.C hMSTR .
	00000000_00C37838		00C39468 00000000 00000000	00000000	.Cm .
	00000000_00C37888	3	E2E2C3E3 00C378E8 C9E9E4C7	00000000	SSCT.C YIZUG .
	00000000_00C37898		128D6538 00000000 00000000	00000000	.
	00000000_00C378E8	4	E2E2C3E3 00C379A8 E2D4E240	00000000	SSCT.C `ySMS .
	00000000_00C378F8		00C392B8 00000000 00000000	00000000	.Ck .
	00000000_00C379A8	5	E2E2C3E3 00C37A08 D1C5E2E2	00000000	SSCT.C:.JESS .
	00000000_00C379B8		00000000 00000000 00C37C48	00000000	.....@C@ .
	00000000_00C37A08	6	E2E2C3E3 00C37A68 D1C5E2C4	00000000	SSCT.C: JESD .
	00000000_00C37A18		00000000 00000000 00000000	00000000	.
	00000000_00C37A68	7	E2E2C3E3 00C37AC8 D9C1C3C6	40000000	SSCT.C:HRACF .
	00000000_00C37A78		00C372F8 00C26000 00000000	00000000	.C 8.B- .
	00000000_00C37AC8	8	E2E2C3E3 00C37B28 E3D5C640	00000000	SSCT.C#.TNF .
	00000000_00C37AD8		00000000 00C41790 00000000	00002900	....D. .
	00000000_00C37B28	9	E2E2C3E3 00C37B88 E5D4C3C6	00000000	SSCT.C#hVMCF .
	00000000_00C37B38		00000000 00C390B8 00000000	00002A00	....C .
	00000000_00C37B88	10	E2E2C3E3 00C37BE8 D9D9E240	00000000	SSCT.C#YRRS .
	00000000_00C37B98		00000000 00000000 00000000	00000000	.
	00000000_00C37BE8	11	E2E2C3E3 00C37C48 C4C6D9D4	00000000	SSCT.C@ DFRM .
	00000000_00C37BF8		00000000 00000000 00000000	90000000	.
	00000000_00C37C48	12	E2E2C3E3 00C37CA8 D3D6C7D9	00000000	SSCT.C@yLOGR .
	00000000_00C37C58		127E3BE0 00000000 00000000	00000000	=.\.
	00000000_00C37CA8	13	E2E2C3E3 00C37D08 D4D7C6E7	00000000	SSCT.C`MPFX .
	00000000_00C37CB8		00000000 00000000 00000000	00000000	.

Results from run chain shown  
in selectable list using length  
specified on pop-up.

# Useability Enhancements

# Extended Field Highlighting

- Fields on numerous panels now utilize extended highlighting
- Colour change for both character and numerical data depending on value
- Thresholds and ranges currently use internal definitions
- Examples
  - Non-zero return codes on ST and H
  - Percentage values on displays like DA and SMSG
  - Access level permitted for RACF profile
  - Number of extents for data set

# Extended Field Highlighting - Examples

The image displays three separate windows of the Vista TN3270 Session application, each showing SDSF output. The windows are arranged horizontally.

- Left Window:** Shows SDSF HELD OUTPUT DISPLAY ALL CLASSES LINES 2,798,316. It includes a command input section and a table of job details. A callout bubble from below points to the 'ABEND' status in the 'RC' column of the table, with the text: "Max-RC highlighting improves ability to see failing jobs immediately."
- Middle Window:** Shows SDSF DA RS22 (ALL) PAG 0 CPU/L 63/24 LINE 1-21 (247). It includes a command input section and a table of step details. The 'RC' column uses Max-RC highlighting to distinguish between ABEND and S222.
- Right Window:** Shows SDSF SMS STORAGE GROUPS RS22 RS22 LINE 1-21 (325). It includes a command input section and a table of storage group details. The 'Status' column uses Max-RC highlighting to distinguish between LOCAL and REMOTE.

# Extended Field Highlighting - Examples

RS88

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF ULOG CONSOLE PDSCOT LINE 0 COLUMNS 02- 132  
COMMAND INPUT ==> SCROLL ==> CSR

\*\*\*\*\* TOP OF DATA \*\*\*\*\*

RS88 2022318 09:19:20.39 +ISF045W Unable to open table library ISFTABL, number of saved commands may be limit  
RS88 2022318 09:19:26.23 +ISF050I USER=PDSCOT GROUP=ISFSPROG PROC=ROCKPROC TERMINAL=S88TCP06  
RS88 2022318 09:19:26.23 +ISF061I User PDSCOT assigned destination operator authority.  
RS88 2022318 09:19:28.08 ISF051I SAF Access allowed SAFRC=0 ACCESS=READ CLASS=SDSF RESOURCE=ISFCMD.ODSP.HCHECKER  
RS88 2022318 09:19:28.08 ISF051I SAF Access allowed SAFRC=0 ACCESS=READ CLASS=SDSF RESOURCE=ISFCMD.ODSP.HC  
RS88 2022318 09:19:28.09 +ISF059I SAF Access allowed SAFRC=(0,0,0) ACCESS=READ CLASS=SDSF RESOURCE=ISFCMD.ODSP.HC  
RS88 2022318 09:19:29.43 +ISF059I SAF Access denied SAFRC=(8,8,0) ACCESS=READ CLASS=XFACILIT RESOURCE=HZS.RS88.I  
RS88 2022318 09:19:34.22 ISF031I CONSOLE PDSCOT ACTIVATED  
RS88 2022318 09:19:50.00 ISF051I SAF Access allowed SAFRC=0 ACCESS=READ CLASS=SDSF RESOURCE=ISFOPER.SYSTEM Reqst  
RS88 2022318 09:19:50.00 -D A,L  
RS88 2022318 09:19:50.01 CNZ4105I 09.19.50 DISPLAY ACTIVITY 636  
JOBS M/S TS USERS SYSAS INITS ACTIVE/MAX VTAM DAS  
00008 00026 00001 00039 00006 00001 / 00300 00027  
LLA LLA LLA  
JES2 JES2 IEFPR  
VTAM VTAM VTAM  
SDSF SDSF SDSF  
APPC APPC APPC  
TSO TSO STEP  
PRIMEPSA PRIMEPSA IGVD  
RMF RMF IEFPR

Enhancements to certain  
“browse” style panels to  
highlight individual records.

RS88 00039 00086 00001/00300 00027

File Edit Fmt Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDFS OUTPUT DISPLAY ASM\_PLPA\_COMMON\_SIZE LINE 0 COLUMNS 02- 132  
COMMAND INPUT ==> SCROLL ==> CSR

\*\*\*\*\* TOP OF DATA \*\*\*\*\*

CHECK(IBMASM,ASM\_PLPA\_COMMON\_SIZE)  
SYSPLEX: RSPLEX06 SYSTEM: RS88  
START TIME: 11/14/2022 05:08:13.972749  
CHECK DATE: 20120120 CHECK SEVERITY: MEDIUM-DYNAMIC  
CHECK PARM: THRESHOLD(100%)

\* Medium Severity Exception \*

ILRH0105E PLPA/Common page data set size is below recommended value

Explanation: The size of CSA and ECSA is approximately 183685120 bytes which corresponds to 44845 auxiliary storage slots. The size of PLPA and EPLPA is approximately 75730942 bytes which corresponds to 18488 auxiliary storage slots. The size of the Common page data set is 53999 slots, the size of the PLPA page data set is 179 slots. The combined size of the PLPA and Common page data sets is 86% of the slots required for all of CSA/ECSA and PLPA/EPLPA. This is below the check warning threshold of 100%.

System Action: The system continues processing.

# Summary

- New concept of SDSF feature with two supplied components
  - Event Log
  - Module Fetch Monitor
- RACF panels
- Enhancement to memory browse
- Extended highlighting
- 11 New SDSF primary panels
  - Not covered in this presentation
  - Numerous new columns on existing displays