

What's new in SDSF for z/OS 3.2?

Rob Scott
Presented by
Tom Wasik



Rocket Software

rscott@rs.com

@Dadageddon on SZE Discord

Agenda

- Summary Of Recent SDSF Enhancements
- pysdsf
- SDSF Profile Data In zFS
- RACF Log Display
- Sysname Lists
- New SDSF Panels
- Useability Enhancements
- Miscellaneous Enhancements

Recent SDSF Enhancements

- z/OS 2.5
 - SAF-only security
 - 16 new panels including memory browse, detailed common and private storage information
- z/OS 3.1
 - New concept of SDSF features
 - Module fetch monitor and event log
 - Over 30 new panels including RACF classes and profiles
- z/OS 3.2
 - pysdsf
 - z/OS file system for profile data
 - 18 new panels

A photograph of a server room with multiple racks of servers. The racks are dark blue or black, and the server components are illuminated with various colored lights (yellow, green, blue, red). The perspective is from a low angle, looking down the length of the racks.

pysdsf

pysdsf – Python Interface to SDSF

- Easy to use python interface to SDSF
- Initial support for the following primary panels
 - AS, DA, H, I, O, ST
 - LOG (both SYSLOG and OPERLOG)
- Initial support for the following secondary panels
 - JDS (aka `?'`), JS
- SYSOUT browse supported
- Operator commands also supported
 - Both generated by actions and freeform “/” style

pysdsf – Installation And Setup

- pysdsf supplied as part of the standard SDSF SMP/E FMID
- Artifacts created via SMP/E APPLY
- Wheel file distributed in :
/usr/lpp/sdsf/python/dist/
- Documentation distributed in :
/usr/lpp/sdsf/python/doc

pysdsf – Example Code

```
from pysdsf import Connection
from pysdsf.isfexception import ISFException

connection = Connection()
# Get all the jobs with prefix SDSF*
try:
    # Any owner and job name prefix of SDSF*
    status_result = connection.status_of_jobs(prefix='SDSF*',
                                              owner='*')

    # Any row returned?
    if len(status_result):
        print('Job_Name Job_ID      Queue')
        for row in status_result:
            print(
                f'{{row["JNAME"]}}.ljust(8)} {{row["JOBID"]}}.ljust(8)} '
                f'  {{str(row["QUEUE"])}ljust(10)} '
            )
    else:
        print('Jobs with prefix SDSF* not found')
except ISFException as e:
    print(f'Error occurred response is {e}')
finally:
    connection.close()
```

Following slides will breakdown the statements to explain the general flow and look-and-feel of pysdsf

pysdsf – Breakdown Of Statements

```
from pysdsf import Connection
from pysdsf.isfexception import ISFException
```

Import the pysdsf package and its allied custom exception

```
connection = Connection()
```

pysdsf uses the "connection" object to facilitate communication with the SDSF server

```
status_result = connection.status_of_jobs(prefix='SDSF*',
                                           owner='*')
```

Named SDSF functions can be passed parameters explicitly or set as a dictionary :

```
options = {
    'prefix':'SDSF*',
    'owner':'*'
}
```

```
status_result = connection.status_of_jobs(**options)
```

pysdsf – Breakdown Of Statements

```
if len(status_result):
    print('Job_Name Job_ID      Queue')
    for row in status_result:
        print(
            f'{row["JNAME"].ljust(8)} {row["JOBID"].ljust(8)} '
            f' {str(row["QUEUE"]).ljust(10)} '
        )
else:
    print('Jobs with prefix SDSF* not found')
```

Process each row of the results and access column data using the internal column name

Internal column names match SDSF REXX

```
except ISFException as e:
    print(f'Error occurred response is {e}')
```

Handle any exceptions from SDSF

```
connection.close()
```

Close the connection with SDSF

pysdsf – Browse SYSOUT For Active Job

```
from pysdsf import Connection
from pysdsf.isfexception import ISFException

connection = Connection()
# Get all the jobs with prefix SDSFAUX*
options = {
    'prefix': 'SDSFAUX*',
    'owner': '*'
}
try:
    da_result = connection.active_users(**options)
    # Any row returned?
    if len(da_result):
        for da_row in da_result:
            try:
                print(f'Browse result for {da_row["JNAME"]}({da_row["JOBID"]})')
                try:
                    browse_result = da_result.browse(da_row, **options)
                    if browse_result:
                        for line in browse_result:
                            print(line)
                    else:
                        print('Nothing to browse')
                except ISFException as e:
                    print(e)
            except ISFException as e:
                print(e)
        else:
            print('Jobs with prefix SDSFAUX* not found')
except ISFException as e:
    print(f'Error occurred response is {e}')
finally:
    connection.close()
```

connection.active_users = "DA"

Simple interface to browse SYSOUT for job.

pysdsf – Issue Actions Against Jobname(s)

```
from pysdsf import Connection
from pysdsf.isfexception import ISFException

connection = Connection()

# Define jobs to process
options = {
    'prefix': 'MYJOB',
    'owner': 'MYOWNER',
    'columns': ['JNAME', 'JOBID'],
}

# Get list of jobs to process
try:
    status_result = connection.status_of_jobs(**options)
    if len(status_result):
        for st_row in status_result:
            # Display the job
            print(f'Job {st_row["JNAME"]}({st_row["JOBID"]}) is being processed')
            try:
                action_result = status_result.action('D', st_row)
                print("Command responses follow ...")
                for response in action_result:
                    print(response)
            except ISFException as e:
                print(e)
        else:
            print("No jobs to process")
except ISFException as e:
    print(e)
finally:
    connection.close()
```

Simple interface to issue action character against a row

Will result in z/OS operator command being issued and we can examine the response

pysdsf – Scanning the SYSLOG/OPERLOG

```
import datetime
from pysdsf import Connection
from pysdsf.isfexception import ISFException

# Connection for SDSF. Note: Does not invoke SDSF
connection = Connection()
# Get datetime for the time and date
today: datetime = datetime.datetime.now()
an_hour_ago: datetime = today - datetime.timedelta(hours=1)
# Set the start and stop times to limit records
# Set response line limit to limit number of line to return in response
try:
    sys_log_result = connection.read_syslog(start_date=an_hour_ago.strftime("%m/%d/%Y"),
                                           start_time=an_hour_ago.strftime("%H:%M:%S"),
                                           stop_date=today.strftime("%m/%d/%Y"),
                                           stop_time=today.strftime("%H:%M:%S"),
                                           response_limit=100)

    # List any messages related to the read request
    for row in sys_log_result:
        print(row)
except ISFException as e:
    print(e)
finally:
    connection.close()
```

Simple interface to browse and process SYSLOG rows

pysdsf – Initial Function List

- *active_users* DA panel
- *address_space_memory* AS panel
- *browse* SYSOUT browse
- *held_output_queue* H panel
- *input_queue* I panel
- *issue_command* “/” facility
- *output_queue* O panel
- *read_syslog/read_operlog* LOG panel (SYSLOG/OPERLOG)
- *status_of_jobs* ST panel

SDSF Profile Data In zFS

SDSF Profile Data in ISPF - Restrictions

- SDSF for z/OS 3.1 and prior releases use ISPF profile to store user settings, preferences including sort, arrange and filter criteria
- ISPF has a fixed limit of 64K for all data within a single xxxxPROF member of the ISPPROF data set
- SDSF users with large amounts of sort, arrange or filter criteria can exceed 64K in size causing errors when trying to VREPLACE/VPUT data into ISFPROF
- Using ISPF for profile data also means that other interfaces cannot retrieve stored user settings

SDSF Profile Data in zFS

- SDSF for z/OS 3.2 introduces the ability to store user profile data in the z/OS UNIX file system
 - Removes the 64K data limit constraint
 - Makes profile data available to non-ISPF interfaces
- Profile data stored as JSON documents
- Positions SDSF to provide further enhancements in later releases based on the JSON document profile store

SDSF Profile Data in zFS Implementation

- New SDSF group keyword "PROFILE"
 - ISPF Use legacy ISPF profile (default)
 - FILESYS Use z/OS UNIX file system
- Profile data stored in the ".isf" directory in user home directory
- New SDSF group keyword "PROFILEPATH"
 - Specifies any additional directory path appended after ".isf"
 - Default is null
- Invocation screen name appended to directory name if not equal to "SDSF"
 - Allows users to have different profile stores for fastpath SDSF invocations from places like the ISPF command table

SDSF Profile Data in zFS Migration

- SDSF profile path will be created if does not exist and any existing ISPF profile settings will be automatically migrated to new JSON format
 - Users can re-migrate by deleting the “.isf” directory and re-invoking SDSF
- Once the SDSF profile path is created, any existing or updated ISPF profile settings will be ignored
 - Data will not be saved to ISPF profile members after migration
- Important to note if sharing SDSF ISFPROF members with downlevel systems
 - SDSF for z/OS 3.1 and below will have no knowledge of profile data in the profile path filesystem
 - Some customers might postpone using FILESYS profiles until all members in sysplex are at least z/OS 3.2

SDSF Profile Data Considerations

- SDSF users should not edit the JSON documents in the “.isf” profile directory
- Any malformed or invalid JSON data encountered during initialization will cause SDSF to discard all profile path information and fall back to using default settings

RACF Log

RACF Log Panel

- New RLOG panel
- Provides a summary of recent logged RACF activity
 - Includes failures and logged access for traditional resources as well as certain z/OS UNIX information
- Uses the SDSF event log architecture to provide the data
 - SMF record type 80 contents used to populate panel entries
- Drill down to the OPERLOG from row on RLOG panel using "L" action
 - Saves hunting OPERLOG for ICH408I messages
- Direct access to profile information and access list using "LP" and "LA" actions
- RLOG panel can be filtered using FEATENT statements in similar fashion to ELOG
 - New categories of "SAF", "SAF_CMD" and "SAF_UNIX"

RACF Log Panel

RS21

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF RACF LOG RS21 (ALL) ACTIVE ALL LINE 105-125 (896)
 COMMAND INPUT ==> SCROLL ==> CSR

PREFIX=* DEST=(ALL) OWNER=PDSCOT SYSNAME=* FILTERS=1

NP	USERID	SysName	Date	Intent	Allowed	Result	Class	Name	Profile
	PDZTEAM	RS21	2024/11/19 17:01:02.46	-w-	r--	DENIED	FSOBJ	FACCESS	
	TSDXN	RS21	2024/11/19 15:38:19.01	r--	---	DENIED	DIRACC	DACCESS	
	TSDXN	RS21	2024/11/19 15:38:19.01	r--	---	DENIED	DIRACC	DACCESS	
	TSDXN	RS21	2024/11/19 15:38:19.01	r--	---	DENIED	DIRACC	DACC	
	TSDXN	RS21	2024/11/19 15:38:19.01	r--	---	DENIED	DIRACC	DACC	
	PDKOVI	RS21	2024/11/19 14:49:57.18	-w-	r--	DENIED	FSOBJ	FACC	
	PDKOVI	RS21	2024/11/19 14:49:57.18	-w-	r--	DENIED	FSOBJ	FACCESS	
	PDKOVI	RS21	2024/11/19 14:49:57.18	-w-	r--	DENIED	FSOBJ	FACCESS	
	PDPWRES	RS21	2024/11/19 13:46:41.64			SUCCESS		ALTUSER	
	TS5485	RS21	2024/11/19 12:13:59.72	READ	NONE	DENIED	XFACILIT	ACCESS	CKG.**
	TS5485	RS21	2024/11/19 12:13:38.45	READ	NONE	DENIED	XFACILIT	ACCESS	CKG.**
	TS8839	RS21	2024/11/19 11:34:01.50	READ	READ	SUCCESS	DATASET	ACCESS	RSRTE.SLD*.**
	TS8839	RS21	2024/11/19 11:33:57.40	READ	READ	SUCCESS	DATASET	ACCESS	RSRTE.SLD*.**
	TS8839	RS21	2024/11/19 11:33:52.97	READ	READ	SUCCESS	DATASET	ACCESS	RSRTE.SLD*.**
	TS8839	RS21	2024/11/19 11:33:49.71	READ	READ	SUCCESS	DATASET	ACCESS	RSRTE.SLD*.**
	TS8839	RS21	2024/11/19 11:33:46.28	READ	READ	SUCCESS	DATASET	ACCESS	RSRTE.SLD*.**
	TS8839	RS21	2024/11/19 11:33:43.42	READ	READ	SUCCESS	DATASET	ACCESS	RSRTE.SLD*.**
	TS5485	RS21	2024/11/19 11:12:22.46	READ	NONE	DENIED	XFACILIT	ACCESS	CKG.**
	PDPWRES	RS21	2024/11/19 11:08:00.32			SUCCESS		ALTUSER	
	PDPWRES	RS21	2024/11/19 11:08:00.29			SUCCESS		ALTUSER	
	PDPWRES	RS21	2024/11/19 11:08:00.26			SUCCESS		ALTUSER	

Both traditional and z/OS UNIX access events are displayed

MA 0.1 11/21/24.326 12:32PM rs21 a 4,22

RACF Log Panel - Detail

```

RS21
File Edit Font Transfer Macro Options Window Help
Sort column with F5. Use Locate to position to column.
Command ==>
Sort column with F5. Use Locate to position to column.
  All values      Column width
Column           ## Value
USERID           01 PDSCOT
SysName          01 RS21
Date             01 2024/12/04 09:52:03.641
Intent           01 UPDATE
Allowed          01 READ
Result           01 DENIED
Class            01 DATASET
Name             01 ACCESS
Profile          01 VENDOR.*.**
Warning          01 NO
Reason           01 PROFILE_DENIED
Resource         01 VENDOR.MXI62.PARMLIB
Volser           01 SIP110
UserName         01 ROB SCOTT
Owner            01 SYS1
JobName          01 PDSCOT
Category         01 SAF
Special          01 NO
Operations       01 NO
Auditor          01 NO
UserExit         01 NO
FailSoft        01 NO
Bypass          01 NO
Trusted          01 NO
Superuser       01 NO
SysFunc         01 NO
Type            01 SMF
Record          01 80
Subtype         01 2
SysLevel        01 z/OS 03.01.00 HBB77E0
***** Bottom of data *****
0.1 12/12/24.347 03:52PM
  
```

```

RS21
File Edit Font Transfer Macro Options Window Help
Sort column with F5. Use Locate to position to column.
Command ==>
Sort column with F5. Use Locate to position to column.
  All values      Column width
Column           ## Value
USERID           01 TSDXN
SysName          01 RS21
Date             01 2024/12/12 03:07:31.974
Intent           01 r--
Allowed          01 ---
Result           01 DENIED
Class            01 FSOBJ
Name             01 FACCESS
Warning          01 NO
Reason           01 ACCESS_DENIED
Resource         01 /rsusr/pyz/3.12.3/lib/python3.12/site-packages/eas
y-install.pth
AuditFunc        01 OPEN
UserName         01 DMITRY NIKOLAEV
JobName          01 TSDXNJ
Category         01 SAF_UNIX
Special          01 NO
Operations       01 NO
Auditor          01 NO
UserExit         01 NO
FailSoft        01 NO
Bypass          01 NO
Trusted          01 NO
Superuser       01 NO
SysFunc         01 NO
EUID            01 5344
EGid             01 200
Type            01 SMF
Record          01 80
Subtype         01 30
AFC              01 19
z/OS 03.01.00 HBB77E0
***** Bottom of data *****
0.1 12/12/24.347 03:54PM rs21
  
```

SDSF "Show" panel of both a traditional DATASET class event and a z/OS UNIX event.

RACF Log Panel -Columns

- Columns include
 - Class, resource and profile
 - Jobname, User name, application name and owner
 - Access intent and allowed
 - Warning, special, operations, auditor, failsoft, bypass, trusted attributes in effect
 - Any z/OS UNIX EUID and EGID
 - Any log string data and RECVR
 - Any SECLABEL
 - Names for any attempted RACF commands

RACF Log Panel - Actions

- L
 - Invoke LOG (OPERLOG) panel and position to the date-stamp of the logged event
- LA
 - Show the RACF access list for the profile covering the resource in shown in the row
- LP
 - Browse the RACF profile covering the resource in shown in the row

Sysname Lists

SDSF Sysname – Problem Statement

- Cross-system data gathering with a sysplex governed by the SYSNAME setting for the current user
 - If not null and not equal to local sysname, data-gathering request is broadcast to all systems matching the SYSNAME pattern using XCF signalling services
- Sometimes groups of z/OS systems in a sysplex do not follow naming standards that can be easily masked using "*" and "%"
- Users frequently run with SYSNAME set to "*" and then use filtering on the SYSNAME to discard unwanted rows
 - Increased overhead for data gathering on unnecessary systems
 - Increased chance of "missing data" situation for test systems or systems under stress

Sysname Lists - Implementation

- New ISFPRMxx statements LIST and LISTENT
- LIST statement declares the name and type of the defined list
- LISTENT statement declares the list items for the current list
- Assuming three systems "PROD", "DEV" and "TEST" in a sysplex

```
LIST NAME(XTEST) TYPE(SYSNAME)
LISTENT NAME(PROD)
LISTENT NAME(DEV)
```

- User can issue "SYSNAME XTEST" and data gathering requests will be sent ONLY to "PROD" and "DEV"
- SET DISPLAY ON will show "/L" appended to SYSNAME setting to indicate that a sysname list is being used
- Can also be used in the RSYS command to filter WTORs shown on LOG panel
 - SR panel can also take advantage with custom property :
Panel.SR.EnableRsysFilter

Other New SDSF Panels

New SDSF Panels

AW Active Job Summary By WLM Class

CAT Master And User Catalogs

CMO 64-bit Common Memory Objects

DEVS Device Space

FXE z/OS Function Registry

JRU JES2 Resource Usage by Userid

MFP z/OS UNIX Path Module Fetch

NAP TCP/IP Activity Summary By Port

PST z/OS UNIX Threads

RACD RACF Data Sets

RACF General RACF Information

RACR RACF RRSF Nodes

SMFL SMF Logstreams

SMFR SMF Real Time Resources

VTOC DASD Volume Table Of Contents

AW Panel – Address Space Summary By WLM Class

RS21

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF WLM CLASS ACTIVITY RS21 (ALL) ALL LINE 1-20 (20)
 COMMAND INPUT ==> SCROLL ==> CSR

PREFIX=* DEST=(ALL) OWNER=PDSCOT SYSNAME=* FILTERS=1

NP	NAME	Type	Active	CPU%	Real	ECPU%	Paging	SIO	zIIP-Use%	STC	Job	TSU	OMVS	ASCH	JES	Reus	Quiesce	zCX	SC
RDB2	REPORT		6	0.00	164790	0.11	0.00	0.00	0.00	6	0	0	0	0	6	0	0	0	0
RDB2SPAS	REPORT		8	0.00	12378	0.00	0.00	0.00	0.00	8	0	0	0	0	8	0	0	0	0
RSTCDFLT	REPORT		119	2.18	927005	2.26	61.00	1.00	0.00	119	0	0	0	0	82	11	0	0	0
RTSO	REPORT		12	0.00	25244	0.00	0.00	0.00	0.00	0	0	12	0	0	12	0	0	0	0
RUSSDSYS	REPORT		31	0.11	134140	0.11	0.00	1.00	0.00	1	0	0	30	0	31	0	0	0	0
RUSSTSOU	REPORT		11	0.00	34683	0.00	0.00	0.00	0.00	0	0	0	11	0	11	0	0	0	0
DB2	SERVICE		8	0.00	166531	0.11	0.00	0.00	0.00	8	0	0	0	0	8	0	0	0	0
DB2SPAS	SERVICE		8	0.00	12378	0.00	0.00	0.00	0.00	8	0	0	0	0	8	0	0	0	0
STCLO	SERVICE		27	1.16	286749	1.14	61.00	1.00	0.00	27	0	0	0	0	0	0	0	0	0
STCMD	SERVICE		5	0.70	166396	0.79	0.00	0.00	16.66	5	0	0	0	0	0	0	0	0	0
SYSSTC	SERVICE		109	0.44	1249232	0.44	0.00	0.00	0.00	109	0	0	0	0	0	0	0	0	0
SYSTEM	SERVICE		31	0.80	259363	0.79	0.00	0.00	0.00	31	0	0	0	0	0	0	0	0	0
TSO	SERVICE		12	0.00	25244	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0
USS	SERVICE		12	0.00	46113	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0
USSDSYS	SERVICE		31	0.11	134140	0.11	0.00	1.00	0.00	1	0	0	0	0	0	0	0	0	0
DB2WKLD	WORKLOAD		18	0.11	192579	0.22	0.00	0.00	0.00	18	0	0	0	0	0	0	0	0	0
STC	WORKLOAD		34	1.86	722744	1.93	61.00	1.00	33.32	34	0	0	0	0	0	0	0	0	0
SYSTEM	WORKLOAD		140	1.24	1508595	1.23	0.00	0.00	0.00	140	0	0	0	0	0	0	0	0	0
TSO	WORKLOAD		12	0.00	25244	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0
USS	WORKLOAD		45	0.58	223973	0.56	0.00	3.00	66.66	2	0	0	0	0	0	0	0	0	0

MA 0.1 11/21/24.326 12:46PM rs21

A row for each WLM class that has at least one qualifying jobname active

User can drill down to DA panel using "L" action to filter by WLM class name

Optional keyword on AW command to filter rows by WLM class type or "ALL"

CAT Panel – Master and User Catalogs

```

SDSF CATALOG DISPLAY RS21      RS21      LINE 1-21 (109)
COMMAND INPUT ==>
PREFIX=*  DEST=(ALL)  OWNER=PDSCOT  SYSNAME=
NP  DSNAME                               VolSer Type  Open ISC ECS VLF RLS Locked Deleted Suspended Unit SysName
CAM11.USER.CATALOG                       DBP147 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  9656 RS21
CATALOG.AOCSHARE.CAT1                     AOP100 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  A504 RS21
CATALOG.CATBACK                           CBP101 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  6018 RS21
CATALOG.HOLRTE.CAT1                       R5P101 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  D0D2 RS21
CATALOG.IBM.XFERCAT                       IBXF01 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  6940 RS21
CATALOG.LC1C.DB                           DBP1A9 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  B028 RS21
CATALOG.LC1C.LG                           DBP1AB USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  B029 RS21
CATALOG.MVSICF1.VUCM100                   DBP142 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  9651 RS21
CATALOG.RSPLEX01.DVS                      S1P10E USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  9505 RS21
CATALOG.RSPLEX01.HAA.CAT1                 DBP150 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  6676 RS21
CATALOG.RSPLEX01.HAA.CAT2                 DBP144 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO
CATALOG.RSPLEX01.HAA.CAT3                 DBP12F USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO
CATALOG.RSPLEX01.HAA.CAT5                 DBP148 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO
CATALOG.RSPLEX01.KRI.CAT1                 KRP101 USER  YES NO  NO  NO  NO  NO  NO  NO  NO  NO
CATALOG.RSPLEX01.KRIPMR.CAT1              KRP110 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO
CATALOG.RSPLEX01.MASTER                   MCP100 MASTER YES YES NO  NO  NO  NO  NO  NO  NO  NO
CATALOG.RSPLEX01.MQS.CAT1                 MQP100 USER  YES NO  YES NO  NO  NO  NO  NO  NO  NO  64BF RS21
CATALOG.RSPLEX01.M204SYS                  MSP100 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  6811 RS21
CATALOG.RSPLEX01.M204TSO                  MTP100 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  6518 RS21
CATALOG.RSPLEX01.OMGR.CAT1                OMP100 USER  YES NO  YES YES NO  NO  NO  NO  NO  NO  9502 RS21
CATALOG.RSPLEX01.RBRTE.CAT1               RBRTE4 USER  YES YES NO  NO  NO  NO  NO  NO  NO  NO  63A9 RS21
  
```

User can issue variety of CATALOG operator commands as action characters on the row to lock and unlock, suspend and resume

0.1 11/21/24.326 12:49PM rs21 a 4,21

CMO Panel – 64-Bit Common Memory Objects

RS21

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF COMMON MEMORY OBJECTS RS21 RS21 LINE 85-105 (301)
 COMMAND INPUT ==> SCROLL ==> CSR

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

NP	JOBNAME	Start-Address	End-Address	JobID	ASIDX	Size	Key	Guard	FProt	Large	CrDate	PgmRetAddr
JES2AUX		000001EF_8B300000	000001EF_8B3FFFFFF		002D	1M	1	NONE	YES	NO	2024/11/15 19:00:07	00000000_AEA
JES2AUX		000001EF_8B400000	000001EF_8B4FFFFFF		002D	1M	1	NONE	YES	NO	2024/11/15 19:00:07	00000000_AEA
JES2AUX		000001EF_8B500000	000001EF_8BDFFFFFF		002D	9M	1	NONE	YES	NO	2024/11/15 19:00:07	00000000_AEA
JES2AUX		000001EF_8BE00000	000001EF_8C6FFFFFF		002D	9M	1	NONE	YES	NO	2024/11/15 19:00:07	00000000_AEA
JES2AUX		000001EF_8C700000	000001EF_8CFFFFFF		002D	9M	1	NONE	YES	NO	2024/11/15 19:00:07	00000000_AEA
JES2AUX		000001EF_8D000000	000001EF_8D8FFFFFF		002D	9M	1	NONE	YES	NO	2024/11/15 19:00:07	00000000_AEA
JES2AUX		000001EF_8D900000	000001EF_8E1FFFFFF		002D	9M	1	NONE	YES	NO	2024/11/15 19:00:07	00000000_AEA
JES2AUX		000001EF_8E200000	000001EF_8EAFFFFFFF		002D	9M	1	NONE	YES	NO	2024/11/15 19:00:07	00000000_AEA
JES2AUX		000001EF_8EB00000	000001EF_8F3FFFFFF		002D	9M	1	NONE	YES	NO	2024/11/15 19:00:07	00000000_AEA
SYSTEM		000001EF_8F400000	000001EF_8F4FFFFFF			1M	0	NONE	NO			1A
SYSTEM		000001EF_8F500000	000001EF_8F5FFFFFF			1M	0	NONE	YES			14
SYSTEM		000001EF_8F600000	000001EF_8F6FFFFFF			1M	0	NONE	YES			14
VTAM		000001EF_8F700000	000001EF_8FAFFFFFF	S0428609	0023	4M	6	NONE	NO			04
SYSTEM		000001EF_8FB00000	000001EF_8FBFFFFFF			1M	6	NONE	YES			F2
ZFS		000001EF_8FC00000	000001EF_8FCFFFFFF		002C	1M	0	NONE	NO			D6
ZFS		000001EF_8FD00000	000001EF_8FDFFFFFF		002C	1M	0	NONE	NO			D6
ZFS		000001EF_8FE00000	000001EF_8FEFFFFFF		002C	1M	0	NONE	NO			D6
ZFS		000001EF_8FF00000	000001EF_8FFFFFFFF		002C	1M	0	NONE	NO			D6
ZFS		000001EF_90000000	000001EF_900FFFFFF		002C	1M	0	NONE	NO			D6
ZFS		000001EF_90100000	000001EF_901FFFFFF		002C	1M	0	NONE	NO			D6
ZFS		000001EF_90200000	000001EF_902FFFFFF		002C	1M	0	NONE	NO			D6

MA 0.1 11/21/24.326 12:51PM rs21 4, 21

Every HV-COMMON memory object shown in ascending address sequence

Includes tracking information such as date-stamp and ASIDs in effect at creation

Panel also includes real frames and aux slots backing each memory object

DEVS Panel – Device Space

RS21

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF DEVICE SPACE RS21 RS21 * * LINE 539-559 (3973)
 COMMAND INPUT ==> SCROLL ==> CSR
 PREFIX=* DEST=(ALL) OWNER=PDSCOT SYSNAME=

NP	VOLSER	Unit	DevType	TotalMB	Used%	FreeMB	LargestFreeMB	UsedMB	EAV	SMS	StorGrp	SMSStatus	FragIndex	FreeDSCB	FreeExt	F
DDP191	B5C6	3390-9		26555	0.81	26340	26337	216	NO	YES	DDS9W1SG	ENABLED	0	149932	5	
DDP192	B5C7	3390-9		26555	3.42	25646	23261	910	NO	YES	DDS9W1SG	ENABLED	26	149927	9	
DDP193	B5C8	3390-9		26555	4.64	25323	25193	1233	NO	YES	DDS9W1SG	ENABLED	2	149926	8	
DEP100	664C	3390-3		2707	77.69	604	240	2103	NO	YES	SGDEVEF	ENABLED	159	3720	17	
DEP101	6645	3390-3		2707	83.33	452	113	2256	NO	YES	SGDEVEF	ENABLED	238	3720	18	
DEP102	6480	3390-3		2707	0.20	2702	2701	6	NO	YES	SGDEVEF1	ENABLED	0	3746	2	
DEP103	622F	3390-3		617	26.61	453	279	164	NO	YES	SGDEVEF	ENABLED	106	3738	6	
DHP101	C050	3390-A		55034	13.36	47677	47053	7357	YES	YES	SGVB1BG1	ENABLED	6	142872	23	
DHP102	C051	3390-A		55034	13.36	47677	47053	7357	YES	YES	SGVB1BG2	ENABLED			23	
DHP103	C052	3390-A		55034	14.23	47201	47124	7834	YES	YES	SGVB1BG3	ENABLED				
DHP104	C053	3390-A		55034	14.21	47211	47134	7823	YES	YES	SGVB1BG4	ENABLED				
DHP105	C054	3390-A		55034	8.29	50468	49207	4566	YES	YES	SGZB1BG1	ENABLED				
DHP106	C055	3390-A		55034	8.22	50508	49209	4526	YES	YES	SGZB1BG1	ENABLED				
DIP100	919D	3390-9		8120	32.39	5489	5457	2631	NO	YES	BKPG0	ENABLED				
DIP101	919E	3390-9		8120	36.32	5171	2991	2950	NO	YES	BKPG0	ENABLED				
DIP102	57C0	3390-9		24359	12.52	21308	18005	3051	NO	YES	BKPG0	ENABLED				
DIP11F	611D	3390-9		8120	62.84	3017	2928	5103	NO	YES	BKPG3	ENABLED				
DIP110	62CA	3390-9		24359	19.81	19532	11518	4828	NO	YES	BKPG3	ENABLED				
DIP12A	9182	3390-9		8120	54.99	3655	3527	4466	NO	YES	BKPG3	ENABLED				
DIP12B	A509	3390-9		24359	21.53	19114	17556	5246	NO	YES	BKPG3	ENABLED				
DIP12C	A50A	3390-9		24359	29.81	17098	17002	7262	NO	YES	BKPG3	ENABLED				15

MA

0.1 11/21/24.326 01:32PM rs21 a 4,21

Both SMS and non-SMS DASD volumes shown

Statistics and status from VTOC displayed in various columns

Optional keywords can filter on volser and/or storage group patterns

FXE Panel – z/OS Function Registry

The screenshot shows the RS88 SDSF Function Registry window. The title bar reads 'RS88'. The menu bar includes 'File', 'Edit', 'Font', 'Transfer', 'Macro', 'Options', 'Window', and 'Help'. Below the menu is a toolbar with various icons for file operations and navigation. The main display area shows the following text:

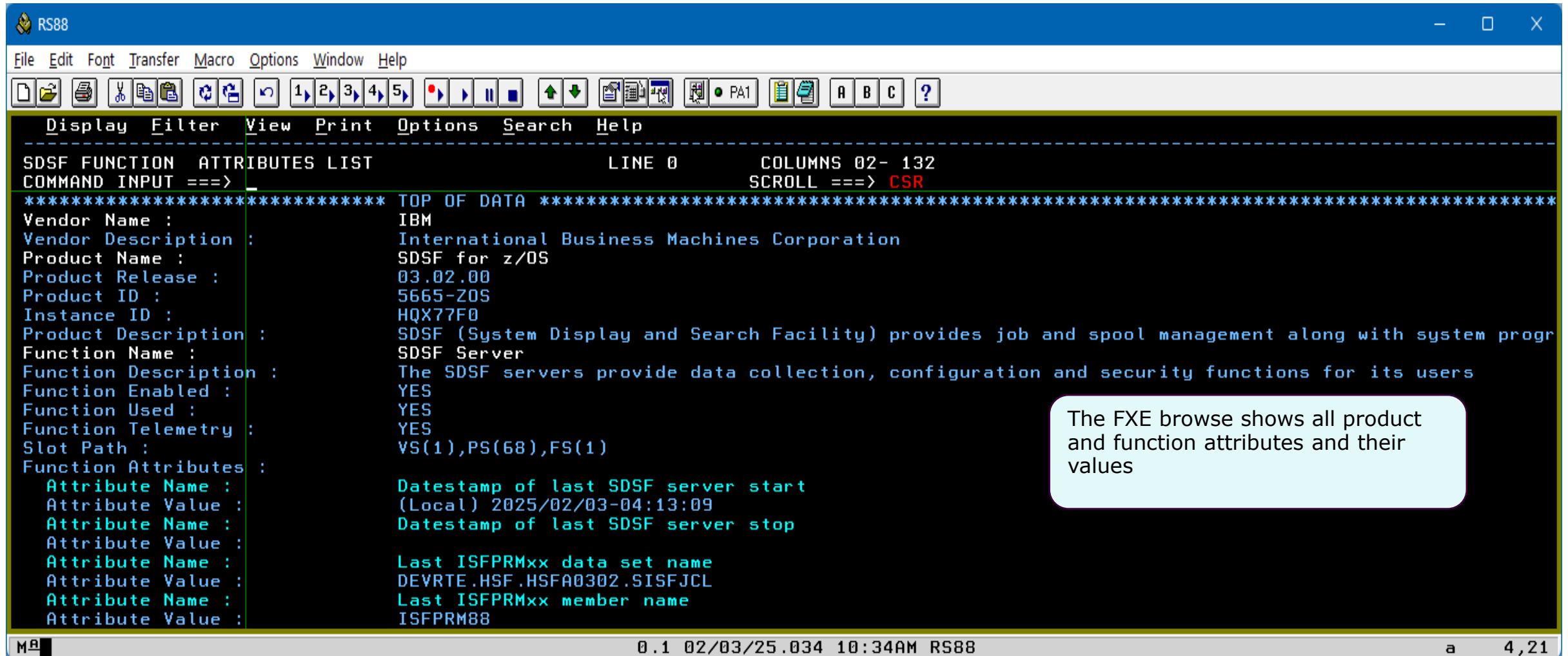
```

SDSF FUNCTION REGISTRY  RS88      RS88      LINE 1-14 (14)
COMMAND INPUT ==>
PREFIX=*  DEST=(ALL)  OWNER=*  SYSNAME=
NP  NAME                                     Function                                     ProdID  ProdRel  InstanceID  Enabled  Used U
z/OS Communications Server  SNA - General                               HVT6320 03.02.00 VTAM                YES     YES
IBM Health Checker for z/OS  IBM Health Checker for z/OS                 5655-Z05 03.01.00 HBB77E0            YES     YES
JES2                          JES2 Active Exits Bitmap                    5655-Z05 03.01.00 018-01S2          YES     YES
JES2                          JES2 Automatic Checkpoint Cycle Management  5655-Z05 03.01.00 018-01S2          NO      NO
JES2                          JES2 Checkpoint on CF                       5655-Z05 03.01.00 018-01S2          NO      NO
JES2                          JES2 Exits                                  5655-Z05 03.01.00 018-01S2          YES     YES
JES2                          JES2 Policy                                  5655-Z05 03.01.00 018-01S2          NO      NO
Runtime Diagnostics          Runtime Diagnostics invoked by REST API      5655-Z05 03.01.00 HBB77E0            YES     NO
Runtime Diagnostics          Runtime Diagnostics invoked internally by PFA 5655-Z05 03.01.00 HBB77E0            YES     NO
Runtime Diagnostics          Runtime Diagnostics invoked via operator command 5655-Z05 03.01.00 HBB77E0            YES     NO
SDSF for z/OS                 SDSF Client Interface Summary                5665-Z05 03.01.00 HBB77E0            YES     YES
SDSF for z/OS                 SDSF Event Log (ELOG)                       5665-Z05 03.01.00 HBB77E0            YES     YES
SDSF for z/OS                 SDSF Module Fetch Monitor (MFM)              5665-Z05 03.01.00 HBB77E0            YES     YES
SDSF for z/OS                 SDSF Server                                  5665-Z05 03.01.00 HBB77E0            YES     YES
  
```

A callout box highlights the 'SDSF for z/OS' entries, stating: 'SDSF now reports on and participates in the function registry' and 'User can "browse" a FXE entry using the "s" action against the row'.

The status bar at the bottom shows 'M.A', '0.1 02/03/25.034 10:32AM RS88', and 'a 4,22'.

FXE Panel – z/OS Function Registry Browse



The screenshot displays the RS88 z/OS Function Registry Browse panel. The window title is "RS88". The menu bar includes "File", "Edit", "Font", "Transfer", "Macro", "Options", "Window", and "Help". The toolbar contains various icons for file operations and navigation. The main display area shows the "SDSF FUNCTION ATTRIBUTES LIST" for the "SDSF Server". The text is as follows:

```
SDSF FUNCTION ATTRIBUTES LIST
COMMAND INPUT ==>
***** TOP OF DATA *****
Vendor Name : IBM
Vendor Description : International Business Machines Corporation
Product Name : SDSF for z/OS
Product Release : 03.02.00
Product ID : 5665-Z0S
Instance ID : HQX77F0
Product Description : SDSF (System Display and Search Facility) provides job and spool management along with system progr
Function Name : SDSF Server
Function Description : The SDSF servers provide data collection, configuration and security functions for its users
Function Enabled : YES
Function Used : YES
Function Telemetry : YES
Slot Path : VS(1),PS(68),FS(1)
Function Attributes :
Attribute Name : Datestamp of last SDSF server start
Attribute Value : (Local) 2025/02/03-04:13:09
Attribute Name : Datestamp of last SDSF server stop
Attribute Value :
Attribute Name : Last ISFPRMxx data set name
Attribute Value : DEVRTE.HSF.HSFA0302.SISFJCL
Attribute Name : Last ISFPRMxx member name
Attribute Value : ISFPRM88
```

The status bar at the bottom shows "M A" on the left, "0.1 02/03/25.034 10:34AM RS88" in the center, and "a 4,21" on the right.

The FXE browse shows all product and function attributes and their values

JRU Panel – JES2 Resource By Userid (Owner)

RS88

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF JES USER RESOURCE RS88 LINE 1-21 (32)
 COMMAND INPUT ==> SCROLL ==> CSR

PREFIX=* DEST=(ALL) OWNER=* SORT=TG%/D SYSNAME=

NP	OWNER	TGUsed	TG%	JNumUsed	JNum%	JOEUsed	JOE%	BERTUsed	BERT%	Active	STC	TSU	Job	Jobgroup	APPC	Total
	INIT	480	9.05	300	3.00	240	3.00	120	0.60	60	300	0	0	0	0	17
	PDSCOT	249	4.69	9	0.09	12	0.09	3	0.01	1	0	8	1	0	0	17
	+++++++	216	4.07	137	1.37	117	1.37	36	0.18	24	47	0	0	0	90	17
	BPXAS	197	3.71	163	1.63	151	1.63	15	0.07	12	163	0	0	0	0	17
	SUBJCL	98	1.84	76	0.76	79	0.76	0	0.00	0	50					17
	PDZTEAM	84	1.58	35	0.35	36	0.35	0	0.00	0						17
	MXISTC	73	1.37	36	0.36	32	0.36	5	0.02	4	3					17
	+MASTER+	39	0.73	5	0.05	4	0.05	6	0.03	1						17
	SDSF	33	0.62	2	0.02	3	0.02	2	0.01	2						17
	RMF	26	0.49	11	0.11	12	0.11	3	0.01	2	1					17
	HZSPROC	23	0.43	5	0.05	4	0.05	2	0.01	1						17
	CSSMTP	21	0.39	5	0.05	12	0.05	1	0.00	1						17
	SMFDMP	18	0.33	9	0.09	12	0.09	0	0.00	0						17
	STCRSE	16	0.30	5	0.05	4	0.05	1	0.00	1						17
	TCPIP	16	0.30	5	0.05	4	0.05	1	0.00	1						17
	STCUSER	12	0.22	9	0.09	8	0.09	1	0.00	1	9	0	0	0	0	17
	ROOT	10	0.18	5	0.05	5	0.05	0	0.00	0	0	0	5	0	0	17
	SNMPQE	10	0.18	5	0.05	5	0.05	2	0.01	1	5	0	0	0	0	17
	PORTMAP	9	0.16	5	0.05	5	0.05	2	0.01	1	5	0	0	0	0	17
	CSFUSER	8	0.15	5	0.05	4	0.05	1	0.00	1	5	0	0	0	0	17
	PAGENT	8	0.15	5	0.05	4	0.05	1	0.00	1	5	0	0	0	0	17

MA 0.1 02/03/25.034 10:35AM RS88 a 4,21

Critical JES2 resources summarized by the owning userid

Point-and-shoot on OWNER will invoke SDSF "ST" panel filtered by the owning userid allowing actions like cancel/purge

MFP Panel – Module Fetch UNIX Path

RS88

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF FETCH PATHS RS88 RS88 ACTIVE LINE 1-21 (103)
 COMMAND INPUT ==> SCROLL ==> CSR
 PREFIX=* DEST=(ALL) OWNER=* SYSNAME=

NP	JOBNAME	Filename	Fetch	Size	AvgDASD	MaxDASD	LastDASD	Path
IZUANG1	bbgzachk		1	000002D8	0.032	0.032	11/21/2024 09:37:25	/usr/lpp/zosmf/liberty/lib/nat
IZUANG1	bbgzadrm		1	0003B7F8	2.689	2.689	11/21/2024 09:37:25	/usr/lpp/zosmf/liberty/lib/nat
IZUANG1	bbgzafsm		1	000292E8	1.318	1.318	11/21/2024 09:37:25	/usr/lpp/zosmf/liberty/lib/nat
IZUANG1	bbgzangl		1	00026B30	1.142	1.142	11/21/2024 09:37:25	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	bbgzsafm		1	000BD278	5.836	5.836	11/21/2024 09:37:47	/RP302A/usr/lpp/liberty_zos/24
IZUSVR1	bbgzscfm		1	0005F810	3.106	3.106	11/21/2024 09:37:47	/RP302A/usr/lpp/liberty_zos/24
IZUSVR1	bbgzsrv		1	00009668	0.050	0.050	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	bbgzsofm		1	00053E80	3.053	3.053	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libicclib085.so		1	002C7000	87.657	87.657	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libinstrument.so		1	00014548	0.927	0.927	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libjava.so		1	0003DB78	2.085	2.085	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libjclse29.so		1	000DFAF0	12.433	12.433	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libjgskit.so		1	0002B1F8	1.684	1.684	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libjgsk8iccs_64.so		1	0004D000	3.061	3.061	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libjimage.so		1	0000B8E8	0.133	0.133	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libjli.so		1	00032B88	1.767	1.767	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libjvm.so		1	00069B98	4.186	4.186	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libjvm.so		1	0001F8E0	1.140	1.140	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libjzos.so		1	000A6038	15.982	15.982	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libj9a2e.so		1	0000DF28	0.627	0.627	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat
IZUSVR1	libj9dmp29.so		1	00084590	4.056	4.056	11/21/2024 09:37:38	/usr/lpp/zosmf/liberty/lib/nat

MA 0.1 11/21/24.326 01:37PM RS88 a 4,21

Module fetch monitor enhanced to show fetches from z/OS UNIX paths

SDSF separates the filename from the lowest directory in the path to make it easier to distinguish the entry

Full path name up to 1024 characters can be seen on the SDSF "show" panel

NAP Panel – Network Activity By Port Number

RS21

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF NETWORK PORTS RS21 RS21 LINE 1-21 (52)
 COMMAND INPUT ==> SCROLL ==> CSR
 PREFIX=* DEST=(ALL) OWNER=PDSCOT SYSNAME=

NP	PORT	Type	JobName	Connect	IPv4	IPv6	BytesInRate	BytesOutRate	Closed	Listen	SynSent	SynRcvd	Establish	FinWait1	FinWait2	C
	21	TCP	FTPD1	1	0	1	0.00	0.00	0	1	0	0	0	0	0	
	22	TCP	SSHD3	6	5	1	0.00	0.00	0	2	0	0	4	0	0	
	23	TCP	TN3270	12	0	12	0.00	0.00	0	1	0	0	11	0	0	
	111	TCP	PORTMAP	1	1	0	0.00	0.00	0	1	0	0	0	0	0	
	111	UDP	PORTMAP	1	1	0	0.00	0.00	0	0	0	0	0	0	0	
	161	UDP	OSNMPD	1	0	1	0.00	0.00	0	0	0	0	0	0	0	
	162	UDP	SNMPQE	1	1	0	0.00	0.00	0	0	0	0	0	0	0	
	514	UDP	SYSLOGD	1	0	1	0.00	0.00	0	0	0	0	0	0	0	
	992	TCP	TN3270	1	0	1	0.00	0.00	0	1	0	0	0	0	0	
	1023	TCP	NFSC	2	0	2	0.00	0.00	0	0	0	0	2	0	0	
	1023	UDP	NFSC	1	0	1	0.00	0.00	0	0	0	0	0	0	0	
	1025	TCP	SNMPQE	1	1	0	0.00	0.00	0	1	0	0	0	0	0	
	1026	TCP	OSNMPD	1	0	1	0.00	0.00	0	1	0	0	0	0	0	
	1026	UDP	SNMPQE	1	1	0	0.00	0.00	0	0	0	0	0	0	0	
	1035	TCP	AZF#IN01	1	1	0	0.00	0.00	0	0	0	0	0	0	0	
	1036	TCP	GPMSEVE	1	0	1	0.00	0.00	0	1	0	0	0	0	0	
	1037	UDP	NFSS21	1	0	1	0.00	0.00	0	0	0	0	0	0	0	
	1038	UDP	NFSS21	1	1	0	0.00	0.00	0	0	0	0	0	0	0	
	1039	TCP	NFSC	1	0	1	0.00	0.00	0	0	0	0	0	0	0	
	1047	TCP	BLWRMF	1	0	1	0.07	0.13	0	0	0	0	0	0	0	
	1087	TCP	AXR03	1	1	0	0.00	0.00	0	1	0	0	0	0	0	

MA 0.1 11/21/24.326 01:40PM rs21 a 4,21

Network activity summarized by port number

User can drill down to the NA panel filtered by port number using the "L" action on the row

PST Panel – z/OS UNIX Process Threads

```

RS88
File Edit Font Transfer Macro Options Window Help
-----
Display Filter View Print Options Search Help
-----
SDSF UNIX THREADS RS88      RS88      002A BPXOINIT      LINE 1-6 (6)
COMMAND INPUT ==>          SCROLL ==> CSR
PREFIX=* DEST=(ALL) OWNER=* SYSNAME=
NP  THREADID      Status      State SysCall CPU-Time  WaitTime TCB          PID LatchWaitPID LastSysCall
136A300000000000 FORK-NEW-PROCESS .X... 1FRK   0.001   00:00:00 007FB188    1   1NOP,1NOP,1NOP,1NOP,1N
136A380000000001 CHILD-WAIT        .W... 1WAT   0.358   00:00:41 007E0E88    1
136A700000000002 MVS-WAIT         .Y...          0.000   00:00:00 007E0C58    1   1NOP,1NOP,1NOP,1NOP,1N
136A780000000003 KERNEL-WAIT      .K... 1KIN   0.000   2:04:52:10 007DFAE8    1   1NOP,1NOP,1NOP,1NOP,1N
136A800000000004 FILE-SYSTEM-WAIT .F... 1ACP   0.000   2:04:51:39 007DF840    1   1NOP,1NOP,1NOP,1NOP,1N
1371F80000000005 RUNNING         .R...          0.013   00:00:00 007E0AA8    1   1NOP,1NOP,1NOP,1NOP,1N
-----
MA 0.1 11/21/24.326 01:45PM RS88 a 4,21

```

The "LT" action on the PS panel shows all threads for a specific z/OS UNIX process

RACD Panel – RACF Data Sets

RS88

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF RACF DATA SETS RS88 RS88 LINE 1-4 (4)
COMMAND INPUT ==> SCROLL ==> CSR

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

NP	DSNAME	Type	Active	VSAM	Encrypted	Seq	VolSer	Unit	PlexComm	Buffers	Range
	RS88.RACF	PRIMARY	YES	NO	NO	1	MCPG00	649D	NOCOMM	255	
	RS88.RACF.BACKUP	BACKUP	YES	YES	NO	1	MCPG00	649D	NOCOMM		
	RS88.RACF.EXTRA	PRIMARY	YES	NO	NO	2	MCPG00	649D	NOCOMM	255	ZYXW
	RS88.RACF.EXTRA.BACKUP	BACKUP	YES	YES	NO	2	MCPG00	649D	NOCOMM		ZYXW

MA 0.1 11/21/24.326 01:49PM RS88 4,21

RACF data sets panel includes columns for whether data set is VSAM and encrypted

Any associated range table is also shown with character and hex values

RACF Panel – General RACF Information

RS88

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF RACF INFORMATION RS88 RS88 LINE 1-1 (1)
COMMAND INPUT ==> SCROLL ==> CSR

PREFIX=* DEST=(ALL) OWNER=* SYSNAME=
NP NAME Parmlib ProtectAll DASDVOL TAPEVOL TAPEDSN Generic PwdAlg PwdCase PwdHist PwdMax PwdChang PhrChang RevInact CmdPref
RS88 RS OFF NO YES NO ENHANCE KDFAES UPPER 3 10 180 365 90 #

RS88

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF RACF INFORMATION RS88 RS88 LINE 1-1 (1)
COMMAND INPUT ==> SCROLL ==> CSR

PREFIX=* DEST=(ALL) OWNER=* SYSNAME=
NP NAME Inact CmdPref Subsys Dsname Volser RefName RCVT ICHDEX01 ICHPWX11 ICHRFX01
RS88 90 # RACF RS88.RACF MCPG00 IRRPRM 00FCD698 00000000 85C4F2E0 00000000

0.1 11/21/24.326 01:51PM RS88 4, 21

General RACF information shown including known exit point addresses

The "LCK" action will show the IBM healthchecks for RACF

RACR Panel – RACF RRSF Nodes

RS88

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF RACF RRSF NODES RS88 LINE 1-6 (6)
COMMAND INPUT ==> SCROLL ==> CSR

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

NP	NAME	Protocol	State	Type	HostName	HostAddr	Port	Listener	RuleName
RS78		TCP	ACTIVE	LOCAL	RS78.ROCKETSOFTWARE.COM	::FFFF:192.168.55.178	18136	INACTIVE	RRSFServer@Rule
RS79		TCP	ACTIVE	LOCAL	RS79.ROCKETSOFTWARE.COM	::FFFF:192.168.55.179	18136	INACTIVE	RRSFServer@Rule
RS85		TCP	ACTIVE	LOCAL	RS85.ROCKETSOFTWARE.COM	2620:117:10:4300::55:185	18136	INACTIVE	RRSFServer@Rule
RS86		TCP	ACTIVE	LOCAL	RS86.ROCKETSOFTWARE.COM	2620:117:10:4300::55:186	18136	INACTIVE	RRSFClient@Rule
RS87		TCP	ACTIVE	LOCAL	RS87.ROCKETSOFTWARE.COM	2620:117:10:4300::55:187	18136	INACTIVE	RRSFClient@Rule
RS88		TCP	ACTIVE	LOCAL	0.0.0.0	::FFFF:192.168.55.188	18136	ACTIVE	

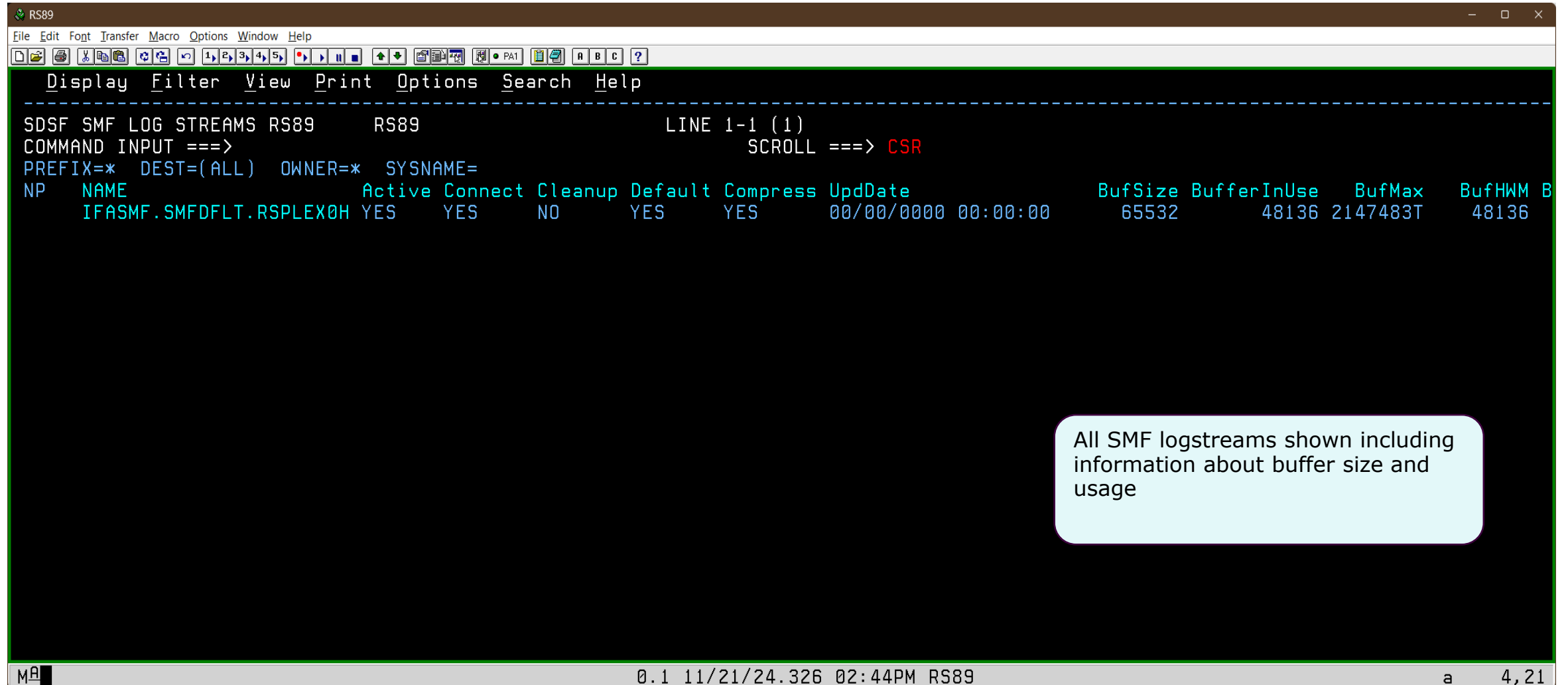
MA

0.1 11/21/24.326 01:53PM RS88 a 4, 21

All RRSF nodes are displayed including statistics about messages sent between them

Various actions against the row will issue the associated RRSF TARGET commands for the nodes

SMFL Panel – SMF Logstreams



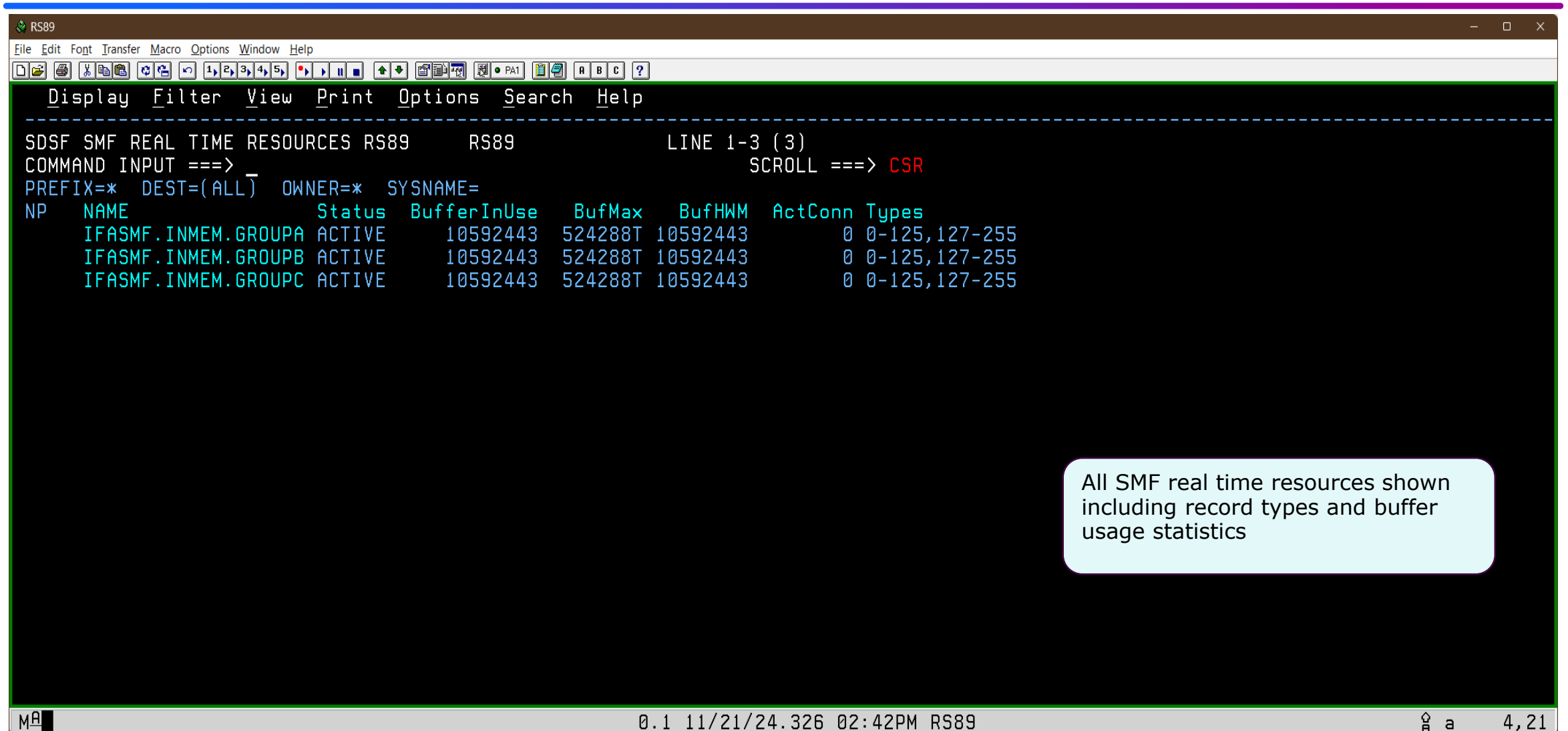
The screenshot shows a terminal window titled 'RS89' with a menu bar (File, Edit, Font, Transfer, Macro, Options, Window, Help) and a toolbar. The main display area shows the following text:

```
Display Filter View Print Options Search Help
-----
SDSF SMF LOG STREAMS RS89      RS89          LINE 1-1 (1)
COMMAND INPUT ==>              SCROLL ==> CSR
PREFIX=* DEST=(ALL) OWNER=* SYSNAME=
NP   NAME                      Active Connect Cleanup Default Compress UpdDate           BufSize BufferInUse   BufMax   BufHWM B
     IFASMF.SMFDFLT.RSPLEX0H YES    YES    NO    YES    YES    00/00/0000 00:00:00    65532   48136  2147483T 48136
```

A light blue callout box on the right side of the terminal contains the text: "All SMF logstreams shown including information about buffer size and usage".

At the bottom of the terminal window, a status bar displays: MA | 0.1 11/21/24.326 02:44PM RS89 a 4,21

SMFR Panel – SMF Real Time Resources



The screenshot shows a terminal window titled 'RS89' with a menu bar (File, Edit, Font, Transfer, Macro, Options, Window, Help) and a toolbar. The main display area shows the following text:

```
Display Filter View Print Options Search Help
-----
SDSF SMF REAL TIME RESOURCES RS89      RS89          LINE 1-3 (3)
COMMAND INPUT ==>                      SCROLL ==> CSR
PREFIX=* DEST=(ALL) OWNER=* SYSNAME=
NP   NAME                Status  BufferInUse  BufMax  BufHWM  ActConn  Types
    IFASMF.INMEM.GROUPA  ACTIVE   10592443   524288T 10592443    0 0-125,127-255
    IFASMF.INMEM.GROUPB  ACTIVE   10592443   524288T 10592443    0 0-125,127-255
    IFASMF.INMEM.GROUPC  ACTIVE   10592443   524288T 10592443    0 0-125,127-255
```

A callout box in the bottom right corner of the terminal window contains the text: "All SMF real time resources shown including record types and buffer usage statistics".

At the bottom of the terminal window, the status bar shows: MA 0.1 11/21/24.326 02:42PM RS89 a 4,21

VTOC Panel – DASD Volume Table Of Contents

RS88

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF VTOC DISPLAY RS88 R3P113 5506 LINE 43-63 (435)
 COMMAND INPUT ==> SCROLL ==> CSR
 PREFIX=* DEST=(ALL) OWNER=* SYSNAME=
 NP DSNNAME LoCyl LoTrk HiCyl HiTrk Ext TotalExt RelTrk TotalTrk DSOrg RecFm Lrecl B

NP	DSNAME	LoCyl	LoTrk	HiCyl	HiTrk	Ext	TotalExt	RelTrk	TotalTrk	DSOrg	RecFm	Lrecl	B
	RSRTE.RACF.CERTS.ZT25601.CA.PEM	00000030	05	00000030	09	1	1	725	5	PS	VB	84	
	RSRTE.CICSTS63.BETA05.SFF32.SCIZINST	00000030	0A	00000030	0C	1	1	730	3	PO	FB	80	
	RSRTE.CTS560.GA.ISV.CHANGES	00000030	0D	00000030	0E	1	1	733	2	PO-E	VB	240	
	RSRTE.ZOWE2160.SZWESAMP	00000031	00	00000031	0C	1	1	735	13	PO-E	FB	80	
	--FREE--	00000031	0D	00000031	0E	1	1	748	2			0	
	RSRTE.ZSECURE.CARLA.IMBED	00000032	00	00000032	0E	1	2	750	15	PO	FB	200	
	RSRTE.SM.CATALOG.MASTER	00000033	00	00000033	0E	1	1	765	15	PO	FB	133	
	RSRTE.CAI.ACF2R16.CAX1IMS	00000034	00	00000036	0E	1	1	780	45	PO	U	0	
	RSRTE.ZSECURE.CARLA.IMBED	00000037	00	00000037	0E	2	2	825	15	PO	FB	200	
	RSRTE.CTS610.GA.CICS.SDFHWSSX	00000038	00	00000038	0E	1	1	825	15	PO	FB	80	
	RSRTE.TS4671.REXX	00000039	00	00000039	0E	1	1	825	15	PO	FB	80	
	RSRTE.CTS520.GA.ISV.CHANGES	0000003A	00	0000003A	0E	1	1	825	4	PO-E	VB	240	
	--FREE--	0000003A	04	0000003A	0E	1	1	825	10			0	
	RSRTE.PDH0BS.ADUSERS.VAS.POSINV.D240214	0000003A	0E	0000003A	0E	1	1	825	1	PS	VB	255	
	RSRTE.PSP.APASORT.MANDATA2	0000003B	00	0000003B	0E	1	1	825	15	PS-E	VBS	32760	
	RSRTE.ZACS.JOBLIB	0000003C	00	0000003C	0E	1	1	825	20	PO	FB	80	
	RSRTE.CSQ.V940.BETA.SCSQMSGU	0000003D	05	0000003D	0E	1	1	825	6	PO-E	FB	80	
	--FREE--	0000003D	0B	0000003D	0E	1	1	825	4			0	
	RSRTE.DSN.VDB2.ALLDB2.BKUP.J20213	0000003E	00	0000003E	0E	1	1	825	15	PS	FB	130	
	RSRTE.LRS.VPS.V2R11.VPCKPT.DATA	0000003F	00	0000003F	0E	1	1	825	15	VS	U	0	
	RSRTE.ZARA30.MLPALIB	00000040	00	00000040	0E	1	1	960	15	PO	U	0	

MA 0.1 11/21/24.326 01:56PM RS88 a 4,21

SDSF can now map a DASD volume VTOC

Each extent of a data set is shown (primary extents highlighted)

Free extents and the VTOC itself shown as special rows



Useability Enhancements

Action Prompt Panel

- New concept of SDSF “control” action char of a single dot “.”
 - Used in a couple of new enhancements
 - Common action character across all tabular panels
- Using the characters “./” in ISPF against a row will now cause a pop-up panel showing all actions defined for the panel in a scrollable list
- User can select entry to apply the action to the row(s)
- No longer need SET ACTION ON to see available actions

Action Prompt Panel

RS88

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF OUTPUT ALL C
COMMAND INPUT ==>
PREFIX=* DEST=(A
NP JOBNAME Job
LOGREC88 JOB
LOGREC88 JOB
//. LOGREC88 JOB
PDSCOT TSU
PDSCOT TSU
PDSCOT TSU
PDSCOT TSU
PDSCOT TSU
// SDFS STC
SDFS STC
SDFS STC
SDFS STC
SDFS STC
SDFS STC
SDFS STC
SDFS STC
SDFS STC
SDFS STC
SDFS STC00347 SDFS
SDFS STC00347 SDFS
SDFS STC00515 SDFS
SDFS STC00515 SDFS

Action Characters Row 1 to 9 of 25

Command ==> _____ > CSR

Type a number to select an action. Sort with F5
(action), F6 (description).

Line number: 3-10

Selection: _____

Number	Action	Description
1.	+	Extend
2.	/	Show
3.	%	RunExec
4.	?	JDS
5.	A	Release
6.	C	Cancel
7.	H	Hold
8.	JS	JobStep
9.	L	List

-Rec Prt-Rec Tot-Page Prt-Page Device Statu

69
66
48
,910
,389
,904
,462
,134
645
,935
26
461
1
1
668
,935
,237

144 A STD LOCAL
144 A STD LOCAL 206
144 A STD LOCAL 668
112 A STD LOCAL 8,935

MA

0.1 11/21/24.326 03:01PM RS88

a 11,33

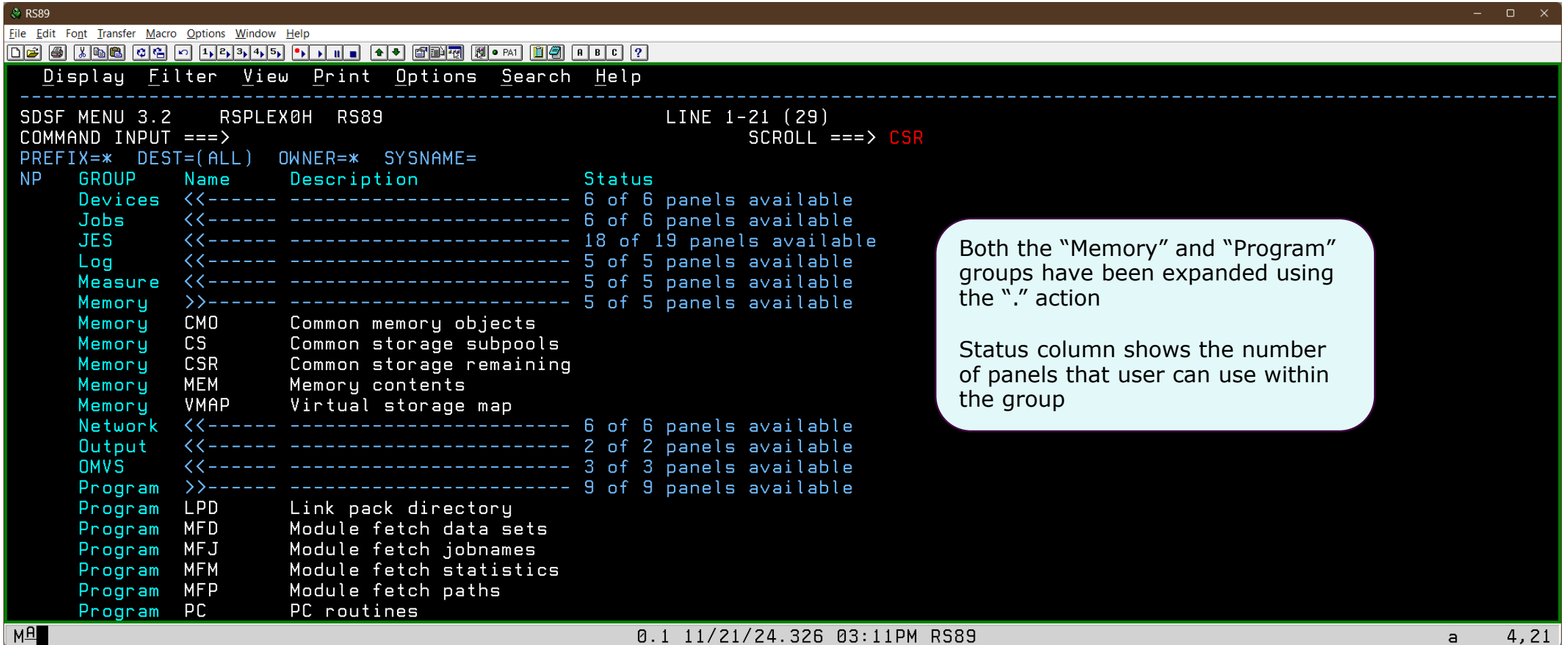
Can be applied to
block range as well as
single row

Selection applied to all
rows

MGRP Panel - Main Menu Group

- Groups SDSF commands by their associated group name
- Allows user to expand or collapse individual groups to show associated commands
- Expand/collapse status of each group saved in user profile
 - Use "." to expand and ".." to collapse
- MGRP command can be issued anywhere within product
- Use SET MAIN GROUP command to have this as the default SDSF main menu

MGRP Panel - Main Menu Group



```
RS89
File Edit Font Transfer Macro Options Window Help
-----
Display Filter View Print Options Search Help
-----
SDSF MENU 3.2      RSPLEX0H  RS89                LINE 1-21 (29)
COMMAND INPUT ==>                                SCROLL ==> CSR
PREFIX=*  DEST=(ALL)  OWNER=*  SYSNAME=
NP  GROUP   Name      Description      Status
Devices <<----- ----- 6 of 6 panels available
Jobs    <<----- ----- 6 of 6 panels available
JES     <<----- ----- 18 of 19 panels available
Log     <<----- ----- 5 of 5 panels available
Measure <<----- ----- 5 of 5 panels available
Memory >>----- ----- 5 of 5 panels available
Memory CMO      Common memory objects
Memory CS      Common storage subpools
Memory CSR    Common storage remaining
Memory MEM    Memory contents
Memory VMAP   Virtual storage map
Network <<----- ----- 6 of 6 panels available
Output  <<----- ----- 2 of 2 panels available
OMVS   <<----- ----- 3 of 3 panels available
Program >>----- ----- 9 of 9 panels available
Program LPD    Link pack directory
Program MFD    Module fetch data sets
Program MFJ    Module fetch jobnames
Program MFM    Module fetch statistics
Program MFP    Module fetch paths
Program PC     PC routines
-----
MA | 0.1 11/21/24.326 03:11PM RS89 a 4,21
```

Both the "Memory" and "Program" groups have been expanded using the "." action

Status column shows the number of panels that user can use within the group

Miscellaneous Enhancements

Common Action Characters

- Several new common actions across multiple panels
- LCK
 - Lists health checks for the associated component for the row object
 - Panels include APF, CFC, FS, JES, LNK, RACF, VMAP
- LE
 - Lists WLM enclaves for row object
 - Panels include AD, AS, AW, DA, REPC, RGRP, SRVC and WKLD
- LVT
 - Invokes the DASD VTOC panel for the volser in the row
 - Panels include CAT, DEV, DEVS, SMSV
- LA and LP
 - List RACF profile/access for resource protecting the data in the row
 - Panels include APF, CAT, JDD, LNK, PARM, RLOG
 - Point and shoot on ULOG SECTRACE entries invokes LA action

Notable New/Updated Columns On Existing Panels

- AUTOMNT and PDevice on FS panel
- NoTypes column on SMFS
- zCX column on AD, AS and DA to indicate running container extensions
- Executable memory indicator on JM detail panel
- MemLimChg on AS to show how much 64-bit memory is actually charged towards the address space MEMLIMIT value.
- Extent and EffExtent on LLS panel
 - Enables monitoring of link list data set extents
 - Extent is number of physical extents for the data sets
 - EffExtent is the effective extents when considering that PDSE data sets count as single extent for link list regardless of physical extents

Systems Programmer Task Assistant Dialogs

- Post-GA APAR PH67610
 - Rolled back to SDSF for z/OS 3.1
- Adds ISPF dialogue panels to guide user through common sysprog activities
 - Add/remove data set within APF list
 - Add/remove link list sets
 - Add/remove data set within link list set
 - Activate/Update link list set

Other Enhancements

```
SDSF PROCESS DETAILS LINE 0 COLUMNS 02- 133
COMMAND INPUT ==> SCROLL ==> CSR
***** TOP OF DATA *****
JOBNAME:
  TS78971
JOBID:
  STC09906
OWNER:
  TS7897
PROCESS ID:
  16842889
PARENT PROCESS ID:
  65672
SYSNAME:
  RS79
SYSLEVEL:
  z/OS 03.02.00 HBB77F0
COMMAND:
  java -cp /RS79/u/ts7897/jackson/2.6.3/jackson-databind-2.6.3.jar:/RS79/u/ts789
  7/jackson/2.6.3/jackson-core-2.6.3.jar:/RS79/u/ts7897/jackson/2.6.3/jackson-an
  notations-2.6.3.jar:/RS79/u/ts7897/junit/junit5/org.junit.vintage.engine_5.7.1
  .v20210222-1948.jar:/RS79/u/ts7897/junit/junit5/org.junit_4.13.0.v20200204-150
  0.jar:/RS79/u/ts7897/junit/junit5/org.hamcrest.core_1.3.0.v20180420-1519.jar:/
  RS79/u/ts7897/sdsf/v3r2/javatest/isfjcallTest.jar:/RS79/u/ts7897/sdsf/v3r2/jav
  atest/isfjcall.jar:. -enableassertions -Djava.util.logging.config.file=logging
  .properties com.ibm.zos.sdsf.corex.test.TestISFFileSystemSampleX
```

L action on PS

Will show (via SDSF browse)
the full command text for a
z/OS UNIX process

Other Enhancements

- Programmer name on I, O, H and ST is no longer a delayed field
 - Will need JES2 \$ACTIVATE level of Z32
 - Resolves long-standing requirement and performance improvement
- Long fields on SHOW panel
 - The SDSF show action "/" pop-up panel will display all characters for very long field data, for example z/OS UNIX paths
 - Characters will be continued on multiple lines in the scrollable area

- **For more SDSF presentations :**
- **github.com/IBM/IBM-Z-zOS/tree/main/zOS-Education/**

Your feedback is important!

Submit a session evaluation for each session you attend:

www.share.org/evaluation

