

New SDSF functions in z/OS 3.2

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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



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

IBM | Rocket software

RACF Log Panel - Detail

```
RS21
File Edit Font Transfer Macro Options Window Help
Show Columns Row 1 to 30 of 30
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 SLP110
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 *****
MA 0.1 12/12/24.347 03:52PM
```

```
RS21
File Edit Font Transfer Macro Options Window Help
Show Columns Row 1 to 32 of 32
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 ---
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 a 3,17
```

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 RECV
 - 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
	RUSSTSO	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

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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

RS21

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF CATALOG DISPLAY RS21 RS21 LINE 1-21 (109)
COMMAND INPUT ==> SCROLL ==> CSR

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	9656	RS21
	CATALOG.AOCSHARE.CAT1	AOP100	USER	YES	YES	NO	NO	NO	NO	NO	NO	A504	RS21
	CATALOG.CATBACK	CBP101	USER	YES	YES	NO	NO	NO	NO	NO	NO	6018	RS21
	CATALOG.HOLRTE.CAT1	R5P101	USER	YES	YES	NO	NO	NO	NO	NO	NO	D0D2	RS21
	CATALOG.IBM.XFERCAT	IBXF01	USER	YES	YES	NO	NO	NO	NO	NO	NO	6940	RS21
	CATALOG.LC1C.DB	DBP1A9	USER	YES	YES	NO	NO	NO	NO	NO	NO	B028	RS21
	CATALOG.LC1C.LG	DBP1AB	USER	YES	YES	NO	NO	NO	NO	NO	NO	B029	RS21
	CATALOG.MVSICF1.VUCM100	DBP142	USER	YES	YES	NO	NO	NO	NO	NO	NO	9651	RS21
	CATALOG.RSPLEX01.DVS	S1P10E	USER	YES	YES	NO	NO	NO	NO	NO	NO	9505	RS21
	CATALOG.RSPLEX01.HAA.CAT1	DBP150	USER	YES	YES	NO	NO	NO	NO	NO	NO	6676	RS21
	CATALOG.RSPLEX01.HAA.CAT2	DBP144	USER	YES	YES	NO	NO	NO	NO	NO	NO		
	CATALOG.RSPLEX01.HAA.CAT3	DBP12F	USER	YES	YES	NO	NO	NO	NO	NO	NO		
	CATALOG.RSPLEX01.HAA.CAT5	DBP148	USER	YES	YES	NO	NO	NO	NO	NO	NO		
	CATALOG.RSPLEX01.KRI.CAT1	KRP101	USER	YES	NO	NO	NO	NO	NO	NO	NO		
	CATALOG.RSPLEX01.KRIPMR.CAT1	KRP110	USER	YES	YES	NO	NO	NO	NO	NO	NO		
	CATALOG.RSPLEX01.MASTER	MCP100	MASTER	YES	YES	NO	NO	NO	NO	NO	NO		
	CATALOG.RSPLEX01.MQS.CAT1	MQP100	USER	YES	NO	YES	NO	NO	NO	NO	NO	64BF	RS21
	CATALOG.RSPLEX01.M204SYS	MSP100	USER	YES	YES	NO	NO	NO	NO	NO	NO	6811	RS21
	CATALOG.RSPLEX01.M204TSO	MTP100	USER	YES	YES	NO	NO	NO	NO	NO	NO	6518	RS21
	CATALOG.RSPLEX01.OMGR.CAT1	OMP100	USER	YES	NO	YES	YES	NO	NO	NO	NO	9502	RS21
	CATALOG.RSPLEX01.RBRTE.CAT1	RBRTE4	USER	YES	YES	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

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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	SMSSStatus	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				

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

RS88

File Edit Font Transfer Macro Options Window Help

Display Filter View Print Options Search Help

SDSF FUNCTION REGISTRY RS88 RS88 LINE 1-14 (14)
COMMAND INPUT ==> SCROLL ==> CSR

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

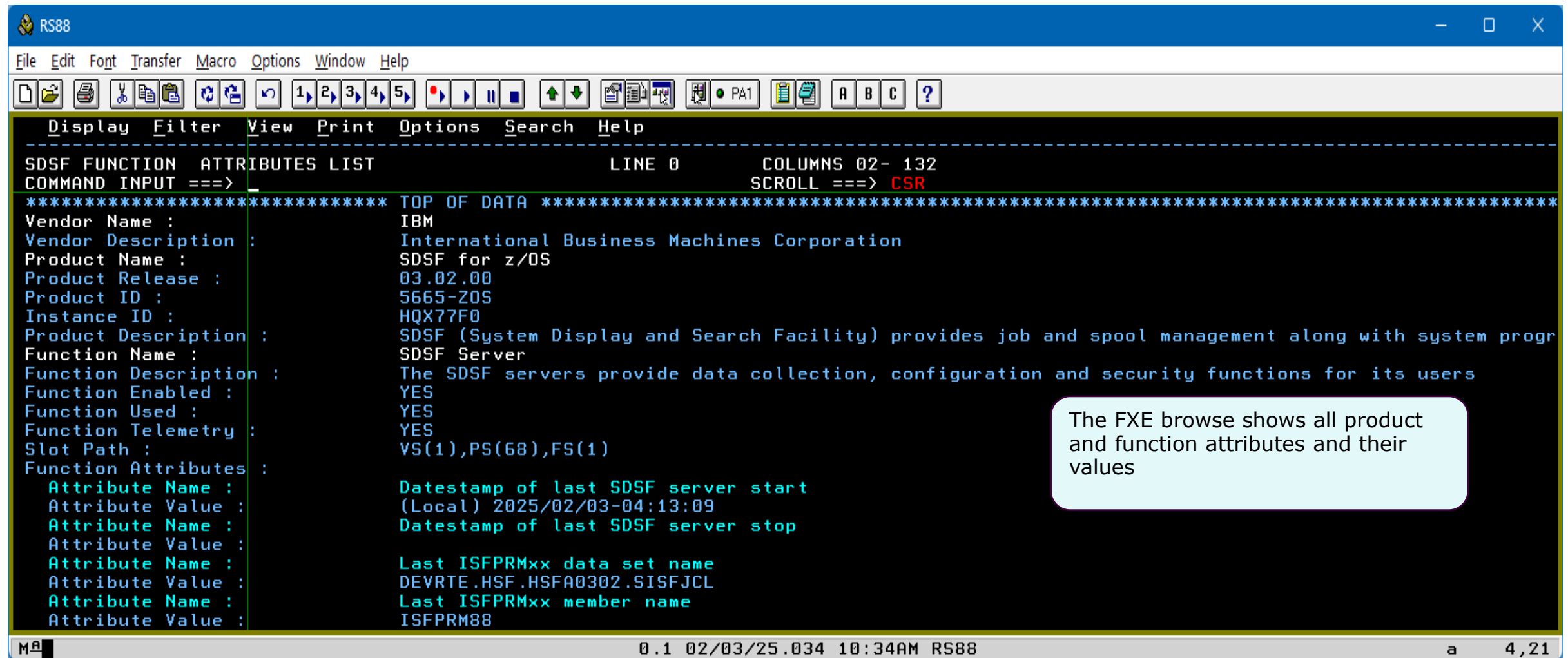
NP	NAME	Function	ProdID	ProdRel	InstanceID	Enabled	Used	U
	z/OS Communications Server	SNA - General	HVT6320	03.02.00	VTAM	YES	YES	
	IBM Health Checker for z/OS	IBM Health Checker for z/OS	5655-ZOS	03.01.00	HBB77E0	YES	YES	
JES2		JES2 Active Exits Bitmap	5655-ZOS	03.01.00	018-01S2	YES	YES	
JES2		JES2 Automatic Checkpoint Cycle Management	5655-ZOS	03.01.00	018-01S2	NO	NO	
JES2		JES2 Checkpoint on CF	5655-ZOS	03.01.00	018-01S2	NO	NO	
JES2		JES2 Exits	5655-ZOS	03.01.00	018-01S2	YES	YES	
JES2		JES2 Policy	5655-ZOS	03.01.00	018-01S2	NO	NO	
Runtime Diagnostics		Runtime Diagnostics invoked by REST API	5655-ZOS	03.01.00	HBB77E0	YES	NO	
Runtime Diagnostics		Runtime Diagnostics invoked internally by PFA	5655-ZOS	03.01.00	HBB77E0	YES	NO	
Runtime Diagnostics		Runtime Diagnostics invoked via operator command	5655-ZOS	03.01.00	HBB77E0	YES	NO	
SDSF for z/OS		SDSF Client Interface Summary	5665-ZOS	03.01.00	HBB77E0	YES	YES	
SDSF for z/OS		SDSF Event Log (ELOG)	5665-ZOS	03.01.00	HBB77E0	YES	YES	
SDSF for z/OS		SDSF Module Fetch Monitor (MFM)	5665-ZOS	03.01.00	HBB77E0	YES	YES	
SDSF for z/OS		SDSF Server	5665-ZOS	03.01.00	HBB77E0	YES	YES	

SDSF now reports on and participates in the function registry

User can "browse" a FXE entry using the "s" action against the row

0.1 02/03/25.034 10:32AM RS88 a 4,22

FXE Panel – z/OS Function Registry Browse



The screenshot displays the RS88 z/OS Function Registry Browse panel. The panel has a blue title bar with the RS88 icon and standard window controls. Below the title bar is a menu bar with options: File, Edit, Font, Transfer, Macro, Options, Window, and Help. A toolbar with various icons is located below the menu bar. The main display area shows the SDSF FUNCTION ATTRIBUTES LIST. The list is organized into columns: LINE 0 and COLUMNS 02-132. The command input is set to CSR. The list contains the following attributes and values:

Attribute Name	Value
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	DEV RTE.HSF.HSFA0302.SISFJCL
Attribute Name	Last ISFPRMxx member name
Attribute Value	ISFPRM88

The status bar at the bottom shows the following information: 0.1 02/03/25.034 10:34AM RS88 a 4,21

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

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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	bbgzsufr	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

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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	

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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 BPX0INIT LINE 1-6 (6)

COMMAND INPUT ==> SCROLL ==> CSR

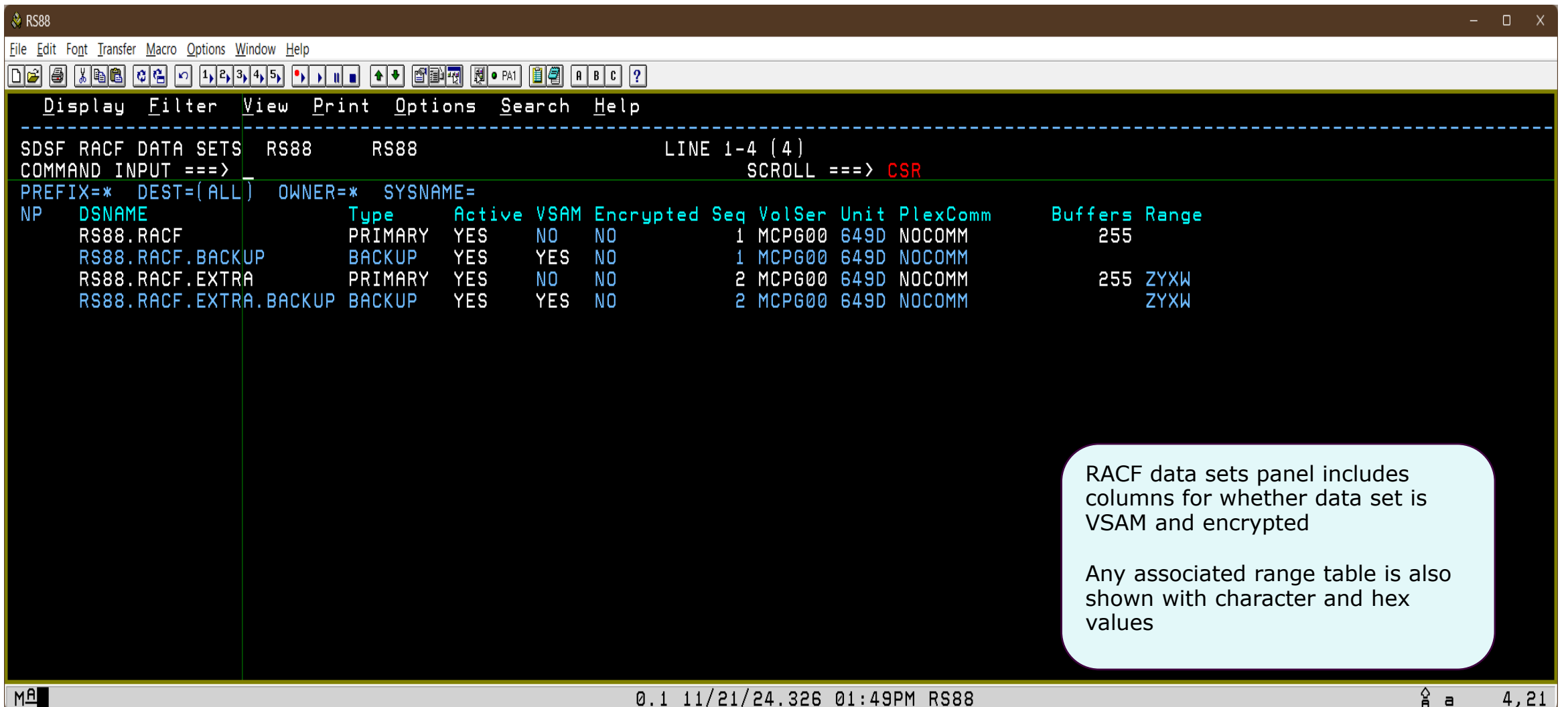
PREFIX=* DEST=(ALL) OWNER=* SYSNAME=

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

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

MA 0.1 11/21/24.326 01:45PM RS88 a 4, 21

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

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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

The screenshot displays the RS88 RACF panel, which is a terminal window with a menu bar (File, Edit, Font, Transfer, Macro, Options, Window, Help) and a toolbar. The main display area shows the following information:

```
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 #
```

The panel is divided into two sections. The top section shows the general RACF information, and the bottom section shows the exit point addresses.

General RACF information shown including known exit point addresses

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

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

RACR Panel – RACF RRSF Nodes

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=

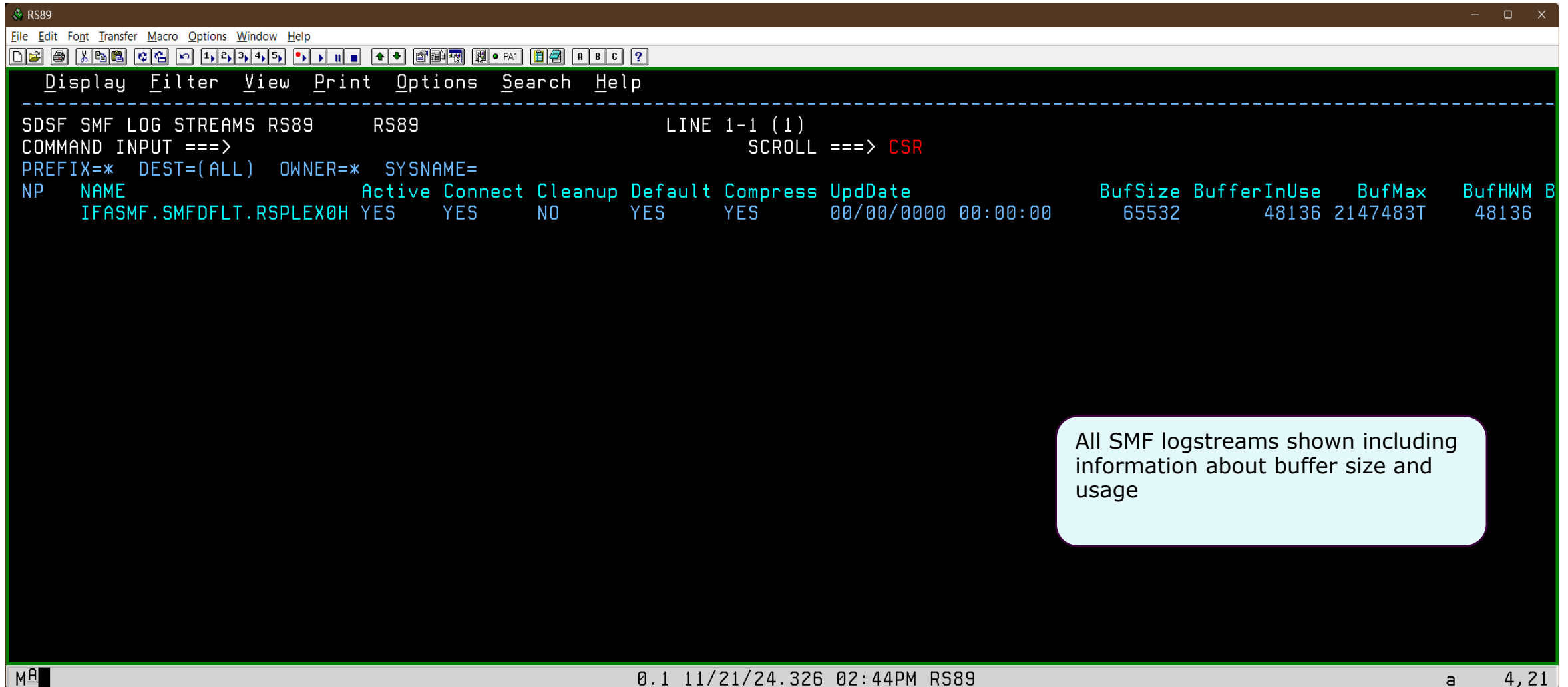
NP	NAME	Protocol	State	Type	HostName	HostAddr	Port	Listener	RuleName
RS78		TCP	ACTIVE	LOCAL	RS78.ROCKETSOFTWARE.COM	::FFFF:192.168.55.178	18136	INACTIVE	RRSFServer@Rule
RS79		TCP	ACTIVE	LOCAL	RS79.ROCKETSOFTWARE.COM	::FFFF:192.168.55.179	18136	INACTIVE	RRSFServer@Rule
RS85		TCP	ACTIVE	LOCAL	RS85.ROCKETSOFTWARE.COM	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	

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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



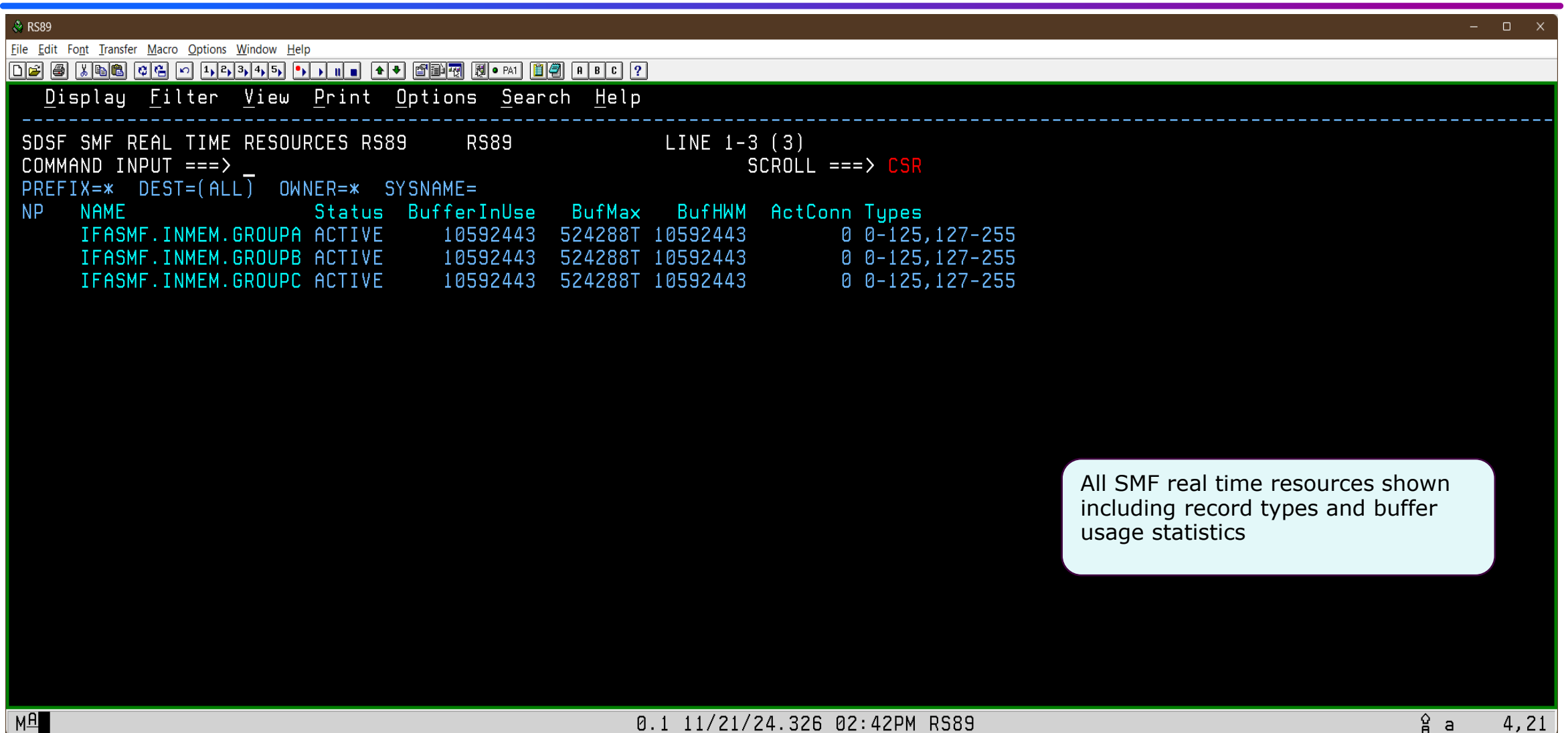
The screenshot shows a terminal window titled 'RS89' with a menu bar (File, Edit, Font, Transfer, Macro, Options, Window, Help) and a toolbar. The main display area shows the following text:

```
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 window contains the text: "All SMF logstreams shown including information about buffer size and usage".

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

SMFR Panel – SMF Real Time Resources



```
RS89
File Edit Font Transfer Macro Options Window Help
[Icons]
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

MA 0.1 11/21/24.326 02:42PM RS89 a 4,21
```

All SMF real time resources shown including record types and buffer usage statistics

VTOC Panel – DASD Volume Table Of Contents

RS88

File Edit Font Transfer Macro Options Window Help

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SDSF VTOC DISPLAY RS88 R3P113 5506 LINE 43-63 (435)

COMMAND INPUT ==> SCROLL ==> CSR

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

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	825	15	PO	U	0	

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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

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 101

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

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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 SECTRAE 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

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

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