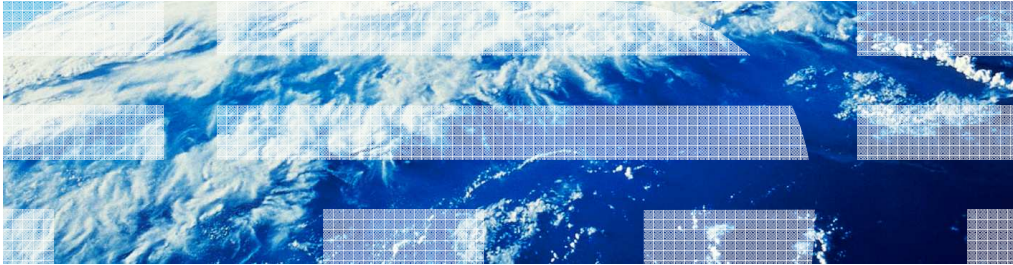


z/OS V1R13

SDSF: REXX operlog support



Overview

- Problem Statement / Need Addressed
 - Access Operlog through SDSF/REXX
 - Improve Operlog panel usability through color and highlighting
- Solution
 - Enhance SDSF/REXX ISFLOG command
 - Enhance SDSF Operlog panel and SET SCREEN command
- Benefit / Value
 - Use SDSF/REXX to access Operlog similar to Syslog
 - Control color and highlighting on Operlog panel

This line item consists of two components:

1 Support for reading operlog through SDSF/REXX

2 Viewing the operlog interactively in color

Usage and invocation (SDSF/REXX Operlog) (1 of 5)

- Changed syntax of ISFLOG command:
 - ISFLOG READ TYPE(SYSLOG | OPERLOG)
- Use special variables to specify a date and time range to read
 - Same variables as used when reading Syslog:
 - isflogstartdate, isflogstarttime
 - isflogstopdate, isflogstoptime
 - Default is 00:00:00.00 through 23:59:59.59 of current day
- Data returned in isfline stem variable
 - isfline.0 has count of variables that follow

SDSF/REXX was introduced in SDSF V1R9 and the ISFLOG command was added in SDSF V1R12 to read or allocate syslog.

The command is being enhanced in V1R13 to support reading of operlog.

Although syslog supports the allocate function (ISFLOG ALLOC TYPE(SYSLOG)), this is not available with operlog.

ISFLOG is controlled through special variables that allow you to specify the date and time range of records to process.

Usage and invocation (SDSF/REXX Operlog) (2 of 5)

```
/* REXX */
/* Read last day of operlog */

rc=isfcalls("on")
isfdate="mmdyyyy /" /* Date format for special variables */

currday=date("C")
yesterday=currday-1

isflogstartdate=date("U",yesterday,"C")
isflogstarttime=time("N")
isflogstopdate=date("U")
isflogstoptime=time("N")

isflinelim=1000
```

Annotations:

- rc=isfcalls("on") → Add host command environment
- currday=date("C") → Prepare to set set start date
- isflogstartdate=date("U",yesterday,"C")
isflogstarttime=time("N")
isflogstopdate=date("U")
isflogstoptime=time("N") → Set date/time range
- isflinelim=1000 → Set maximum number of lines

4

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In this example, we will read the last 24 hours of operlog.

The isflogstarttime and isflogstartdate variables are set 24 hours previous to the current time.

The isflogstoptime and isflogstopdate variables are set to the current time.

The isflinelim variable is used to limit the maximum number of lines returned in case there is not enough granularity in the start and stop time ranges.

Usage and invocation (SDSF/REXX Operlog) (3 of 5)

```
Address SDSF "ISFLOG READ TYPE(OPERLOG)"
do ix=1 to isfmsg2.0
  say isfmsg2.ix
end
do ix=1 to isfline.0
  say isfline.ix
end
rc=isfcalls("off")
```

Read the OPERLOG

Display SDSF messages, if any

Display lines read from OPERLOG

In this example, the return code from SDSF is not checked but it is good practice to do so. You should also check the messages returned by SDSF in the isfmsg2 stem that describe the processing of the command.

Usage and invocation (SDSF/REXX Operlog) (4 of 5)

Sample messages (from isfmsg2 stem variable)

```
ISF754I Command 'SET DATE MDDYYYY /' generated from associated variable
ISFDATE.
ISF757I Variable ISFLINELIM being processed with value '1000'.
ISF757I Variable ISFLOGSTARTTIME being processed with value '15:05:35'.
ISF757I Variable ISFLOGSTARTDATE being processed with value '01/24/11'.
ISF757I Variable ISFLOGSTOPTIME being processed with value '15:05:35'.
ISF757I Variable ISFLOGSTOPDATE being processed with value '01/25/11'.
ISF770W Request limit 1000 from variable ISFLINELIM reached, processing stopped.
ISF767I Request completed.
```

This is sample output from the isfmsg2 stem variable.



Usage and invocation (SDSF/REXX Operlog) (5 of 5)

Sample responses (from isfline stem variable)

```
M C000000 SY1      2011025 13:30:05.58      00000200 IXL015I STRUCTURE AL
D                                     633 00000200 STRUCTURE SYSZWLM_WO
D                                     633 00000200 CONNECTIVITY=DEFAULT
D                                     633 00000200 CFNAME      ALLOCATI
D                                     633 00000200 -----
D                                     633 00000200 LF01        INVALID
D                                     633 00000200             INITSIZ
D                                     633 00000200 LF02        NO CONNE
E                                     633 00000200 SIGLISTS    NO CONNE
NC0000000 SY2      2011025 13:26:45.44 INTERNAL 00000290 CONTROL M,UEXIT=Y IE
NR0000000 SY2      2011025 13:26:45.67 INTERNAL 00000090 IEA590I WTO USER EXI
N 0000000 SY2      2011025 13:26:00.42      00000290 IEA371I SYS1.PARMLIB
```

7

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The isfline stem variable contains the record from the operlog. This is the same format as is displayed interactively.

Usage and invocation (Operlog Color) (1 of 4)

- Operlog panel enhanced
 - Messages displayed in original color, highlighting, and intensity as first issued
 - LOG command to display Operlog (when Operlog active)
 - ISPF only
 - User override based on descriptor code
 - For example, user can change descriptor 2 messages to red
 - Use SET SCREEN to change default colors or to turn function off

The operlog color function is only available when SDSF is running under ISPF.

Usage and invocation (Operlog Color) (2 of 4)

```

Display Filter View Print options Search Help
SDSF OPERLOG DATE 01/25/2011 0 WTORS COLUMNS 02
COMMAND INPUT > set screen_
N 0000000 SY2 2011025 13:31:32.69 00000200 IEF196I IEF237I
NR4000000 SY2 2011025 13:31:32.69 S0000040 00000000 IST093I APPLJES2
N 4040000 SY2 2011025 13:31:32.69 00000000 *IEE819E SMCS IS
NR4000000 SY2 2011025 13:31:32.70 S0000040 00000000 IST093I APPLJESB
NR4000000 SY2 000 IST093I APPLSMCS ACTIV
NR4000000 SY2 000 IST020I VTAM INITIALIZ
NR4000000 SY2 000 IST1349I COMPONENT ID
NR4000000 SY2 000 IST1348I VTAM STARTED
N 4000000 SY2 000 IST2158I VTAM HAS JOIN
NR4000000 SY2 000 IST093I ISTLSXCF ACTIV
NR4000000 SY2 2011025 13:31:32.73 S0000040 00000000 IST1214I FFST SUBSYSTE
M 4040000 SY2 2011025 13:31:32.99 S0000037 00000090 HZS0001I CHECK (IBMCS,C
D 135 00000090 ISTH017E Communication
E 135 00000090 definitions might not
N 0000000 SY2 2011025 13:31:33.02 00000200 IEF196I IEF237I 0164 A
N 0000000 SY2 2011025 13:31:33.05 00000200 IEF196I IEF285I SYS1
N 0000000 SY2 2011025 13:31:33.05 00000200 IEF196I IEF285I VOL
N 0000000 SY2 2011025 13:31:33.49 00000200 IEF196I IEF237I 048F A
M 4000000 SY2 2011025 13:31:34.56 00000290 BPXF013I FILE SYSTEM Z
E 140 00000290 WAS SUCCESSFULLY MOUNT

```

Change colors with the SET SCREEN command.

Messages show in the color in which they were originally issued.

This is a screen capture showing the operlog panel with colored messages.

Use of color and highlighting makes it easier to find critical messages that may have been issued.

Usage and invocation (Operlog Color) (3 of 4)

```

Display Filter View Print Options Search Help
-----
SDSF OPERLOG D          Set Screen Characteristics          S 02- 81
COMMAND INPUT =
N 0000000 SY2          Select the elements that you want to customize. 37I 0980 A
NR4000000 SY2
N 4040000 SY2          1          Basic settings and tabular panels          JES2 ACTIV
NR4000000 SY2          OPERLOG panel          IS WAITIN
NR4000000 SY2          SMCS ACTIV
NR4000000 SY2          F1=Help  F12=Cancel          INITIALIZ
NR4000000 SY2          M STARTED          PONENT ID
N 4000000 SY2          2011025 13:31:32.73 S0000040 00000000 IST2158I VTAM HAS JOIN
NR4000000 SY2          2011025 13:31:32.73 S0000040 00000000 IST093I ISTLSXCF ACTIV
NR4000000 SY2          2011025 13:31:32.73 S0000040 00000000 IST1214I FFST SUBSYSTE
M 4040000 SY2          2011025 13:31:32.99 S0000037 00000090 HZS0001I CHECK (IBMCS,C
D          135 00000090 ISTH017E communication
E          135 00000090 definitions might not
N 0000000 SY2          2011025 13:31:33.02          00000200 IEF196I IEF237I 0164 A
N 0000000 SY2          2011025 13:31:33.05          00000200 IEF196I IEF285I SYS1
N 0000000 SY2          2011025 13:31:33.05          00000200 IEF196I IEF285I VOL
N 0000000 SY2          2011025 13:31:33.49          00000200 IEF196I IEF237I 048F A
M 4000000 SY2          2011025 13:31:34.56          00000290 BPXF013I FILE SYSTEM Z
E          140 00000290 WAS SUCCESSFULLY MOUNT

```

10

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Use Options->Set screen characteristics or the SET SCREEN command to display the selection panel.

Use the first option to change the color and highlighting of SDSF fields such as the panel title and column names.

Use the second option to change the color characteristics of operlog messages. You can also turn color off.

Usage and invocation (Operlog Color) (4 of 4)

```

Display Filter View F
-----
SDSF OPERLOG DATE 01/25
COMMAND INPUT ==> SET S
N 0000000 SY2 20110
NR4000000 SY2 20110
N 4040000 SY2 20110
NR4000000 SY2 20110
NR4000000 SY2 20110
NR4000000 SY2 20110
NR4000000 SY2 20110
NR4000000 SY2 20110
NR4000000 SY2 20110
NR4000000 SY2 20110
M 4040000 SY2 20110
D
E
N 0000000 SY2 20110
N 0000000 SY2 20110
N 0000000 SY2 20110
N 0000000 SY2 20110
M 4000000 SY2 20110
E

Set Screen Characteristics: OPERLOG Panel
More: +
Use color and highlighting 1 1. Yes 2. No
Type values to override the original color and highlighting.
Press F5/17 to see changes.
Descriptor code      Color  Highlight Intensity
1 - System failure
2 - Immediate action required  red_
3 - Eventual action required
4 - System status
5 - Immediate command response
6 - Job status
7 - Task-related
8 - Out of line
9 - Operator's request
10 - Not defined
11 - Critical eventual action
12 - Important information  YELLOW  HIGH
F1=Help F5=Refresh F6=Default F11=Cuaattr F12=Cancel
    
```

11

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This is an example of the operlog color popup. Overtyping the fields with the attributes you want based on descriptor code.

For messages with more than one descriptor code, SDSF uses the following hierarchy to determine the attributes to use: 1, 2, 11, 3, 12, 4, 5, 6, 7, 8, 9, 10, 13, 14, 16.

The values you enter are saved in the ISPF profile and thus are retained across SDSF sessions.

Interactions and dependencies

- Software dependencies
 - Operlog must be active
- Hardware dependencies
 - None
- Exploiters
 - None

You can learn more about using operlog in MVS Planning Operations, SA22-7601.

Migration and coexistence considerations

- None

Installation

- SDSF/REXX is included with SDSF.
- Operlog panel uses color by default
 - Use SET SCREEN command to change color attributes or turn function off

Session summary

- Discussed use of SDSF/REXX to read operlog
 - Specify date and time range to read
 - Limit number of records returned
- Operlog panel uses color, highlight, and intensity of message when first issued
 - Override attributes by descriptor code of message with SET SCREEN command

Appendix - References

- SDSF Operator and Customization, SA22-7670-15
- SDSF REXXHELP command
 - Contains SDSF/REXX usage, syntax, and examples
- SDSF SEARCH command
 - Searches SDSF help system for word or phrase



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