

Canzlog in NetView for z/OS 6.1: User Experience

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About Dale Carter

- Graduated from Data processing Institute in 1985
- Worked at BankofAmerica for 26 years.
- Started as tape operator on 3420 tape drives, then print operator, Console operator, Security analyst, Weekend Operations manager and on to Systems Automation.
- Title: VP; CNSLT – Systems Engineer Midrange and Mainframe Automation and Monitoring
- Worked with NetView for about 10 years and assisted with the installing NetView N5V1 – N6V1.
- Participated in the NetView N6V1 Beta testing using the Canzlog function since May of 2010.

Bank of America Mainframe Environment

- Size and Scope:
 - 40 CECs
 - 201 Globally distributed LPARS
 - 208,354 Mainframe MIPS Worldwide
 - 75 Parallel Sysplex environments
 - 14k+ managed subsystems
 - 1.6+ billion messages generated monthly
 - 1.1+ billion messages managed monthly by SA
 - 1.9 million batch job definitions
 - 58+ million batch jobs executed monthly
- Hardware:
 - z9 Business Class & z10 Enterprise Class
- Operating System
 - z/OS version 1.11 & 1.12

Canzlog use at BankofAmerica

- A large shop like BankofAmerica can benefit from using a tool like Canzlog. We plan to use it to manipulate logs and maintain data that is easily recovered for research by operations and by automation technicians. Using the features via a REXX-PIPE API within the programming will lead to faster automated resolutions. We will use the features to capture pertinent log data and save it for research and for future reference. We already use Canzlog to filter out specific messages, route codes and descriptor codes for testing and research.

Canzlog Overview

- Canzlog is a combined network and system log that brings together years of "wouldn't it be nice" ideas for browsing. Forty-six message attributes are kept, displayed, and used for automation and by REXX programs
- Simple steps for automatic archiving and seamless browsing.
- Canzlog can be shared with IBM service or moved to a backing store when needed

The components of Canzlog facility you need to know about

- During IPL, 2G dataspace created
- NetView SSI exit inserts system messages
 - NOT “SSI Proc”
- NetView standard logging inserts NetView messages
- One NetView instance per LPAR writes archives
- 3270 interface from BROWSE command
- REXX/pipe API available

DEFAULTS command selects standard view of the log



Command: BROWSE LOG (PF5)

```
NetView V6R1 - 7E          Tivoli NetView  NTV7E TOM          06/26/11 15:19:04
T SYSID      ORIGIN
' NTV7E      TOM
DW0654I DISPLAY      DEFAULTS
                        SLOGCMDR: NO
                        CANZLOG: MVS & local NetView messages
                        CZFORMAT: TIME
```

Part of LIST DEFAULTS display

- “LOG” means “use DEFAULTS/OVERRIDE setting”
 - Later, we will show other things that you can decide that “LOG” might mean



Text and some attributes shown on Main Display – see messages in context



```
Canzlog MVS & local NetView messages FILTER=LOG 06/26/11 15:20:07 -- 15:37:48
15:20:07 IST1411I INOP GENERATED FOR EEL001
          IST1430I REASON FOR INOP IS XID OR LDLC COMMAND TIMEOUT
          IST314I END
15:20:07 IST259I INOP RECEIVED FOR NMP181 CODE = 01
15:20:07 IST493I VARY DIAL FOR ID = NMP181 OVERRIDDEN BY SOFT INOP
15:20:07 IST619I ID = NMP181 FAILED - RECOVERY IN PROGRESS
15:21:09 IST1411I INOP GENERATED FOR EEL001
          IST1430I REASON FOR INOP IS XID OR LDLC COMMAND TIMEOUT
          IST314I END
15:21:09 IST259I INOP RECEIVED FOR NMP181 CODE = 01
15:21:09 IST493I SOFT INOP FOR ID = NMP181 OVERRIDDEN BY SOFT INOP
15:21:09 IST619I ID = NMP130 FAILED - RECOVERY IN PROGRESS
15:21:09 IST590I CONNECTOUT FAILED FOR PU NMP130 ON LINE EEL002
15:21:09 IST621I RECOVERY SUCCESSFUL FOR NETWORK RESOURCE NMP130
15:21:09 IST1411I INOP GENERATED FOR EEL001
          IST1430I REASON FOR INOP IS XID OR LDLC COMMAND TIMEOUT
          IST314I END
15:21:09 IST259I INOP RECEIVED FOR NMP181 CODE = 01
15:21:09 IST493I SOFT INOP FOR ID = NMP181 OVERRIDDEN BY SOFT INOP
15:21:09 IST619I ID = NMP181 FAILED - RECOVERY IN PROGRESS
15:21:09 IST590I CONNECTOUT FAILED FOR PU NMP181 ON LINE EEL000
15:21:09 IST621I RECOVERY SUCCESSFUL FOR NETWORK RESOURCE NMP181
15:26:29 BNH067I SYSPLEX MASTER IN GROUP DSIPLX01 SWITCHED TO NTV7E. PREVIOUS MASTER
15:26:29 DSI047E CNMEERSC failed: DISCOVERY not enabled.
15:26:29 DSI201I TIMER REQUEST SCHEDULED FOR EXECUTION 'ID=XCFTMR$2'
15:37:41 GO
15:37:41 GO
15:37:41 DSI016I NOT IN PAUSE OR WAIT STATUS
15:37:48 br log
DW0672I Message * was issued at 06/26/11 15:21:09.845 by NTV7EPPT
CMD==>
```

Additional info on selected message via F9

See only the “interesting” part of Canzlog data



```
CNMKCZLG Specify Canzlog Filters

From: _____ To: _____
Tag: _____ MSGID: _____
Jobname: _____ Jobid: _____
ASID: _____ ASType: _____
Console: _____ Route Code: _____
Domain: _____ System ID: _____
AutoTok: _____ Desc Code: _____
AuthUser: _____ AuthGroup: _____
Opid: _____
UCHARS: _____
CHKey: _____
WTOKey: _____
Text - case sensitive; faster search: _____
Text - case insensitive; slower search: _____
Name: _____ Remark: _____

TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>
```

Filter view of log on any of 17 attributes plus time and text

- Filter options panel



Command: CANZLOG (cont'd)

```
Canzlog TAG= (NVMSG, MVMSG, DOM) 05/23/11 21:52:49 -- 21:52:50
21:52:49 IEA631I OPERATOR A6OTUA45 NOW INACTIVE, SYSTEM=1P54 , LU=AUTO6
21:52:49 DSI531I 'DSIGKPMT' : 'DSIGKPMT' IS TERMINATING
21:52:49 DSI200I TASK DSIGKPMT HAS TERMINATED
21:52:49 IEA631I OPERATOR MSDMCS45 NOW INACTIVE, SYSTEM=1P54 , LU=MVSCMDS
21:52:49 IEA631I OPERATOR A4OTUA45 NOW INACTIVE, SYSTEM=1P54 , LU=AUTO4
21:52:49 IEA631I OPERATOR A5OTUA45 NOW INACTIVE, SYSTEM=1P54 , LU=AUTO5
21:52:49 IEA631I OPERATOR ATZVY614 NOW INACTIVE, SYSTEM=1P54 , LU=A1P40002
21:52:49 IEA631I OPERATOR AT48ZR14 NOW INACTIVE, SYSTEM=1P54 , LU=A1P40009
21:52:49 IEA631I OPERATOR AWRK2714 NOW INACTIVE, SYSTEM=1P54 , LU=AUTWRK27
21:52:49 IEA631I OPERATOR D1OTUA45 NOW INACTIVE, SYSTEM=1P54 , LU=AUTO1
21:52:49 IEF196I IGD101I SMS ALLOCATED TO DDNAME (CANZLOG)
21:52:49 IEF196I DSN (SYS3.SA.CA1P54.CZ110523.T214417)
21:52:49 IEF196I STORCLAS (SYS1000) MGMTCLASS (SYS1000)
21:52:49 IEF196I VOL SER NOS= 5P0S01
21:52:49 IEA631I OPERATOR A7OTUA45 NOW INACTIVE, SYSTEM=1P54 , LU=AUTO1
21:52:49 IEF196I IGD104I SYS3.SA.CA1P54.CZ110523.T214417 RETAINED,
21:52:49 IEF196I DDNAME=CANZLOG
21:52:49 IEF196I IGD103I SMS ALLOCATED TO DDNAME SYS00972
21:52:49 IEA631I OPERATOR AAUTO114 NOW INACTIVE, SYSTEM=1P54 , LU=AUTO1
21:52:50 IEF196I IGD104I SYS3.SA.CA1P54.CZ110523.T214417 RETAINED,
21:52:50 IEF196I DDNAME=SYS00972
TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==> _
```

Default filters

- The Canzlog with msg tags. You can view all Canzlog data as far back as your archives go.

CANZLOG panel – MsgID & time range

```

...IKCZLG          Specify Canzlog Filters

From:      '_06/05/11 00:00:01'          To:      '06/07/11 00:00:01'

Tag:      _____          MSGID:      AOF570I
Jobname:   _____          Jobid:      _____
ASID:     _____          ASType:    _____
Console:  _____          Route Code: _____
Domain:   _____          System ID:  _____
AutoTok:  _____          Desc Code:  _____
AuthUser: _____          AuthGroup:  _____
Opid:     _____
UCHARS:   _____
CHKey:    _____
WTOKey:   _____
Text - case sensitive; faster search:
_____
Text - case insensitive; slower search:
_____
Name:     _____          Remark:    _____

TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>

```

- Filtering on AOF570I, SA commands report messages, with time range

SA issued these cmds in the time range

```
Canzlog FROM='06/05/11 00:00:01',TO='06/07/11 00 06/06/11 00:01:20 -- 00:05:35
00:01:20 AOF570I 00:01:19 : ISSUED "PIPE EDIT CURRGMT DT CNVDT (DATE "MM/DD/YY"
00:01:28 AOF570I 00:01:28 : ISSUED "AFTER 1,MVS S OSSDSLOG.OSSDSLOG" FOR
SUBSYSTEM OSSDSLOG - MSGTYPE IS STARTUP
00:01:28 AOF570I 00:01:28 : ISSUED "AFTER 1,MVS S OSSDSLOG.OSSDSLOG" FOR SUBSYS
00:02:29 AOF570I 00:02:29 : ISSUED "AFTER 1,MVS S OSSDSLOG.OSSDSLOG" FOR
SUBSYSTEM OSSDSLOG - MSGTYPE IS STARTUP
00:02:29 AOF570I 00:02:29 : ISSUED "AFTER 1,MVS S OSSDSLOG.OSSDSLOG" FOR SUBSYS
00:03:30 AOF570I 00:03:30 : ISSUED "AFTER 1,MVS S OSSDSLOG.OSSDSLOG" FOR SUBSYS
SUBSYSTEM OSSDSLOG - MSGTYPE IS STARTUP
00:03:30 AOF570I 00:03:30 : ISSUED "AFTER 1,MVS S OSSDSLOG.OSSDSLOG" FOR SUBSYS
00:04:34 AOF570I 00:04:34 : ISSUED "AFTER 1,MVS S OSSDSLOG.OSSDSLOG" FOR
SUBSYSTEM OSSDSLOG - MSGTYPE IS STARTUP
00:04:34 AOF570I 00:04:34 : ISSUED "AFTER 1,MVS S OSSDSLOG.OSSDSLOG" FOR SUBSYS
00:05:35 AOF570I 00:05:35 : ISSUED "PIPE NETV DISPFLGS
OSSDSLOG,TARGET=1P54,OUTMODE=LINE|CORR 5|SEP|LOC 1.S /1P54 /|EDIT
WORD -1 N|PICK 1.* = /N/|PIPEND 1" FOR SUBSYSTEM OSSDSLOG -
MSGTYPE IS BROKEN
00:05:35 AOF570I 00:05:35 : ISSUED "PIPE NETV DISPFLGS OSSDSLOG,TARGET=1P54,OUT
00:05:35 AOF570I 00:05:35 : ISSUED "SYSLOGR BROKEN OSSDSLOG/APL/1P54
OSSDSLOG" FOR SUBSYSTEM OSSDSLOG - MSGTYPE IS BROKEN
00:05:35 AOF570I 00:05:35 : ISSUED "SYSLOGR BROKEN OSSDSLOG/APL/1P54 OSSDSLOG"
TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>
```

Some
msgs are
MLWTO

- You are seeing both NV & z/OS messages.

Fliter makes Canzlog a Joblog viewer

```

CNMKCZLG          Specify Canzlog Filters

From:              To:

Tag:               MSGID:
Jobname:   TSO     Jobid:
ASID:              ASType:
Console:           Route Code:
Domain:           System ID:
AutoTok:          Desc Code:
AuthUser:         AuthGroup:
Opid:
UCHARS:
CHKey:
WTOKey:
Text - case sensitive; faster search:
Text - case insensitive; slower search:
Name:              Remark:

TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>
  
```

Alt:
BR CANZLOG
JOBNAME=TSO

- Using Canzlog to filter messages associated with jobname TSO.

Browsing a “joblog”

```
Canzlog JOBNAME=(TSO) TAG=(NVMSG,MVSMSG) 05/31/11 13:33:06 -- 10:34:52
13:33:06 LOGON
20:03:13 LOGON
14:09:31 LOGON
15:24:14 LOGON
04:10:08 IKT033I TCAS USERMAX VALUE SET TO 0
04:10:08 IKT008I TCAS NOT ACCEPTING LOGONS
04:10:08 IKT033I TCAS USERMAX VALUE SET TO 5
04:10:09 IKT007I TCAS ACCEPTING LOGONS
04:10:10 IKT006I TCAS ENDED
04:10:10 IEF404I TSO - ENDED - TIME=04.10.10
04:10:10 $HASP395 TSO ENDED
10:34:47 IRR812I PROFILE ** (G) IN THE STARTED CLASS WAS USED
          TO START TSO WITH JOBNAME TSO.
10:34:48 $HASP100 TSO ON STCINRDR
10:34:52 IEF695I START TSO WITH JOBNAME TSO IS ASSIGNED TO USER TSO
10:34:52 $HASP373 TSO STARTED
10:34:52 IEF403I TSO - STARTED - TIME=10.34.52
10:34:52 IEC141I 013-18,IGG0191B,TSO,TSO,PARMLIB,200E,XPXIO1,SYS1.PARMLIB.CUSTO
10:34:52 IKT013I PARAMETER FILE CANNOT BE OPENED - DEFAULT PARAMETERS USED
10:34:52 IKT007I TCAS ACCEPTING LOGONS
10:34:52 IKT005I TCAS IS INITIALIZED
TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>
```

- Messages filtered for Jobname TSO. Some here from archive. Note pink time, upper right

As many filters as you want

```

CNMKCZLG          Specify Canzlog Filters

From:      '_05/29/11 04:00:00'          To:      '06/06/11 04:00:00'

Tag:
Jobname:   JES2                          MSGID:
ASID:
Console:
Domain:
AutoTok:
AuthUser:
Opid:
UCHARS:
CHKey:
WTOKey:
Text - case sensitive; faster search:
Text - case insensitive; slower search:
Name:      Remark:

TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>
  
```

- Here we filter on Jobname JES2 **AND** for Descriptor code one in a time range

So – just two Desc code 1 items from JES?



```
Canzlog FROM='05/29/11 04:00:00',TO='06/06/11 04 05/29/11 04:14:08 -- 04:14:27
04:14:08 $HASP623 MEMBER DRAINING. $P Cmd entered. CCO investigate IMMEDIATELY
04:14:27 $HASP623 MEMBER DRAINING. $P Cmd entered. CCO investigate IMMEDIATELY
*----- Bottom of Data -----*
```

- Results pick up two \$HASP623 messages with Desc Code of one.
- Times and dates can be entered in short form, too.



Data with “this” or “that” or “t’other”

```
CNMKCZLG          Specify Canzlog Filters

From:      '05/29/11 04:00:00'          To:      '06/06/11 04:00:00'

Tag:      _____          MSGID:      IEF403I IEF404I
Jobname:   TSO PDSMAN VTAM          Jobid:      _____
ASID:      _____          ASType:     _____
Console:   _____          Route Code:  _____
Domain:    _____          System ID:   _____
AutoTok:   _____          Desc Code:   _____
AuthUser:  _____          AuthGroup:  _____
Opid:      _____
UCHARS:    _____
CHKey:     _____
WTOKey:    _____
Text - case sensitive; faster search:
Text - case insensitive; slower search:
Name:      _____          Remark:     _____
```

NOT (→)
available, too.

- OR condition for more than one value

In a flash: relationship between events

```
Canzlog FROM='05/29/11 04:00:00',TO='06/06/11 04 05/29/11 04:10:10 -- 10:34:52
04:10:10 IEF404I TSO - ENDED - TIME=04.10.10
04:10:28 IEF404I PDSMANDB - ENDED - TIME=04.10.28
04:11:04 IEF404I PDSMAN - ENDED - TIME=04.11.04
04:13:54 IEF404I VTAM - ENDED - TIME=04.13.54
21:11:48 IEF403I VTAM - STARTED - TIME=21.11.48
21:11:55 IEF403I TSO - STARTED - TIME=21.11.55
04:10:10 IEF404I TSO - ENDED - TIME=04.10.10
04:14:13 IEF404I VTAM - ENDED - TIME=04.14.13
10:34:44 IEF403I VTAM - STARTED - TIME=10.34.44
10:34:52 IEF403I TSO - STARTED - TIME=10.34.52
*----- Bottom of Data -----*

TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>
```

- Results show all the IEF403I and IEF404I messages for all three jobs during that time frame.

“I use certain filters often” (oh, goody)

```

CINCOZLG          Specify Canzlog Filters

From:             '06/01/11 00:00:01'          To:             '06/07/11 00:00:01'
Tag:              _____
Jobname:          _____
ASID:             _____
Console:         _____
Domain:          _____
AutoTok:         _____
AuthUser:        _____
Opid:            _____
UCHARS:          _____
CHKey:           _____
WTOKey:          _____
Text - case sensitive; faster search:
_____
Text - case insensitive; slower search:
_____
Name:             ALL571I          Remark:         ALL AOF571I MSGS FROM 06/01-06/07/11

TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==> SAVE TASK _
  
```

- TASK operand means filter available to this oper only.

Your filter combo saved (for a while)

```
Text - case insensitive; slower search:
Name:      ALL571I      Remark:      ALL AOF571I MSGS FROM 06/01-06/07/11
DWO091I ALL571I received. No operator data set defined for DSIOPEN.
CMD==>
```

- Result of SAVE: no DSIOPEN operator dataset, so ALL571I filter discarded when operator logs off.
 - Until then, this operator can issue “BR ALL571I”, return to same browse session
 - Alt: BR ALL57II OPERID=AUTO1
 - Gives subset of ALL57II issued by AUTO1
 - Many other filter options

Quickly, subsystem status? BROWSE ALL571I



```
Canzlog ALL571I ALL AOF571I MSGS FROM 06/01-06/07 06/06/11 00:04:33 -- 00:05:35
00:04:33 AOF571I 00:04:33 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
      ACTIVE - ACTIVE MESSAGE RECEIVED
00:04:33 AOF571I 00:04:33 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS ACTIV
00:04:33 AOF571I 00:04:33 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
      ABENDING - SUBSYSTEM HAS SUFFERED A RECOVERABLE ERROR
00:04:33 AOF571I 00:04:33 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS ABEND
00:04:34 AOF571I 00:04:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
      RESTART - RESTARTING AFTER A RECOVERABLE ERROR
00:04:34 AOF571I 00:04:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS RESTA
00:04:34 AOF571I 00:04:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
      STARTED - STARTUP FOR OSSDSLOG/APL/1P54 IN PROGRESS
00:04:34 AOF571I 00:04:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS START
00:05:34 AOF571I 00:05:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
      ACTIVE - ACTIVE MESSAGE RECEIVED
00:05:34 AOF571I 00:05:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS ACTIV
00:05:34 AOF571I 00:05:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
      ABENDING - SUBSYSTEM HAS SUFFERED A RECOVERABLE ERROR
00:05:34 AOF571I 00:05:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS ABEND
00:05:35 AOF571I 00:05:35 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
      BROKEN - ABENDED, CRITICAL THRESHOLD EXCEEDED
00:05:35 AOF571I 00:05:35 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS BROKE
TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==> _
```

- Commands like FIND, BACK, TOP respect filter



But, *ALL* my people use these filters...

```
CNMKCZLG Specify Canzlog Filters
From:      '06/01/11 00:00:01'      To:      '06/07/11 00:00:01'
Tag:
Jobname:
ASID:
Console:
Domain:
AutoTok:
AuthUser:
Opid:
UCHARS:
CHKey:
WTOKey:
Text - case sensitive; faster search:
Text - case insensitive; slower search:
Name:      ALL571I      Remark:   ALL AOF571I MSGS FROM 06/01-06/07/11
TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==> SAVE COMMON_
```

Authorization required

COMMON option means all operators see/use filter.

Choose from these filters: LIST CZFILTER



```
Bank of America SA z/OS Tivoli NetView A1P54 NBTZVY6
* A1P54 LIST CZFILTER
' A1P54
CANZLOG FILTERS
Task
ALL571I ALL AOF571I MSGS FROM 06/01-06/07/11
Common
NETLOG Similar to old NETLOGx
MVSMSGs MVS (z/OS) messages
NVMVS MVS & local NetView messages
NVMSGs Local NetView messages
ACTMSGs Action messages and DOMs
DOMS DOMs
ALL570I testing 570i
ALL196I testing all196i rdc
DALE540 testing dale540
ALL571I ALL AOF571I MSGS FROM 06/01-06/07/11
```

Use directly with
BROWSE or with
DEFAULTS |
OVERRIDE

- Your TASK filters
- All COMMON filters (incl *built in* NETLOG--DOMS)



My named filter isn't *quite* right...

```
CNMKCZLG          Specify Canzlog Filters

From: _____ To: _____
Tag: _____ MSGID: _____
Jobname: _____ Jobid: _____
ASID: _____ ASType: _____
Console: _____ Route Code: _____
Domain: _____ System ID: _____
AutoTok: _____ Desc Code: _____
AuthUser: _____ AuthGroup: _____
Opid: _____
UCHARS: _____
CHKey: _____
WTOKey: _____
Text - case sensitive; faster search: _____
Text - case insensitive; slower search: _____
Name:      ALL571I_ Remark: _____

TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>
```

Enter NAME only to fetch saved filter

- No edits of built-in filters

Filter is displayed – change wanted?

```
CNMKCZLG          Specify Canzlog Filters

From:      '06/01/11 00:00:01'          To:      '06/07/11 00:00:01'

Tag:      _____          MSGID:     AOF571I
Jobname:   _____          Jobid:     _____
ASID:     _____          AStype:   _____
Console:   _____          Route Code: 2_
Domain:    _____          System ID:  _____
AutoTok:   _____          Desc Code:  _____
AuthUser:  _____          AuthGroup:  _____
Opid:      _____
UCHARS:    _____
CHKey:     _____
WTOKey:    _____
Text - case sensitive; faster search:
_____
Text - case insensitive; slower search:
_____

Name:      ALL571I          Remark:    ALL AOF571I MSGS FROM 06/01-06/07/11

TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>
```

[Enter] to just
USE the altered
filter

- Subcommand REPLACE will save changed filter

Where are all those “details” you promised?



```
Canzlog FILTER=ALL571I TAG=(NVMSG,MVSMMSG) 06/06/11 00:04:33 -- 00:05:35
00:04:33 AOF571I 00:04:33 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
ACTIVE - ACTIVE MESSAGE RECEIVED
00:04:33 AOF571I 00:04:33 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS ACTIV
00:04:33 AOF571I 00:04:33 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
ABENDING - SUBSYSTEM HAS SUFFERED A RECOVERABLE ERROR
00:04:33 AOF571I 00:04:33 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS ABEND
00:04:34 AOF571I 00:04:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
RESTART - RESTARTING AFTER A RECOVERABLE ERROR
00:04:34 AOF571I 00:04:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS RESTA
00:04:34 AOF571I 00:04:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
STARTED - STARTUP FOR OSSDSLOG/APL/1P54 IN PROGRESS
00:04:34 AOF571I 00:04:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS START
00:05:34 AOF571I 00:05:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
ACTIVE - ACTIVE MESSAGE RECEIVED
00:05:34 AOF571I 00:05:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS ACTIV
00:05:34 AOF571I 00:05:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
ABENDING - SUBSYSTEM HAS SUFFERED A RECOVERABLE ERROR
00:05:34 AOF571I 00:05:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS ABEND
00:05:35 AOF571I 00:05:35 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS
BROKEN - ABENDED, CRITICAL THRESHOLD EXCEEDED
00:05:35 AOF571I 00:05:35 : OSSDSLOG SUBSYSTEM STATUS FOR JOB OSSDSLOG IS BROKE
TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>
```

Move cursor to a message

- Press ENTER key



Everything you ever wanted to know about the AOF571I message



```
CNMKCZMD OUTPUT FOR AOF571I                                     Time: 06/06/11 00:04:34.579

CzID: 62369 0000F3A1x      AutoTime: none          DomTime: none
JobName: AONETV           DestConsole:           AutoToken:
Tags: MVS
UserTags: none
Flags: MRT, Auth
CHkey: AONETV             SystemID: 1P54         JobID: STC04427
SmsgID: 250042D4x        ASID: 001Ex           DomToken: 00000000x
AStype: S                 AuthUser: AONETV      AuthGroup: STC
Mtype: E (C5x)

DescCodes: 0608 (6, 7, 13)
RouteCodes: 40080000000000000000000000000000
              (2, 13)

AOF571I 00:04:34 : OSSDSLOG SUBSYSTEM STATUS FOR JOB          SLOG IS
STARTED - STARTUP FOR OSSDSLOG/APL/1P54 IN PROGRESS

TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>
```

Not exposed to auto table

- DomTime: none (no DOM matched by NV)
- DescCodes: (6, 7, 13) that you can't get from SYSLOG.
- AStype: S (started task)
- AuthUser: AONETV (from ACEE)



Why did the VARY fail?

```

CNMKCZMD OUTPUT FOR AOSVARYE                               Time: 05/24/11 15:52:35.647
CzID: 16815071 010093DFx   AutoTime: 12 msec               DomTime: none
JobName:                   DestConsole:              AutoToken: SA0#
Tags: MVS
UserTags: none
Flags: MRT, Auth
CHkey: AONETV              SystemID: 1P54          JobID:
SmsgID: 1E00C8A6x         ASID: 001Ex           DomToken: 00000000x
AStype: S                  AuthUser: AONETV      AuthGroup: STC
Mtype: E (C5x)            WTOkey: A1#11000
DescCodes: 4000 (2)
RouteCodes: 000200000000000000000000000000000000
              (15)
AOSVARYE VARY ONLINE UCB(S) 8F6F FAILED
IEE313I 8F6F          UNIT REF. INVALID

TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>
  
```

Seen by Auto Table after 12 millisecs (long?)

- Autotoken: SA0# from MPF or MRT
- wtoKey: A1#11000 from WTO issuer or MRT
- CHKEY = AONETV, stepname
 - Why no jobname?

The 46 Attributes

- ASID Address space ID.
- AStype Indicates how the address space was started
- AuthGroup z/OS ACEE group ID (ACEEGRPN), if available
- AuthUser z/OS ACEE user ID (ACEEUSRI), if available
- AutoTime Milliseconds between issue and submission to automation
- AutoToken z/OS automation token.
- CHkey z/OS CHKEY, from IEECHAIN.
- CzID Canzlog identifier.
- DescCodes z/OS descriptor code.
- DestConsole z/OS destination console name.
- Domain NetView domain name.
- DomTime Seconds between issue and DOM, if applicable.
- DomToken A 4-byte token to identify a Delete Operator Msg
- DOMtype Type of DOM - token, TCB, ASID or SMID
- AMRFnRt AMRF does not retain.
- Auth Issuer was authorized.
- AuthR NetView authorized receiver message (IFRAUAUT)
- Copy NetView copy message (IFRAUCPY).
- MRT Exposed to the Message Revision Table (MRT).
- PPT NetView PPT message (IFRAUPPT).
- Pri NetView primary routing message (IFRAUPRI).
- Suppr Suppressed; message not displayed

The 46 attributes (cont'd)

- Sec NetView secondary routing message (IFRAUSEC).
- Transl NetView translated message (IFRAUNLM).
- JobID Identifier assigned by JES, AKA job number.
- JobName z/OS job name.
- MsgTime For some DOMs, the local time of the associated message
- MsgsMatch For some the number of messages matched by NetView.
- Mtype The NetView program's HDRMTYPE
- OperID NetView task/operator name.
- ReplyID Reply ID at the start of a WTOR.
- RouteCodes z/OS route codes.
- SmsgID System message ID. For DOMS, multiples
- SystemID z/OS system ID.
- Audit For audit purposes, such as internal commands.
- Bcast z/OS broadcast to active consoles applies.
- CmdEcho Command echo.
- Del Message was requested to be deleted.
- DOMexp Issuer promised a DOM.
- MVS Logged at the z/OS subsystem interface.
- NV Originated in the NetView program.
- Trace Intended for tracing purposes, such as debug messages.
- TCbaddr Task Control Block (TCB) address.
- Time Associated date and time.
- Uchars User-defined or installation-defined characters.
- WTOkey Key field from the WTO macro, WQEKEY

This “automatic” Canzlog archive: what is it?



- One primary index data set, a fixed record length and blocked sequential data set that describes the index data sets in the archive
The primary index contains one 80-byte record for each index data set created in the archive.
- Index data sets, fixed record length and blocked sequential data sets containing records describing message data sets in the archive.
An index data set contains no more than 4096 80-byte records. Each record describes one message data set.
- Message (data) data sets, fixed record length and blocked sequential data sets containing raw Canzlog data.
8 megs each, readable only within NetView



All your prep for Canzlog Archive: Style Statement “Archive.”



- The statements in this section determine whether this instance of NetView is to save Canzlog data to an archive
- Provides the necessary information for creating or updating the archive.
- Archiving is done from only one NetView instance per LPAR.
- All subject to RESTYLE except data space count

Few Archive statements really needed...

```
styleMsg = AOS0000I CNMSTYLE setting Canzlog  
ARCHIVE.HLQ = SYS3.SA.C&DOMAIN  
ARCHIVE.WRITE = Yes  
ARCHIVE.BROWSE.DATASPACES = 2
```

In this slide we have a comment and three Archive Style sheet statement settings for the CANZLOG function.

The first statement is setting the High level qualifier for the archives.

The second setting is saying yes I want to write out the Canzlog data.

The third setting provides the maximum number of data spaces that the NetView program will use for browsing archived Canzlog data. The default value is 1.

Other Archive statements you should consider

ARCHIVE.MESSAGE.DATACLAS = data_class_name or *NONE*

ARCHIVE.MESSAGE.STORCLAS = storage_class_name or *NONE*

ARCHIVE.MESSAGE.MGMTCLAS = management_class_name

ARCHIVE.MESSAGE.VOLUMES = volser1 volser2 ... volser10

ARCHIVE.MESSAGE.UNIT = unit_name

ARCHIVE.MESSAGE.BLOCKSIZE = nnnnn

ARCHIVE.MESSAGE.SPACE = units primary secondary

ARCHIVE.INDEX.DATACLAS = data_class_name or *NONE*

ARCHIVE.INDEX.STORCLAS = storage_class_name or *NONE*

In our shop, SMS management automatically changed whatever SMS allocation functions I tried like STORCLASS & DATACLASS in the style sheet.

The action of your ARCHIVE statements

- Once you add the Archive statements to your CNMSTYLE, use RESTYLE or recycle NetView proc and the following datasets will automatically be allocated:

SYS3.SA.CAsysid.DXyymmdd.HRhh

SYS3.SA.CAsysid.NV.CANZLOG.INDEX

Note: User selected HLQ shown in green.

Note: date/hour in index name is UTC

These two datasets will have the following attributes:

- Record format . . . : FB
- Record length . . . : 80
- Block size : 27920 (user selectable)

What happens at NetView Close?

- About 240 to 280 thousand messages unwritten to allow updates
- NetView writes this back-log to the archive only when the NetView that has the archiving duty goes down.

Example:

DSI017I CLOSE COMMAND ACCEPTED

IEF196I IGD101I SMS ALLOCATED TO DDNAME (CANZLOG)

IEF196I DSN (**SYS3.SA.CA1P54.CZ110608.T182709**)

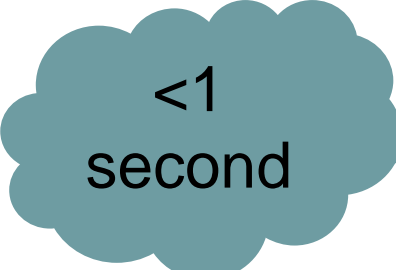
IEF196I STORCLAS (SYS1000) MGMTCLAS (MCNACT) DATACLAS (ADDDSORG)

IEF196I VOL SER NOS= 5P0S02

IEF196I IGD104I SYS3.SA.CA1P54.CZ110608.T182709 RETAINED,

IEF196I DDNAME=CANZLOG

IEF196I IGD103I SMS ALLOCATED TO DDNAME SYS01062



<1
second

The TSO view of you Archive

```

Menu  Options  View  Utilities  Compilers  Help
-----
DSLISL - Data Sets Matching SYS3.SA.CA1P54*          Row 1 of 12
Command ===> _                                     Scroll ===> PAGE

Command - Enter "/" to select action                Message                Volume
-----
SYS3.SA.CA1P54.CZ110523.T215249                    5POS02
SYS3.SA.CA1P54.CZ110526.T201541                    5POS02
SYS3.SA.CA1P54.CZ110529.T210952                    5POS01
SYS3.SA.CA1P54.CZ110531.T153822                    5PDS01
SYS3.SA.CA1P54.CZ110601.T153740                    5POS01
SYS3.SA.CA1P54.CZ110602.T152200                    5POS01
SYS3.SA.CA1P54.CZ110605.T103300                    5POS02
SYS3.SA.CA1P54.CZ110606.T133430                    5POS01
SYS3.SA.CA1P54.CZ110608.T181556                    5POS02
SYS3.SA.CA1P54.CZ110608.T182709                    5POS02
SYS3.SA.CA1P54.DX110209.HR21                       5POS01
SYS3.SA.CA1P54.NV.CANZLOG.INDEX                    5POS02
***** End of Data Set list *****

```

All times are UTC

- Datasets contain raw Canzlog data. Not readable in TSO. The only way to view the data is from NetView BROWSE or output from REXX/pipe API

What is happening in CANZLOG?

```
Bank of America SA z/OS Tivoli NetView A1P54 NBTZVY6 06/09/11
* A1P54 LIST STATUS=CANZLOG
' A1P54
CNM600I Canzlog status: Active
Total messages, this IPL: 74796
Average Message Rate, prior minute: 46
Data available from 05/23/11 21:52:49 at HLQ=SYS3.SA.CA1P54
For system 1P54 archiving running at subsystem AONE
-----
```

- Command gives information on Canzlog such as: is it active? How many total messages since the IPL, which NetView is archiving, and the date and timestamp the data is available from.

User experience of...

Bank of America



- Questions?