

Problem Solving with Consolidated Logs

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Session 11896

Tivoli® System z® Sessions at SHARE

Monday

11:00	11207: Automating Your IMSplex with System Automation for z/OS®	Platinum 7
1:30	11832: What's New with Tivoli System Automation for z/OS	Elite 1
1:30	11896: Problem Solving with Consolidated Logs	Grand Salon A
3:00	11886: Improve Service Levels with Enhanced Data Analysis	Elite 1

Tuesday

9:30	11792: What's New with System z Monitoring with OMEGAMON®	Elite 1
11:00	11791: Tuning Tips to Lower Costs with OMEGAMON Monitoring	Platinum 8
1:30	11900: Understanding Impact of Network on z/OS Performance	Grand Salon A

Wednesday

9:30	11835: Automated Shutdowns Using Either SA for z/OS or GDPS®	Elite 1
1:30	11479: Predictive Analytics and IT Service Management	Grand Salon E/F
1:30	11899: Top 10 Tips for Network Perf. Monitoring w/ OMEGAMON	Platinum 9
4:30	11836: Save z/OS Software License Costs with TADz	Elite 1

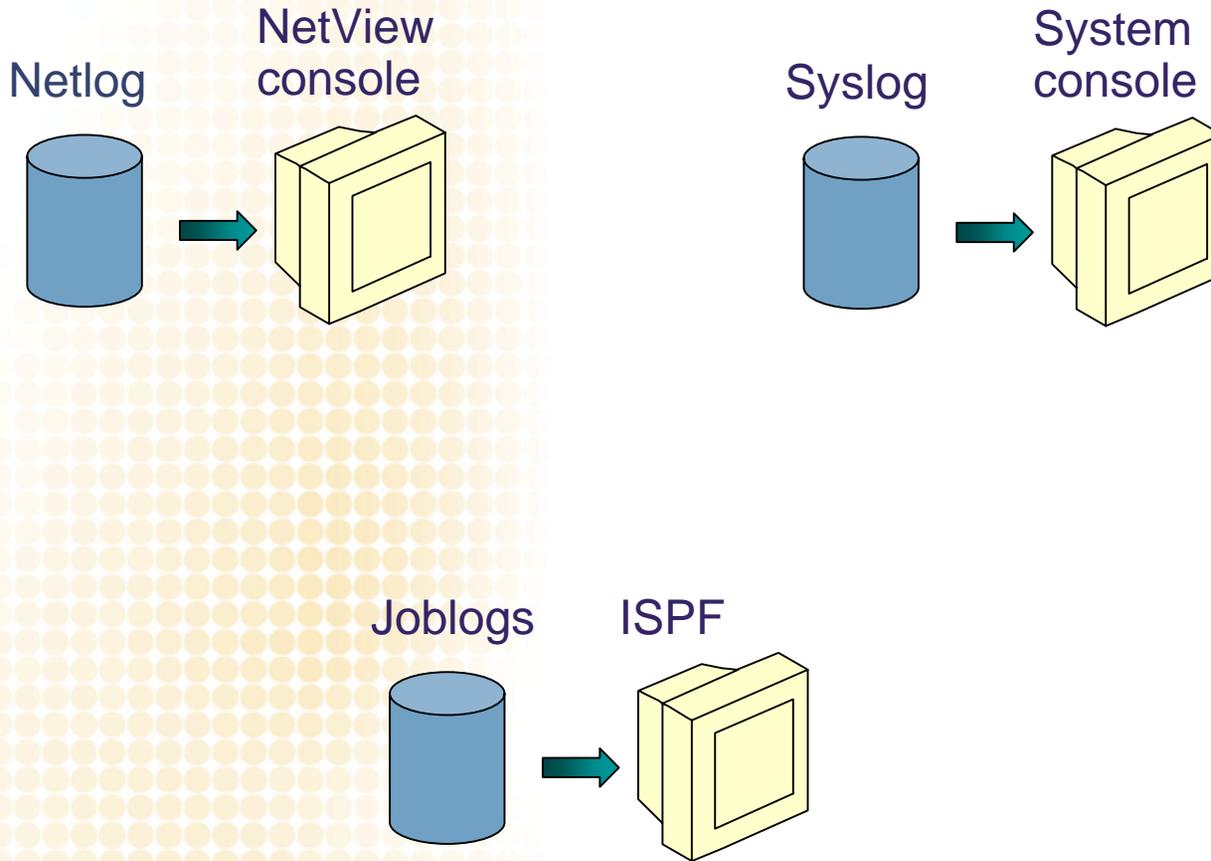
Thursday

8:00	11887: Learn How to Implement Cloud on System z	Grand Salon E/F
9:30	11905: Using NetView® for z/OS for Enterprise-Wide Mgmt and Auto	Grand Salon A
11:00	11909: Get Up and Running with NetView IP Management	Grand Salon A

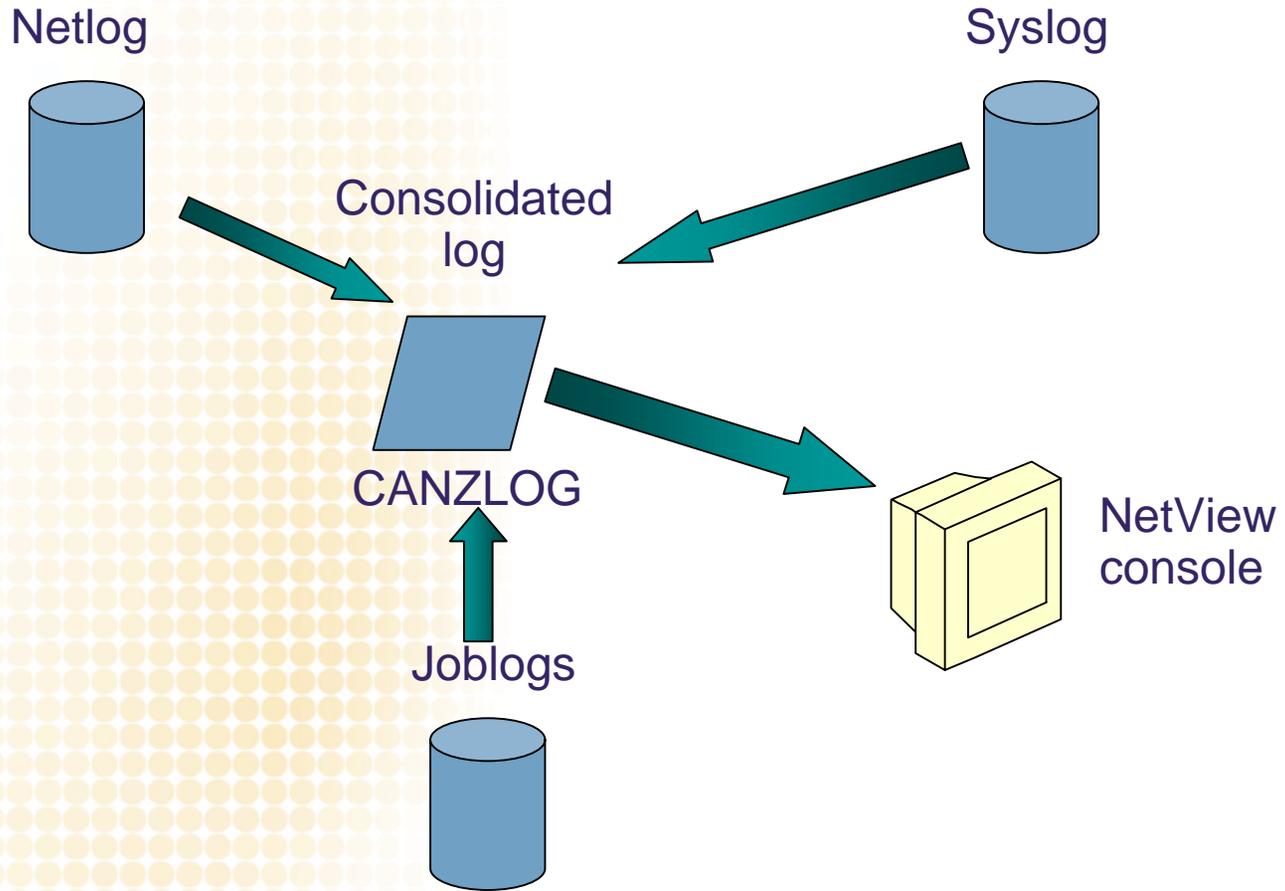
Friday

9:30	11630: Getting Started with URM APIs for Monitoring & Discovery	Elite 1
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Browsing Logs Prior to NetView V6.1



Log Browse with NetView V6.1



CANZLOG = Consolidated Audit, NetView and z/OS LOG

Highlights

- Existing netlog and all UIs are preserved unchanged
- New dataspace to capture messages
 - Includes the usual NetView messages
 - Provides basis for browsing
 - All messages are available to automation
- Browse consolidated log
 - Filter by any message attribute or combination: msgID, jobname, route code, etc.
 - Define your own message attributes
 - Define and save sets of filter criteria, per operator or installation-wide
- Seamless archiving
- Share with IBM Service

Canzlog components to be aware of

- During IPL, 2GB data space created
 - But APAR OA38553 for TINYDS: limits data space to 500 MB
- NetView SSI exit inserts system messages
- NetView standard logging inserts NetView messages
- One NetView instance per LPAR writes archives
- 3270 interface from BROWSE command
- REXX / Pipe API available

Browsing the log: **BROWSE** command

1. Command: **BROWSE CANZLOG**

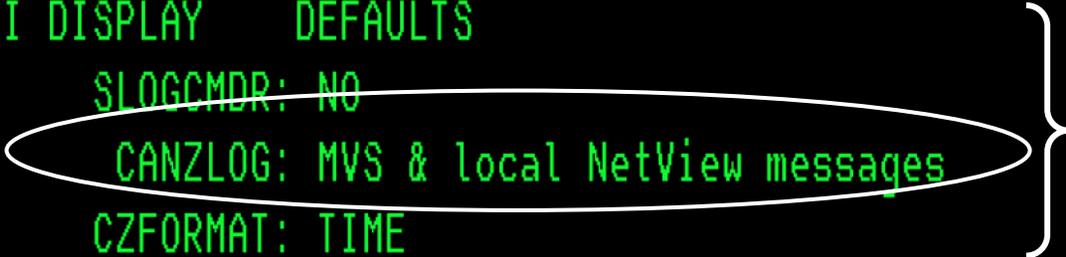
- no filtering occurs except for those filters specified with the **BROWSE** command.

Browsing the log: BROWSE command

2. Command: BROWSE LOG (PF5)

- “LOG” means “use DEFAULTS/OVERRIDE settings”
- DEFAULTS command selects standard view of the log

```
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

Browsing the log: BROWSE LOG command

```
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 EEL002
          IST1430I REASON FOR INOP IS XID OR LDLC COMMAND TIMEOUT
          IST314I  END
15:21:09 IST259I INOP RECEIVED FOR NMP130 CODE = 01
15:21:09 IST493I SOFT INOP FOR ID = NMP130 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 EEL000
          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 SET 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
```

CMD==>

Browsing the log: BROWSE LOG command

```
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 NMP130 CODE = 01
15:20:07 IST493I VARY DIAL FOR ID = NMP130 OVERIDDEN BY SOFT INOP
15:20:07 IST619I ID = NMP130 FAILED - RECOVERY IN PROGRESS
15:21:09 IST1411I INOP GENERATED FOR EEL002
          IST1430I REASON FOR INOP IS XID OR LDLC COMMAND TIMEOUT
          IST314I  END
15:21:09 IST259I INOP RECEIVED FOR NMP130 CODE = 01
15:21:09 IST493I SOFT INOP FOR ID = NMP130 OVERIDDEN 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 EEL000
          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 OVERIDDEN BY SOFT INOP
15:21:09 IST619I ID = NMP181 FAILED - RECOVERY IN PROGRESS
15:21:09 IST590I CONNECTOUT FAILED FOR PU NMP181 ON LINE EEL002
15:21:09 IST621I RECOVERY SUCCESSFUL FOR NETWORK RESOURCE NMP181
15:26:29 BNH067I SYSPLEX MASTER IN GROUP DSIPLX01 SET TO NT
15:26:29 DSI047E CNMEERSC failed: DISCOVERY not enabled.
15:26:29 DSI201I TIMER REQUEST SCHEDULED FOR EXECUTION 'ID=X
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==>
```

Filters

Timeframe

Additional info on selected message via F9 or WHENCE command

Browsing the log: CANZLOG command

```
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 'DISPEK'
CMD==>

M&  A  03/013
```

Filter to see only the data that's of interest

Browsing the log: CANZLOG command

```
Canzlog TAG= (NVMSG, MVSMSG, DOM) 02/29/12 14:55:55 -- 14:57:54
14:55:55 DSI020I You logged on, LARRY You're at NT7EL703 and I'm doing (DSIPROF
14:55:55 LOGPROF1
14:55:55 DSI083I You gotta hit enter for the *** now, Bud.
14:55:55 CNM357I PFKDEF : PF KEY SETTINGS NOW ESTABLISHED. 'DISPFK' TO SEE YOUR
14:55:55 HOLD
14:56:40 canzlog
14:57:53 EZA0P50I TCPIP STATUS REPORT 613
COUNT TCPIP NAME VERSION STATUS
-----
1 TCPIP CS V1R12 ACTIVE
*** END TCPIP STATUS REPORT ***
14:57:53 EZA0P41I 'DISPLAY TCPIP' COMMAND COMPLETED SUCCESSFULLY
14:57:53 DOM TCB
14:57:54 EZA0P50I TCPIP STATUS REPORT 616
COUNT TCPIP NAME VERSION STATUS
-----
1 TCPIP CS V1R12 ACTIVE
*** END TCPIP STATUS REPORT ***
14:57:54 EZA0P41I 'DISPLAY TCPIP' COMMAND COMPLETED SUCCESSFULLY
14:57:54 DOM TCB
14:57:54 CNM493I CNMSDVDS : #0000025 : CNMEDVSV AUTO DSIIF004I DVSTAT PLEX1 02/
CMD==>
MA A 24/009
```

Default filters

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

CANZLOG panel – msgID and time range

```
CNMKCZLG          Specify Canzlog Filters
From:      '02/20/12 04:00:00'          To:      '02/25/12 04:00:00'
Tag: _____          MSGID:      CNM217I_
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==>
Mâ  A                                     05/061
```

- Filtering on CNM217I, with time range

Messages meeting criteria

```
Canzlog FROM='02/20/12 04:00:00',TO='02/25/12 04 02/24/12 08:55:06 -- 18:25:16
08:55:06 CNM217I NetView Program to Program Interface is inactive
09:25:07 CNM217I NetView Program to Program Interface is inactive
09:55:07 CNM217I NetView Program to Program Interface is inactive
10:25:08 CNM217I NetView Program to Program Interface is inactive
10:55:08 CNM217I NetView Program to Program Interface is inactive
11:25:09 CNM217I NetView Program to Program Interface is inactive
11:55:09 CNM217I NetView Program to Program Interface is inactive
12:25:10 CNM217I NetView Program to Program Interface is inactive
12:55:10 CNM217I NetView Program to Program Interface is inactive
13:25:11 CNM217I NetView Program to Program Interface is inactive
13:55:12 CNM217I NetView Program to Program Interface is inactive
14:25:12 CNM217I NetView Program to Program Interface is inactive
14:55:13 CNM217I NetView Program to Program Interface is inactive
15:25:13 CNM217I NetView Program to Program Interface is inactive
15:55:14 CNM217I NetView Program to Program Interface is inactive
16:25:14 CNM217I NetView Program to Program Interface is inactive
16:55:15 CNM217I NetView Program to Program Interface is inactive
17:15:55 CNM217I NetView Program to Program Interface is inactive
17:25:15 CNM217I NetView Program to Program Interface is inactive
17:55:15 CNM217I NetView Program to Program Interface is inactive
18:25:16 CNM217I NetView Program to Program Interface is inactive

CMD==> _
MA A 24/009
```

Filters make 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==>
```

Using Canzlog to filter messages associated with jobname "TSO"

- Alternative from command line: BROWSE CANZLOG JOBNAME=TSO

Browsing a “joblog”

```
Canzlog JOBNAME= tso TAG= (NVMSG,MVMSG) 05/30/12 15:18:54 -- 09:47:38
15:18:54 IKT005I TCAS IS INITIALIZED
15:29:27 LOGON
16:14:21 LOGON
11:03:14 LOGON
09:49:49 LOGON
19:31:49 LOGON
09:25:03 LOGON
09:44:09 $HASP100 TSO ON STCINRDR
09:44:09 IEF695I START TSO WITH JOBNAME TSO IS ASSIGNED TO USER IBMUS
09:44:09 $HASP373 TSO STARTED
09:44:09 IEF403I I started TSO fer ya. It is TIME=09.44.09. If not it is -.
09:44:09 IKT007I TCAS ACCEPTING LOGONS
09:44:09 IKT005I TCAS IS INITIALIZED
09:45:23 LOGON
09:47:16 $HASP100 TSO ON STCINRDR
09:47:16 IEF695I START TSO WITH JOBNAME TSO IS ASSIGNED TO USER IBMUS
09:47:16 $HASP373 TSO STARTED
09:47:16 IEF403I I started TSO fer ya. It is TIME=09.47.16. If not it is -.
09:47:16 IKT007I TCAS ACCEPTING LOGONS
09:47:16 IKT005I TCAS IS INITIALIZED
09:47:38 LOGON

CMD==>
M A 24/009
```

Messages filtered for jobname “TSO”.

As many filter criteria as you want

```
CNMKCZLG          Specify Canzlog Filters

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

Tag:      _____          MSGID:      _____
Jobname:  JES2                    Jobid:      _____
ASID:     _____          ASType:     _____
Console:  _____          Route Code: _____
Domain:   _____          System ID:  _____
AutoTok:  _____          Desc Code:  1
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 job named “JES2” with descriptor code 1 in a time range.

As many filter criteria as you want

```
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 find 2 \$HASP623 messages with Descriptor Code 1.

Filter for one thing, or another

```
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:   _____
```

- OR condition for more than one value
- NOT (¬) also available

Data with one thing, or another

```
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 any of the 3 jobs during that time frame.

“I use certain filters frequently”

```
CNMKCZLG          Specify Canzlog Filters

From:      '02/20/12 04:00:00'      To:      '2/25/12 04:00:00'
Tag:      _____      MSGID:      IEF352I
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:      ALL352I_      Remark:    ALL IEF352I MSGS FROM 02/20-02/24/12_

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

Mâ  A 24/018
```

- TASK operand means the filter is available to this operator only: “private” filters.

Your filter criteria saved (for a while)

Text - case insensitive; slower search:

Name: **ALL352I** Remark: **ALL IEF352I MSGS FROM 02/20-02/24/12**

```
DW0091I ALL352I received. No operator data set defined for DSIOPEN.  
CMD==>
```

- Result of SAVE: no DSIOPEN operator dataset, so ALL352I filter is discarded when operator logs off.
 - Until then, this operator can issue “BR ALL352I”, return to same browse session
 - Alternative: BROWSE ALL352I OPERID=AUTO1
 - Finds the subset of ALL352I issued by AUTO1
 - Many other options

BROWSE ALL352I

```
Canzlog ALL352I ALL IEF352I MSGS FROM 02/20-02/24 02/22/12 15:24:44 -- 15:24:44
15:24:44 IEF352I ADDRESS SPACE UNAVAILABLE
*----- Bottom of Data -----*

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

Mâ A 24/009
```

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==> _
```

- Navigation commands (FIND, BACK, TOP, etc.) respect the 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
```

- COMMON operand
 - means all operators can see/use this filter: “public” filters
 - requires authorization

What filters are defined? LIST CZFILTER

```

NetView V6R2 - 7E          Tivoli NetView  NTV7E LARRY_ 02/28/12 16:43:54
T SYSID  ORIGIN
' NTV7E  LARRY
CANZLOG FILTERS
Task
ALL352I  ALL IEF352I MSGS FROM 02/20-02/24/12
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
HISTORY  IPL
-----
=X= ***

```

Use directly with BROWSE or with DEFAULTS | OVERRIDE

- Your TASK filters
- All COMMON filters (including built-ins: NETLOG thru DOMS)

“I need to tweak my named filter ...”

```
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:
      all352i

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

MB  A
```

Enter name only to fetch saved filter

- No edits of built-in filters

Filter is displayed – now edit

```
CNMKCZLG          Specify Canzlog Filters
From:      '02/20/12 04:00:00'      To:      '02/25/12 04:00:00'
Tag:      _____      MSGID:      IEF352I
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:      ALL352I      Remark:      ALL IEF352I MSGS FROM 2/20-2/25/12
TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
CMD==>
Mâ A
```

[ENTER] to just use the altered filter

- Subcommand REPLACE will save changed filter

Message details?

```
Canzlog ALL352I ALL IEF352I MSGS FROM 2/20-2/25/1 02/22/12 15:24:44 -- 15:24:44
15:24:44 IEF352I ADDRESS SPACE UNAVAILABLE
*----- Bottom of Data -----*
```

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

M& A 02/011

Move cursor to a message.
Press ENTER.

Message with long text

```
CNMKCZMD OUTPUT FOR IEF695I                               Time: 07/11/12 10:47:01.879
CzID: 16858987 01013F6Bx   AutoTime: 1 msec           DomTime: none
JobName: T620EENV         DestConsole:         AutoToken:
Tags: MVSMSG
Flags: MRT, Suppr, Auth
CHkey: NV                 SystemID: NMPIPL02   JobID: STC01088
MsgID: 00000D1Cx         ASID: 001Cx         DomToken: 00000000x
AStype: S                 AuthUser: IBMUSER   AuthGroup: SYS1
Mtype: E (C5x)

DescCodes: 0400 (6)
RouteCodes: 002000000000000000000000000000000000
              (11)

IEF695I START T620EENV WITH JOBNAME T620EENV IS ASSIGNED TO USER IBMUSER , GROU

Text truncated, enter SHOWTEXT (PF2) to view
CMD==> _
MA A
```

Full text of truncated message

```
CNMKWIN Full message text, CzID=+16858987 from 0 in 2
*-----*
IEF695I START T620EENV WITH JOBNAME T620EENV IS ASSIGNED TO USER IBMUSER ,
GROUP SYS1
*-----*

CMD==> _
Mâ A 24/009
```

Attributes reported

- 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 from 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).

Attributes reported (cont.)

- Pri: NetView primary routing message (IFRAUPRI).
- Suppr: suppressed; message not displayed
- 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.

Attributes reported (cont.)

- 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

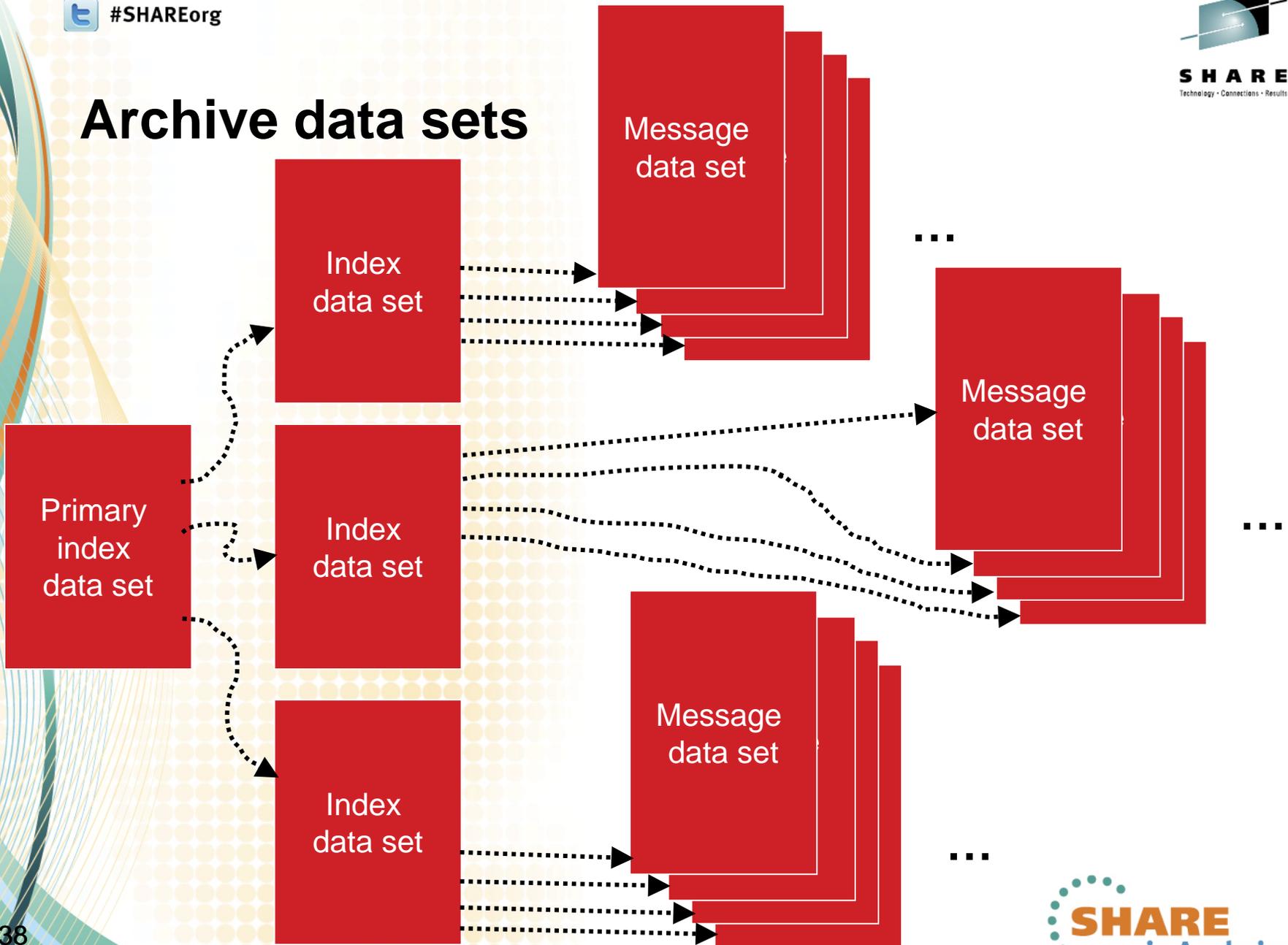
Other ways to browse the Canzlog

- **BROWSE <named filter>**
 - <named filter> can be any of the named filters provided by NetView or created by the user
- **BROWSE <named filter> <any text> FROM <date/time> TO <date/time>**
 - Use filters in combination

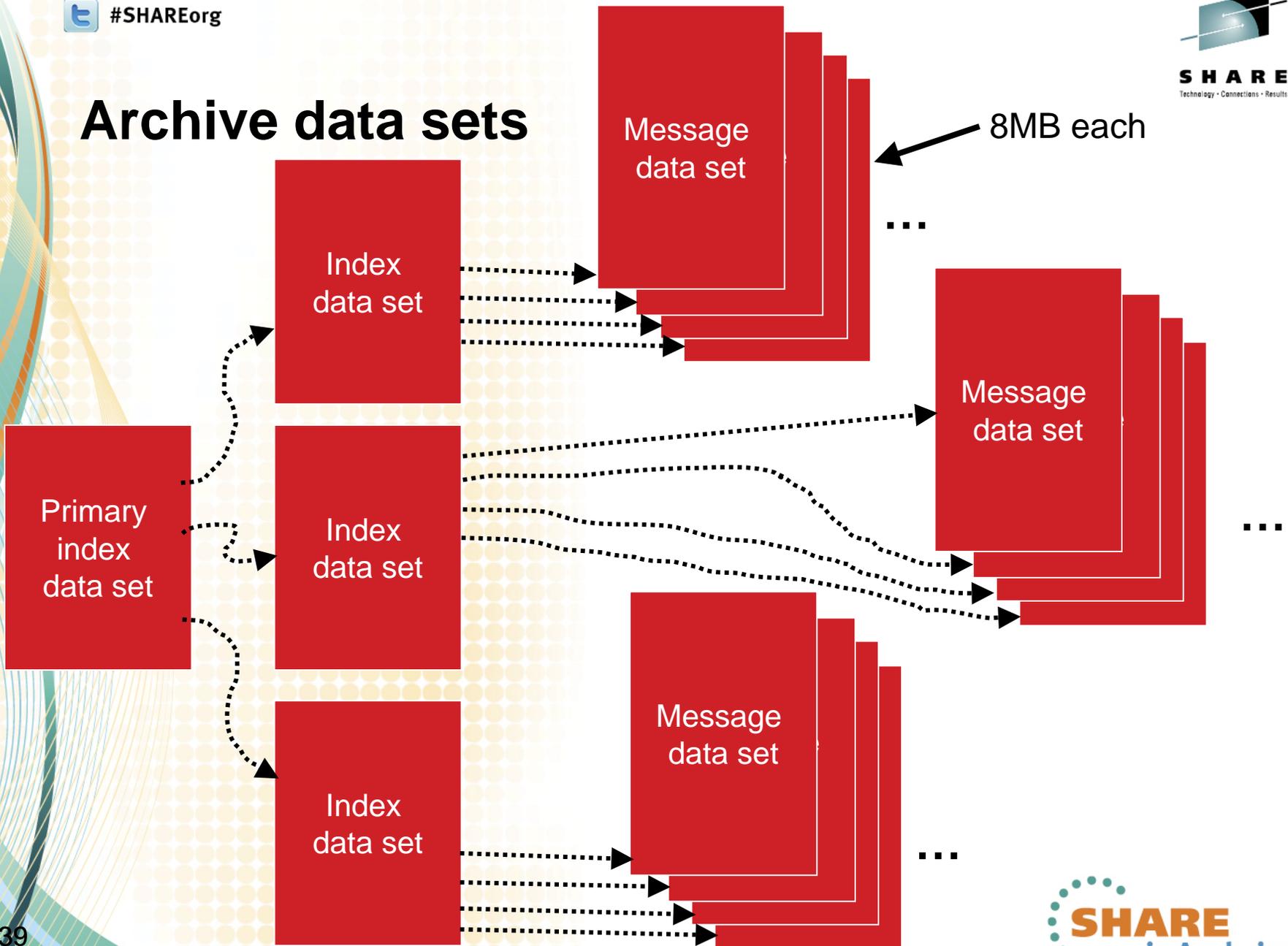
Canzlog Archive

- One primary index data set
 - Fixed record length and blocked sequential data set
 - Describes the index data sets in the archive.
 - 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
 - Contain records describing message data sets in the archive.
 - Each 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
 - Contain raw Canzlog data.
 - 8 MB each, reachable only within NetView.

Archive data sets



Archive data sets



Archive data sets

Primary index data set

Index data set

Index data set

Index data set

Message data set

Message data set

Message data set

Up to 4096 Message data sets per Index data set

Only a few Archive statements really needed

```
styleMsg = AOS0000I CNMSTYLE setting  
Canzlog
```

```
ARCHIVE.HLQ = <high-level qualifier>
```

```
ARCHIVE.WRITE = Yes
```

```
ARCHIVE.BROWSE.DATASPACE = 1
```

- Here, a message definition and 3 Archive stylesheet statements for CANZLOG.

Only a few Archive statements really needed

```
styleMsg = AOS0000I CNMSTYLE setting  
Canzlog
```

→ `ARCHIVE.HLQ = <high-level qualifier>`

```
ARCHIVE.WRITE = Yes
```

```
ARCHIVE.BROWSE.DATASPACE = 1
```

- Here, a message definition and 3 Archive style sheet statements for CANZLOG.
- First statement sets high-level qualifier for the archives.

Only a few Archive statements really needed

```
styleMsg = AOS0000I CNMSTYLE setting  
Canzlog
```

→

```
ARCHIVE.HLQ = <high-level qualifier>
```

```
ARCHIVE.WRITE = Yes
```

```
ARCHIVE.BROWSE.DATASPACE = 1
```

- Here, a message definition and 3 Archive style sheet statements for CANZLOG.
- First statement sets the high-level qualifier for the archives.
- Second says “yes, I want to write out the Canzlog data.”

Only a few Archive statements really needed

```
styleMsg = AOS0000I CNMSTYLE setting Canzlog
```

```
ARCHIVE.HLQ = <high-level qualifier>
```

```
ARCHIVE.WRITE = Yes
```

 `ARCHIVE.BROWSE.DATASPACE = 1`

- Here, a message definition and 3 Archive style sheet statements for CANZLOG.
- First statement sets the high-level qualifier for the archives.
- Second says “yes, I want to write out the Canzlog data.”
- Third indicates max number of data spaces NetView will use for browsing archived Canzlog data. Default value is 1.

Other Archive statements to 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

And similar statements for ARCHIVE .INDEX .

The action of your ARCHIVE statements

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

<user-definedHLQ>.DXyymmdd.HRhh

<user-definedHLQ>.NV.CANZLOG.INDEX

Note: date/hour are in UTC

- These datasets will have the following attributes:
 - Record format: FB
 - Record length: 80
 - Block size: 27920 (user selectable)

What happens at NetView close?

- About 240K – 280K messages are unwritten to allow updates
- NetView writes this backlog to the archive only when the NetView with archiving duty goes down.
- Example:

<1 second

```
DSI017I CLOSE COMMAND ACCEPTED
IEF196I IGD101I SMS ALLOCATED TO DDNAME (CANZLOG )
IEF196I     DSN (SYS1.T1.TSS510.CZ110608.T182709 )
IEF196I     STORCLAS (SYS1000) MGMTCLAS (MCNACT) DATACLAS (ADDDSORG)
IEF196I     VOL SER NOS= ARCH02
IEF196I IGD104I SYS1.T1.TSS510.CZ110608.T182709 RETAINED,
IEF196I DDNAME=CANZLOG
IEF196I IGD103I SMS ALLOCATED TO DDNAME SYS01062
```

The TSO view of your archive

```

Menu  Options  View  Utilities  Compilers  Help
-----
DSLIST - Data Sets Matching SYS1.T1.TSS510*          Row 1 of 12
Command ==> _                                       Scroll ==> PAGE

Command - Enter "/" to select action                Message                Volume
-----
SYS1.T1.TSS510.CZ110523.T215249                    ARCH02
SYS1.T1.TSS510.CZ110526.T201541                    ARCH02
SYS1.T1.TSS510.CZ110529.T210952                    ARCH01
SYS1.T1.TSS510.CZ110531.T153822                    ARCH01
SYS1.T1.TSS510.CZ110601.T153740                    ARCH01
SYS1.T1.TSS510.CZ110602.T152200                    ARCH01
SYS1.T1.TSS510.CZ110605.T103300                    ARCH02
SYS1.T1.TSS510.CZ110606.T133430                    ARCH01
SYS1.T1.TSS510.CZ110608.T181556                    ARCH02
SYS1.T1.TSS510.CZ110608.T182709                    ARCH02
SYS1.T1.TSS510.DX110209.HR21                       ARCH01
SYS1.T1.TSS510.NV.CANZLOG.INDEX                    ARCH02
***** End of Data Set list *****

```

Primary index data set

- 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.

The TSO view of your archive

```

Menu Options View Utilities Compilers Help
-----
DSLIST - Data Sets Matching SYS1.T1.TSS510*          Row 1 of 12
Command ==> _                                       Scroll ==> PAGE

Command - Enter "/" to select action                Message                Volume
-----
SYS1.T1.TSS510.CZ110523.T215249                    ARCH02
SYS1.T1.TSS510.CZ110526.T201541                    ARCH02
SYS1.T1.TSS510.CZ110529.T210952                    ARCH01
SYS1.T1.TSS510.CZ110531.T153822                    ARCH01
SYS1.T1.TSS510.CZ110601.T153740                    ARCH01
SYS1.T1.TSS510.CZ110602.T152200                    ARCH01
SYS1.T1.TSS510.CZ110605.T103300                    ARCH02
SYS1.T1.TSS510.CZ110606.T133430                    ARCH01
SYS1.T1.TSS510.CZ110608.T181556                    ARCH02
SYS1.T1.TSS510.CZ110608.T182709                    ARCH02
SYS1.T1.TSS510.DX110209.HR21                       ARCH01
SYS1.T1.TSS510.NV.CANZLOG.INDEX                    ARCH02
***** End of Data Set list *****

```

Index data set (could be >1)

- 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.

The TSO view of your archive

```

Menu Options View Utilities Compilers Help
-----
DSLIST - Data Sets Matching SYS1.T1.TSS510*          Row 1 of 12
Command ==> _                                       Scroll ==> PAGE

Command - Enter "/" to select action                Message                Volume
-----
SYS1.T1.TSS510.CZ110523.T215249                    ARCH02
SYS1.T1.TSS510.CZ110526.T201541                    ARCH02
SYS1.T1.TSS510.CZ110529.T210952                    ARCH01
SYS1.T1.TSS510.CZ110531.T153822                    ARCH01
SYS1.T1.TSS510.CZ110601.T153740                    ARCH01
SYS1.T1.TSS510.CZ110602.T152200                    1
SYS1.T1.TSS510.CZ110605.T103300                    2
SYS1.T1.TSS510.CZ110606.T133430                    1
SYS1.T1.TSS510.CZ110608.T181556                    ARCH02
SYS1.T1.TSS510.CZ110608.T182709                    ARCH02
SYS1.T1.TSS510.DX110209.HR21                        ARCH01
SYS1.T1.TSS510.NV.CANZLOG.INDEX                    ARCH02
***** End of Data Set list *****

```

Message data sets

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's happening in Canzlog?

```
NetView V6R2 - 7E          Tivoli NetView  NTV7E LARRY   02/28/12 16:48:31
T SYSID      ORIGIN
* NTV7E      LARRY      list status=canzlog
' NTV7E      LARRY
CNM600I Canzlog status: Active
Total messages, this IPL: 4959
Average Message Rate, prior minute: 345
Data available from 03/15/11 14:51:34 at HLQ=TOM
For system NMPIPL02 archiving running at subsystem T620
-----
>>>
M A 23/001
```

- Command provides information on Canzlog, such as:
 - Is it active?
 - How many messages since IPL?
 - What's the message rate?
 - From what date / time is data available?
 - Which NetView is archiving?

Other FAQs about Canzlog

Q: Does Canzlog include suppressed messages? If so, can it be customized to remove them?

A: Suppressed messages ARE included. Even deleted/non-logged messages are included, if they are automatable. No, they cannot be removed.

Q: If the MRT changes a messages, what is displayed in the Canzlog? The “before”? The “after”? Both?

A: For each command echo, an audit record is written prior to MRT processing. All other records are “as modified” after MRT.

Q: Can a Canzlog be exported and sent to IBM Support, like the netlog?

A: Yes, instructions for doing this are included in the Troubleshooting Guide.

Q: If 2 NetViews are running on the same system, do they both feed the Canzlog?

A: Each feeds its own NetView messages. There is only one copy of any given message, with an exception for audit/command echoes.

Q: How does Canzlog handle archives that have been stored on tape? Does it issue a mount request? Does it wait?

A: Canzlog looks only in its internal indexes and on the user-defined HLQ. Data on tape is just missing; I/O errors are generated.

Summary

- CANZLOG brings together syslog, netlog, joblogs
- Very robust, flexible filtering
 - Any message attribute or combination
 - “What happened over the weekend?”
 - “Show me all the IEF123 messages.”
 - “I need to see all the ABC* and DEF* messages from jobs JOB1 and JOB2 during first shift last Tuesday with descriptor code 2.”
 - Scope
 - Common: available to all operators (subject to authorization check)
 - Task: available only to operator who defined them
 - Actions
 - Save: save filter to storage and on disk
 - Replace: replace an existing filter in storage and on disk
 - Delete: delete filter from storage and disk
- Seamless archiving and retrieval
- Export to IBM Service

More Information

- NetView website
<http://www.ibm.com/software/tivoli/products/netview-zos/>
- NetView customer forum
<http://tech.groups.yahoo.com/group/NetView/>
- NetView wiki
<https://www.ibm.com/developerworks/wikis/display/tivolidoccentral/Tivoli+NetView+for+zOS>
- NetView media gallery
<http://www.ibm.com/developerworks/wikis/display/tivolimedialogallery/Tivoli+NetView+for+zOS>

Thank you!

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