

# Problem Solving with Consolidated Logs

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IBM

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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

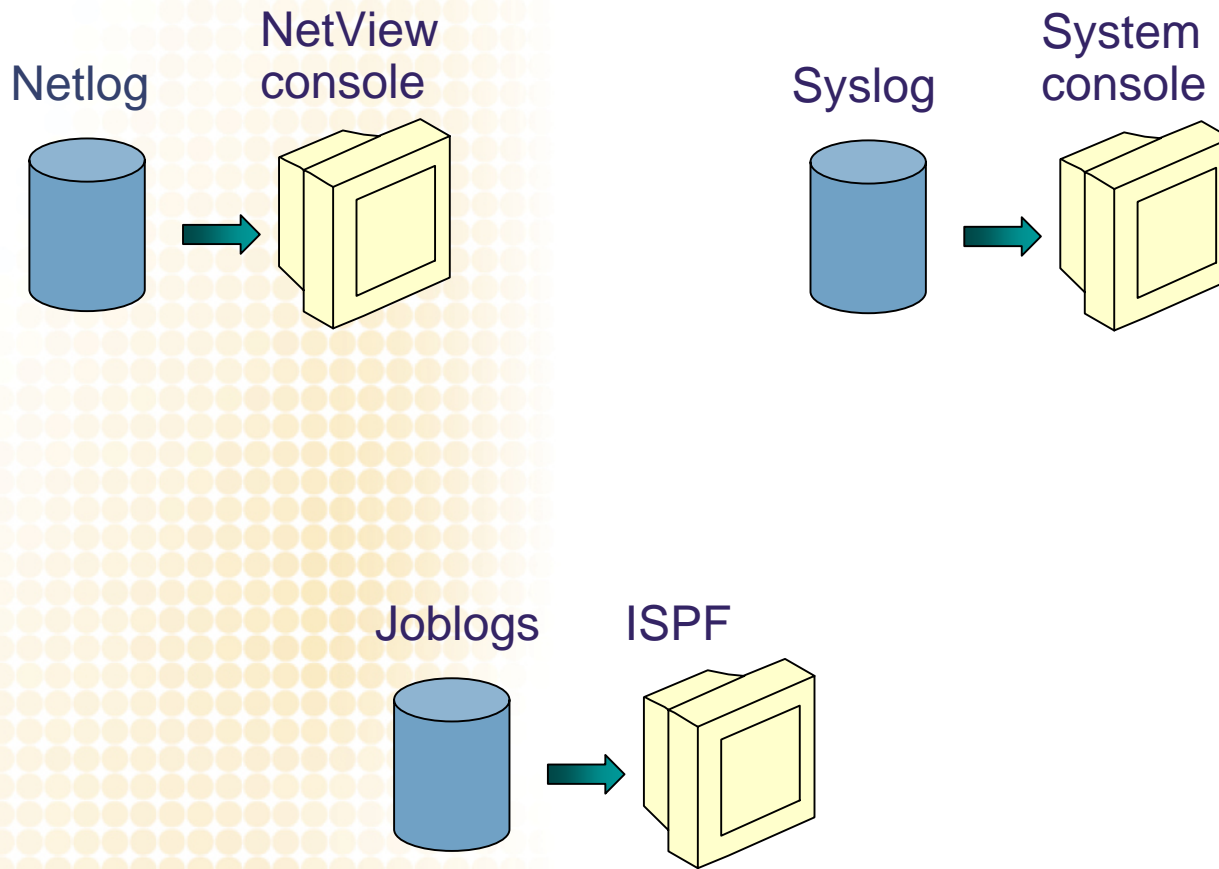
## Thursday

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

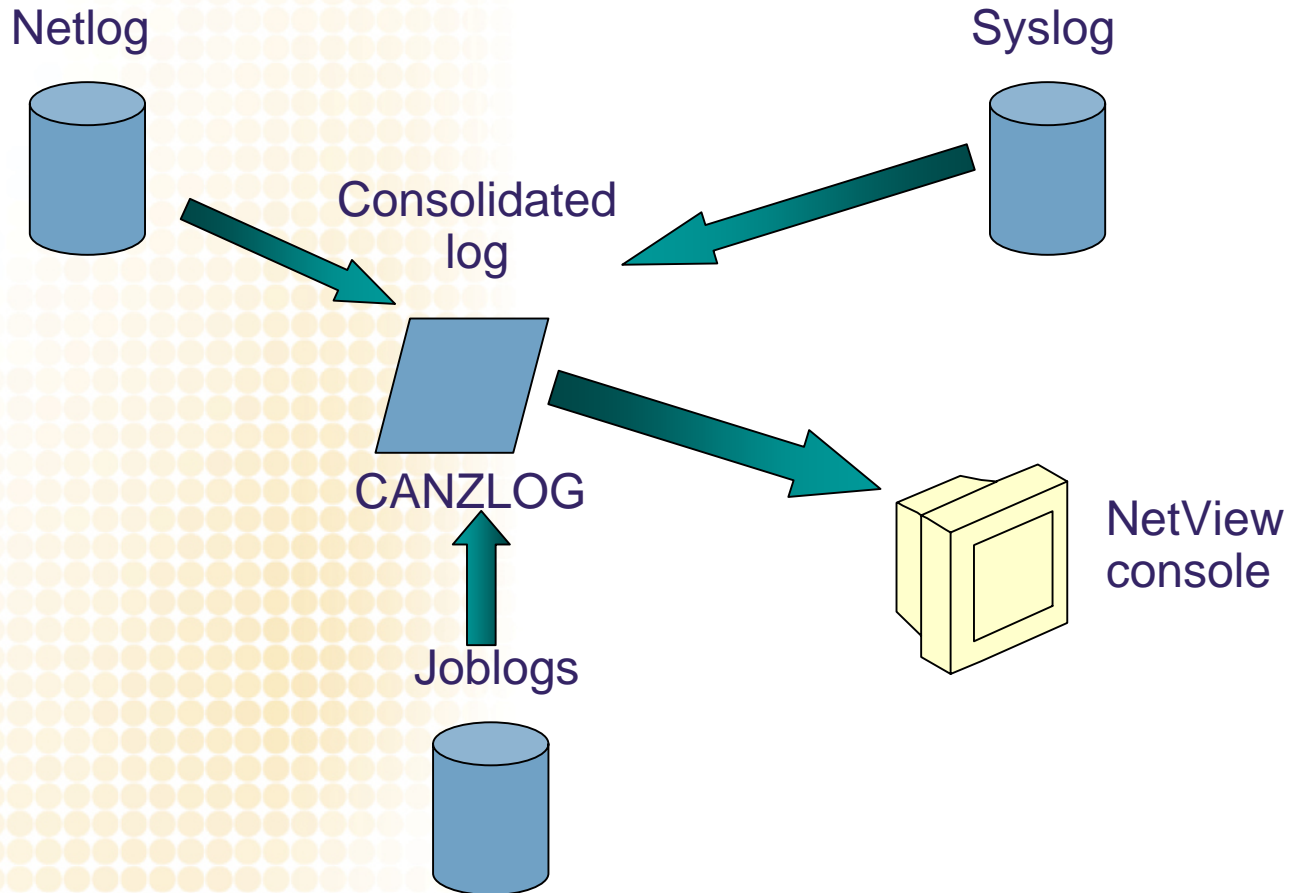
9:30	11630: Getting Started with URM APIs for Monitoring & Discovery	Elite 1
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# Browsing Logs Prior to NetView V6.1





# 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 NTV7EPPT
15:26:29 DSI047E CNMEERSC failed: DISCOVERY not enabled.
15:26:29 DSI201I TIMER REQUEST SCHEDULED FOR EXECUTION 'ID=XID'
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==>

MA  A
```

03/013

Filter to see only  
the data that's of  
interest



# Browsing the log: CANZLOG command

```
Canzlog TAG= (NVMSG, MVMSG, 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==>

MA  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: <b>TSO</b>	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=ts0  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==>
MA  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==> \_

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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:      _____                  MSGID:      AOF571I
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:      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:      all352i      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 – 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==>			
MA	A	08/055	

[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 -----*
```

Move cursor to a message.  
Press ENTER.

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

MB A

02/011





# 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
SmsgID: 00000D1Cx          ASID: 001Cx                   DomToken: 00000000x
AStype: S                  AuthUser: IBMUSER                AuthGroup: SYS1
Mtype: E (C5x)

DescCodes: 0400 (6)
RouteCodes: 0020000000000000000000000000000000000000
              (11)

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

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

24/009

# 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.
- AType: 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



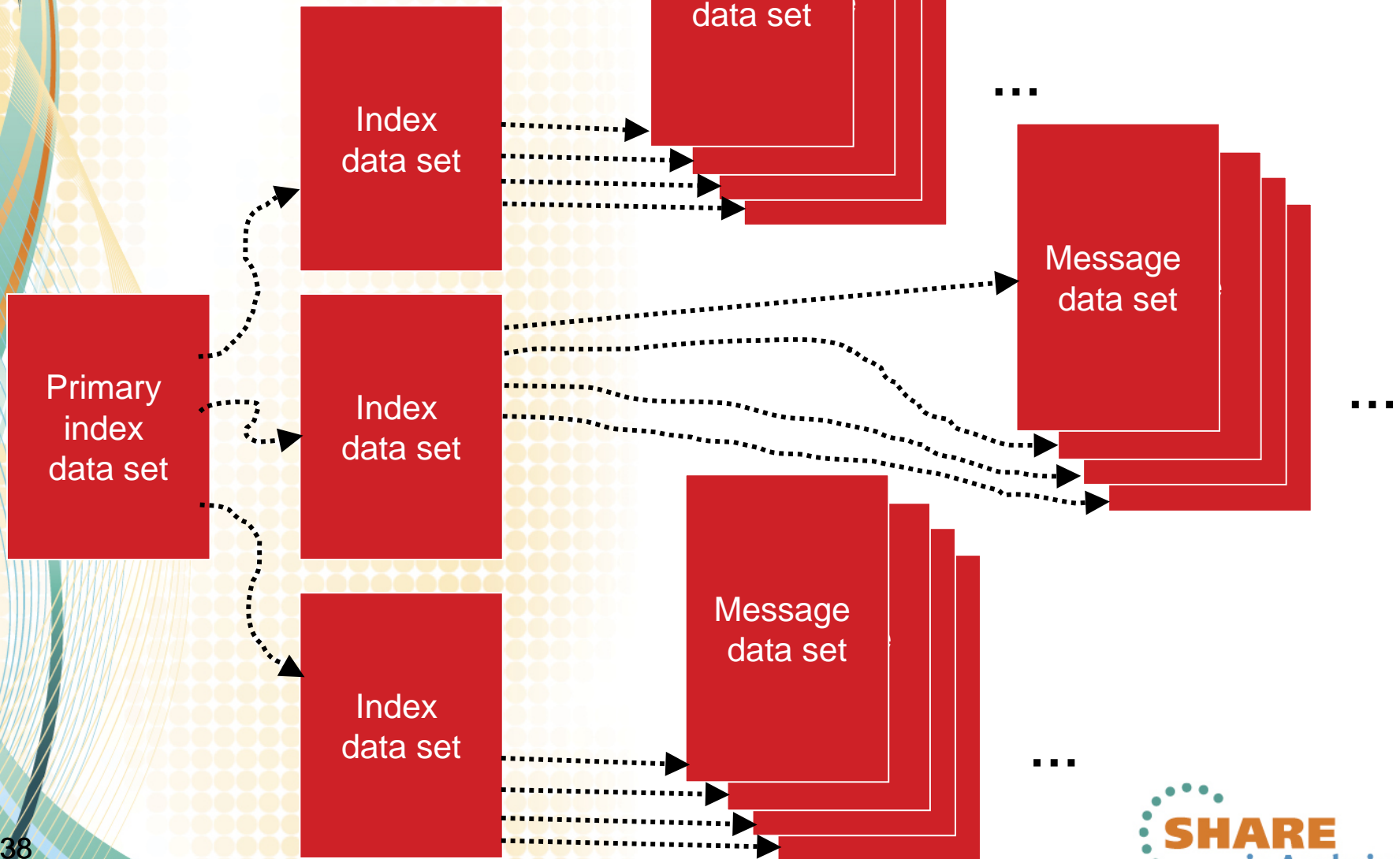
# Other ways to browse the Canzlog

- **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

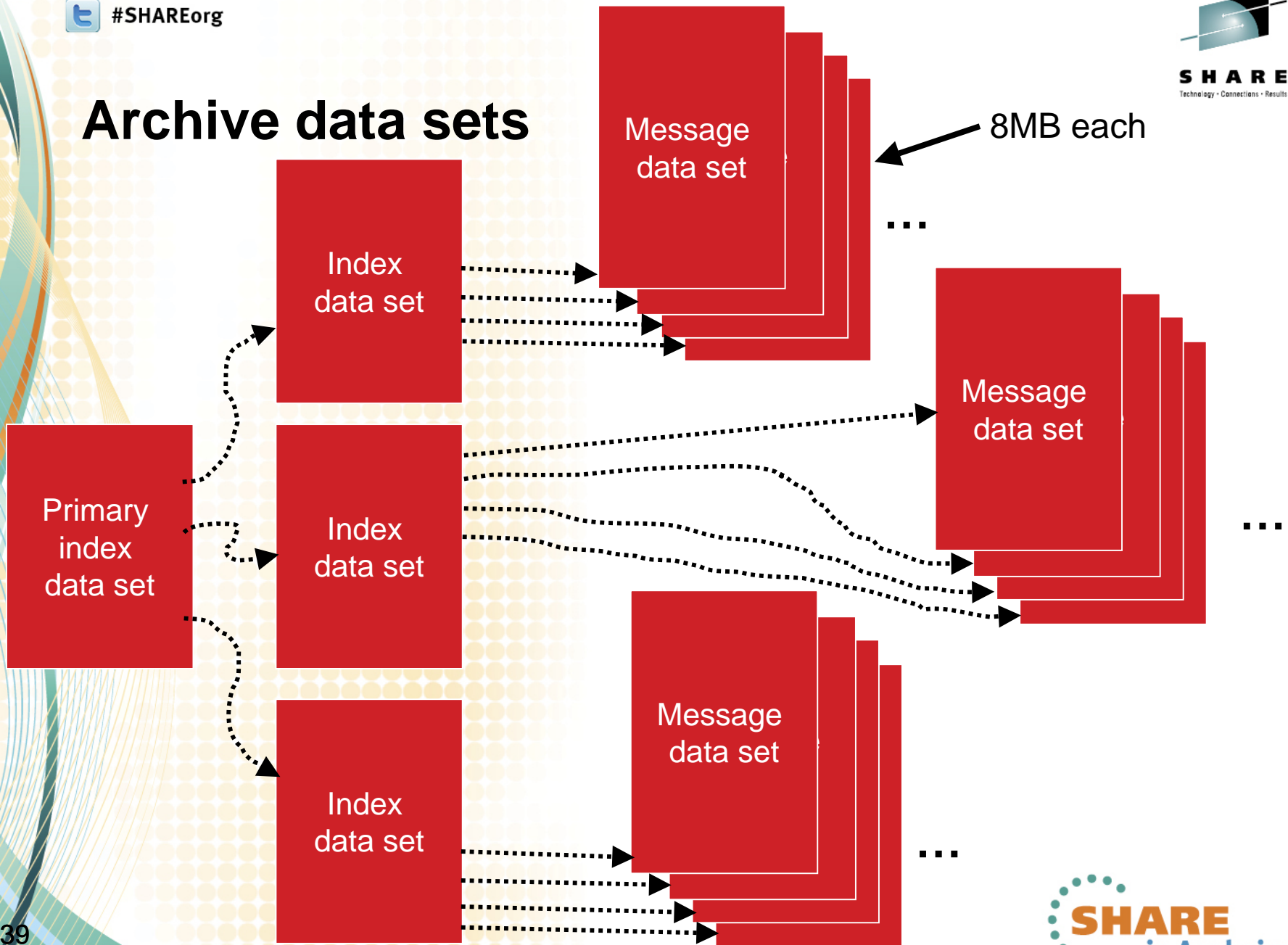
- One primary index data set
  - Fixed record length and blocked sequential data set
  - Describes the index data sets in the archive.
  - Contains one 80-byte record for each index data set created in the archive.
- Index data sets
  - Fixed record length and blocked sequential data sets
  - Contain 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

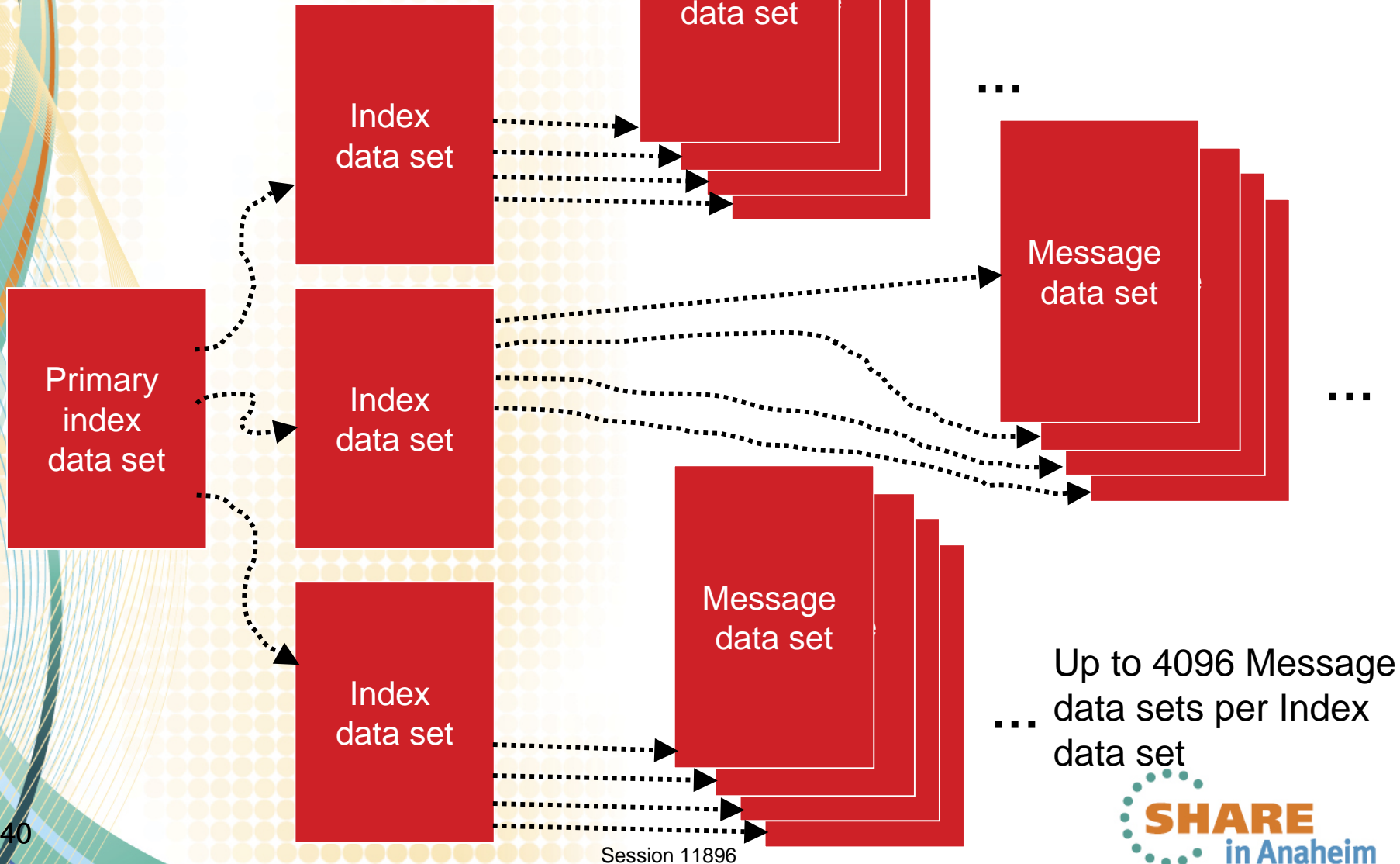




# Archive data sets



# Archive data sets



# Only a few Archive statements really needed

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

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

```
ARCHIVE.WRITE = Yes
```

```
ARCHIVE.BROWSE.DATASPACEs = 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
-----
>>>

```

MA 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/tivolimediagallery/Tivoli+NetView+for+zOS>

# *Thank you!*



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