IBM Z NetView Hints and Tips

Session 177

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Derrick Washington (dlwashington@us.ibm.com)

IBM Z NetView Engineer

Agenda

- Product and Code Levels
- Configuration
- Resource Consumption
- Automation
- Canzlog
- NetView REST Server
- Miscellaneous Topics
- Gathering Documentation for Support

Why Troubleshoot and Some Typical Comments

You like to solve puzzles/ mysteries

Support can't read minds!

I've worked on this all week and now that my deadline is approaching quickly, I need your help right now!

Nothing changed and now it doesn't work!

NetView Terminology

- The NetView Address Space is not an Agent
  - System Automation calls it an Agent but NetView has an **Enterprise Management Agent**, which displays information in the **Tivoli Enterprise Portal**, which is part of IBM Tivoli Monitoring

- The **NetView Enterprise Management Agent (NetView Agent)** is not an **OMEGAMON** product
  - It is a no-charge, separately orderable item if you have an IBM Z NetView license
  - **NetView Agent code is KNA**

- NetView domain is the 1-5 character name for the NetView instance
  - Can include alphabetic, numeric, or national characters (@, #, $)
    - A1@3$
    - @9ABC
    - CNM01

Product and Code Levels

LISTVAR

```
* NTV8C    LISTVAR
C NTV8C    CNM353I LISTVAR : OPSYSTEM = MVS/ESA
C NTV8C    CNM353I LISTVAR : MVSLEVEL = SP7.2.5
C NTV8C    CNM353I LISTVAR : ECVTPSEQ = 01020500
C NTV8C    CNM353I LISTVAR : CURSYS   = NMPIPL18
C NTV8C    CNM353I LISTVAR : VTAMLVL  = V625
C NTV8C    CNM353I LISTVAR : VTCOMPID = 5695-11701-250
C NTV8C    CNM353I LISTVAR : NetView  = IBM Z NetView V6R5
C NTV8C    CNM353I LISTVAR : NETID    = USIBMNT
C NTV8C    CNM353I LISTVAR : DOMAIN   = NTV8C
C NTV8C    CNM353I LISTVAR : APPLID   = NTV8C016
C NTV8C    CNM353I LISTVAR : OPID     = DWASH
C NTV8C    CNM353I LISTVAR : LU       = NT8CL701
C NTV8C    CNM353I LISTVAR : TASK     = OST
C NTV8C    CNM353I LISTVAR : NCCFCNT  = 0
C NTV8C    CNM353I LISTVAR : HCOPY    =
C NTV8C    CNM353I LISTVAR : IPV6ENV  = MIXED
| NTV8C
```

```
CNM353I LISTVAR : TOWERS   = As follows:
                             DISCOVERY
                             DISCOVERY.INTERFACES
                             DISCOVERY.TELNET
                             IPMGT
                             TCPIPCOLLECT
                             TCPIPCOLLECT.PKTS
                             TCPIPCOLLECT.TCPCONN
C NTV8C    CNM353I LISTVAR : NV2I     = NM
C NTV8C    CNM353I LISTVAR : CURCONID =
```

LISTVAR is a helpful command to display product information such as the release level and active towers

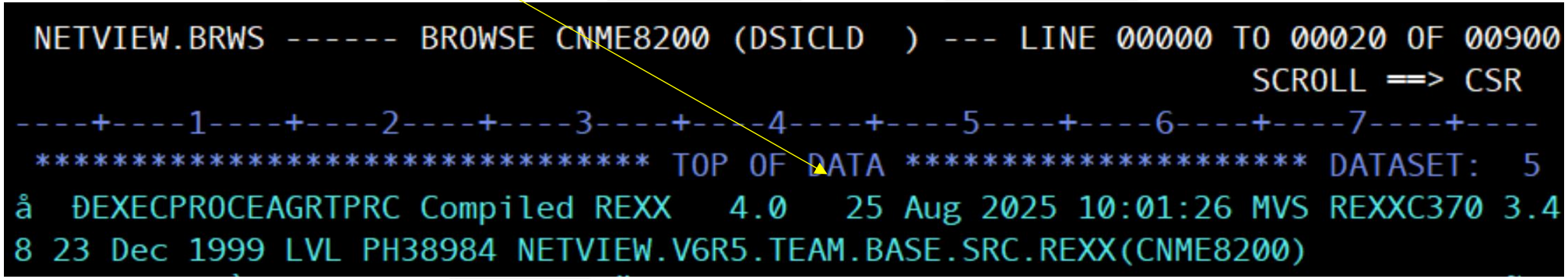
DISPMOD Command

```
NetView V6R5 - NM          IBM Z NetView     NTV8C DWASH
* NTV8C     DISPMOD ALL DSIOST
' NTV8C
CNM263I MODULE   LENGTH CSECT    DATE     PTF      EPA       AM ATTR
CNM263I DSIOST   008C20 DSIOST   25.237   -------- 8F5463E0 31 RN RU
CNM265I END OF DISPLAY
* NTV8C     DISPMOD ALL DSIZDST
' NTV8C
CNM263I MODULE   LENGTH CSECT    DATE     PTF      EPA       AM ATTR
CNM263I DSIZDST  00D798 DSIZDST  25.237   -------- 90B06868 31 RN RU
CNM265I END OF DISPLAY
* NTV8C     DISPMOD ALL DSIALIN
' NTV8C
CNM263I MODULE   LENGTH CSECT    DATE     PTF      EPA       AM ATTR
CNM263I DSIISVLM 1D2020 DSIALIN  25.237   -------- 8F231390 31 RN RU
CNM265I END OF DISPLAY
```

Purpose of Command The DISPMOD command displays information about NetView load modules currently loaded in the NetView job pack area.

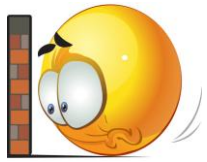
Compiled REXX Code

Issue BR rexxname



Cached Files and the LISTA Command

- How many times have you made a change to a NetView member only to have it not take effect?
  - Use the LISTA command to see if your file has been cached



```
* NTVAF    LISTA DSIPARM BOOEXEC
' NTVAF
CNM299I
DDNAME   DATA SET NAME                                    MEMBER   DISP
-------- ---------------------------------------------- -------- --------
DSIPARM  (INSTORE-COMMON)                                 BOOEXEC
         USER.INIT                                        BOOEXEC  SHR,KEEP
         USER.INIT                                        BOOEXEC  SHR,KEEP
         USER.INIT                                        BOOEXEC  SHR,KEEP
```

Cached Files and the LISTA Command cont.

- Check your **memstore** settings in CNMSTYLE and CNMSTYLE user members
  - You can restyle memstore statements
  - Use the **MEMSTOUT** command to remove members from an instore

```
function.autotask.memStore = auto2  // autotask where MEMSTORE acts
memStore.stgLimit = 5%              // limit total storage used (% only)
memStore.minHits = 5                // minimum hits for caching
memStore.frequency = 2              // how often to check (minutes)
memStore.never =                    // list things never to be cached
          DSIPARM.DSIOPF            // do not cache specific member
          DSIPARM.DSIOPFU           //   list include member separately
          DSILIST.*                 // cache nothing from DSILIST
          *.USERMEM                 // never cache member name USERMEM
```

Configuration

Browse Pertinent Configuration Members

- From the NetView command line, you can browse many configuration members
  - **CNMSTYLE**, **CNMSTUSR**, and **CxxSTGEN** (and other included members)
  - Operator definitions (DSIOPF and included members)
  - **CNMSCAT2** and **CNMSCATU**
  - **CMDDEF** members **CNMCMSYS**, **CNMCMENT**, **CNMCMDU**

  Note: Use NOINCL after the part you are browsing to not display included members
    - Example: **BR CNMSTYLE NOINCL**
- Issue **LIST DEFAULTS** and/or **LIST OVERRIDE** to see many settings
- Browse netlog or Canzlog for messages indicating there is a problem
  - Look up messages in online help

Browse CNMSTYLE – screenshot

```
 NETVIEW.BRWS ------ BROWSE CNMSTYLE (DSIPARM ) --- LINE 03715 TO 03735 OF 05304
                                                        SCROLL ==> CSR
----+----1----+----2----+----3----+----4----+----5----+----6----+----7----+----
* Specify 1 to 3 percentage threshold levels to monitor the IP address *
* pool usage for z/OS Container Platform containers or pods.           *
* The number of ZCONTAINER DVIPAs in use is compared to the total      *
* number of available IP addresses based on TCPIP profile VIPARANGE    *
* ZCONTAINER statements.  If the number of ZCONTAINER DVIPAS that are  *
* in use exceeds or drops below a threshold level, message BNH946I is  *
* issued.                                                              *
* Note: You also need to enable DVIPA events so the NetView program    *
* knows when z/OS Container Platform containers or pods are created    *
* and deleted.  For more information, see the Installation: Configuring*
* Additional Components book.                                          *
* Default values: (25,50,75) when enabled                              *
************************************************************************
*(DVIPA)DVIPA.ZCONTAINER.THRESHOLD = (25,50,75)

* --------------- End of DVIPA Support Settings ---------------------- *

************************************************************************
* Visual BLDVIEWS functionality is no longer supported (removed from   *
* this spot).                                                          *
************************************************************************

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

List Defaults – screenshot

```
NetView V6R5 - NM          IBM Z NetView     CNM01 NETOP1
' CNM01
DWO654I DISPLAY    DEFAULTS
          AUTOLOGN: YES
          TIMEFMSG: NO
          EVERYCON: YES
          MAXCSSIR: 1000
          LBHOURLY: NO
          LBFINDMX: 99999
          CZBRWAIT: 10
          CZTOPDAT: *NONE*
          CZTOPAGE: *NONE*
          RORGSECS: 1200
          AUTOBLTN: PPT
          SLOGCMDR: YES
           CANZLOG: MVS & local NetView messages
          CZFORMAT: TIME
            BANNER: NetView V6R5 - NM
            DSICLD: N/A
           DSIPARM: N/A
            DSIPRF: N/A
           DSIVTAM: N/A
            DSIMSG: N/A
           CNMPNL1: N/A
           BNJPNL1: N/A
```

Network Management Configuration

- In addition to NetView configuration, there is often required z/OS Communications Server configuration, which enables NetView to receive their information

- Common z/OS Communications Server Configuration components:
  - TCP/IP Profile
  - snmp.conf for SNMP
  - Policy Agent (PAGENT)

Resource Consumption

TASKUTIL Command

- TASKUTIL shows CPU usage, storage use, and message queues for individual Netview tasks and the NetView address space itself

```
* NTVAF     TASKUTIL
' NTVAF
DWO022I
TASKNAME  TYPE  DPR     CPU-TIME  N-CPU%  S-CPU%  MESSAGEQ  STORAGE-K     CMD
--------  ----  ---  -----------  ------  ------  --------  ---------  --------
AUTOXCF   AUTO  250        55.22   90.96    0.95         0        594  **NONE**
DSIUDST   DST   250         3.95    6.25    0.07         0        141       N/A
DSITIMMT  OPT   255         3.38    0.94    0.01       N/A         25       N/A
DSIMONIT  OPT   255         5.01    0.56    0.01       N/A          4       N/A
NETOP1    OST   251         2.33    0.36    0.00         0        379  **NONE**
DSIHLLMT  OPT   255         0.00    0.00    0.00       N/A          3       N/A
DSISTMMT  OPT   255         0.00    0.00    0.00       N/A          3       N/A
DSILOGMT  OPT   255         0.61    0.00    0.00       N/A          4       N/A
DSILOG    DST   254         0.09    0.00    0.00         0         30       N/A
MNT       MNT   255         0.00    0.00    0.00         0       7431       N/A
```

Cumulative

Current NetView

Current System

NetView (Z Automation Web Console Enterprise Edition)

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NetView Tasks

Domain Name: **C01NV** System Name TVT2003

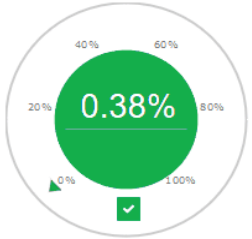
NetView Actions ?

NetView Tasks

Task Name	Type	DPR	CPU Time	NetView CPU %	System CPU %	Message Queue Count	Storage (KB)	Command
DSIUDST	DST	250	7.38	5.78	0.02	0	212	N/A
AUTOXCF	AUTO	250	27.36	6.25	0.02	0	631	**NONE**
DSITIMMT	OPT	255	3.62	1.35	0.01	0	27	N/A
IBMUSER	AUTO	250	1.03	3.33	0.01	0	510	REST01
DSIMONIT	OPT	255	2.69	2.03	0.01	0	4	N/A
DSIIPCHK	AUTO	250	0.01	0.00	0.00	0	200	**NONE**
DSIRTTR	DST	249	0.1	0.00	0.00	0	132	N/A
DUIFEAUT	AUTO	250	0.01	0.00	0.00	0	138	**NONE**
AUTOTCPS	AUTO	250	0.13	0.00	0.00	0	284	**NONE**

Total: 71 Selected: 0

Total System CPU %



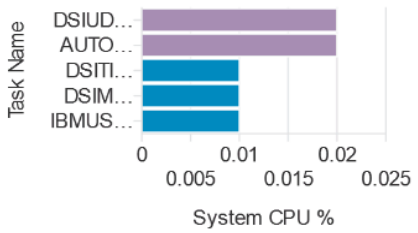
Total Storage in KB

22560

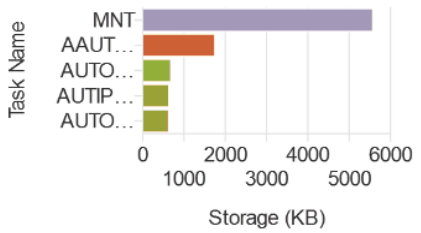
Total Message Queue Count

0

Top 5 CPU Consumers



Top 5 Storage Consumers



Displaying Queued Messages

- If you have queued messages on a NetView task you can use the **LIST MSGQ** and/or **CNMEPMSG** commands to see what the messages are

- You cannot take action on individual messages in the queue other than cancelling a REXX exec that is in a wait

- You can use the **STOP** and **RESET** commands to take action against the task as a whole

Displaying Queued Messages – LIST MSGQ

```
* NTVAF    LIST MSGQ=NETOP1 MSGLEN=80 MLWTOLIN=20
' NTVAF
DSI800I DISPLAY PENDING MESSAGES ON TASK NETOP1 FOR MESSAGE QUEUE TYPE ALL
Seq    QType  Type Length Time     Domain   Sender   MESSAGE/COMMAND
------ ------ ---- ------ -------- -------- -------- ---------------
1      NORMAL MSG  66     13:34:34 NTVAF    DSIMONIT BNH161I 'MAXCPU' = '95' LIMIT REACHED FOR TASK 'NETOP1' 'NTAFL701'
2      NORMAL MSG  30     13:35:10 NTVAF    NETOP2   THIS IS BEING ROUTED TO NETOP1
3      NORMAL MSG  165    13:36:56 NTVAF    NTVAFPPT IST530I  AM GBIND   PENDING FROM NTAFMVS  TO NT61MVS  FOR NT61MVS
                                                      IST1051I  EVENT CODE = 0202
                                                      IST1062I  EVENT ID = 000000AF000100000061000102020F3100000064
                                                      IST314I  END
4      LOW    CMD  7      13:34:33 NTVAF    NETOP2   LISTVAR
5      LOW    CMD  9      13:34:40 NTVAF    NETOP2   MVS D A,L
END OF DISPLAY
```

Displaying Queued Messages - CNMEPMSG

```
* NTVAF    CNMEPMSG NETOP1 MSGLEN=80 MLWTOLIN=20
| NTVAF
DSI800I DISPLAY PENDING MESSAGES ON TASK NETOP1 FOR MESSAGE QUEUE TYPE ALL
Seq    QType  Type Length Time     Domain   Sender   MESSAGE/COMMAND
------ ------ ---- ------ -------- -------- -------- ---------------
CUR           CMD                                    DOEVER
1      NORMAL MSG  66     13:34:34 NTVAF    DSIMONIT BNH161I 'MAXCPU' = '95' LIMIT REACHED FOR TASK 'NETOP1' 'NTAFL701'
2      NORMAL MSG  30     13:35:10 NTVAF    NETOP2   THIS IS BEING ROUTED TO NETOP1
3      NORMAL MSG  165    13:36:56 NTVAF    NTVAFPPT IST530I  AM GBIND   PENDING FROM NTAFMVS  TO NT61MVS  FOR NT61MVS
                                                     IST1051I  EVENT CODE = 0202
                                                     IST1062I  EVENT ID = 000000AF000100000061000102020F3100000064
                                                     IST314I  END
4      LOW    CMD  7      13:34:33 NTVAF    NETOP2   LISTVAR
5      LOW    CMD  9      13:34:40 NTVAF    NETOP2   MVS D A,L
END OF DISPLAY
```

RESOURCE Command

- RESOURCE command displays system resource usage by the NetView program.

```
NetView V6R5 - NM          IBM Z NetView     CNM01 NETOP1
* CNM01     RESOURCE
' CNM01
DSI386I NETVIEW RESOURCE UTILIZATION 15:51:52
         TOTAL CPU %                    =         60.36
         T650EENV CPU %                 =          0.02
         T650EENV CPU TIME USED         =          5.87 SEC.
         REAL STORAGE IN USE            =       208232K
         PRIVATE ALLOCATED < 16M        =          924K
         PRIVATE ALLOCATED > 16M        =        40308K
         PRIVATE REGION    < 16M        =         7144K
         PRIVATE REGION    > 16M        =        98304K
END OF DISPLAY
```

Resource Monitoring in NetView

- NetView has two different methods for monitoring resource utilization
  - DEFAULTS (UtilDefs) and OVERRIDE (UtilOpts) utilization settings
    - When these thresholds are reached the task will be put into a **"slowdown"** mode
    - Example: **DEFAULTS MAXCPU=90** is set and message **BNH161I 'MAXCPU' = '90' LIMIT REACHED FOR TASK 'NETOP1' 'NTAFL701'** is received
  - DEFAULTS (MonitDefs) and OVERRIDE(MonitOpts) monitoring settings
    - Setting these 1-3 thresholds will generate messages when a threshold boundary is crossed. The task will not be put into "slowdown"
    - Example: **DEFAULTS WRNCPU=(50,70,80)** and the following messages are received

      BNH161I 'WRNCPU' = '75' LIMIT REACHED FOR TASK 'NETOP1' 'NTAFL701

      BNH161I 'WRNCPU' = '80' LIMIT REACHED FOR TASK 'NETOP1' 'NTAFL701

      BNH745I NO 'WRNCPU' LIMIT REACHED FOR TASK 'NETOP1' 'NTAFL701'

DEFAULTS and OVERRIDE Resource Monitoring Keywords

DEFAULTS UtilDefs

- AVLMAX
- AVLSLOW
- MAXCPU
- MAXCSSIR
- MAXIO
- MAXMQIN
- MAXMQOUT
- MAXSTG
- SLOWSTG

DEFAULTS MonitDefs

- WRNCPU
- WRNIO
- WRNMQIN
- WRNMQOUT
- WRNMSGCNT
- WRNSTG

OVERRIDE UtilOpts

- MAXCPU
- MAXIO
- MAXMQIN
- MAXMQOUT
- MAXSTG
- SLOWSTG

OVERRIDE MonitOpts

- WRNCPU
- WRNIO
- WRNMQIN
- WRNMQOUT
- WRNMSGCNT
- WRNSTG

Resource Monitoring Cautions

- Some NetView monitoring autotasks have **MAXCPU** set to zero due to the high volumes of data that can be collected. It's highly recommended not to change this.

- GDPS recommends that **MAXCPU** be set to zero on their controlling LPARs for many of their offerings, as those NetViews are not typically doing much else

- Any time you set **MAXCPU or MAXSTG** to zero (0), you run the risk of having to take your NetView down if there is truly "out of control" CPU or storage usage
  - The intent of the task **"slowdown"** function is to give you time to try and figure out what is going on and to take the appropriate action without having to bring NetView down

Storage and REXX Execs

- When you are running the same REXX exec across a lot of different tasks, the exec is going to get loaded into memory multiple times
- Recommendation:
  - Use the NetView **LOADCL** command to load these execs into memory as soon as possible during NetView initialization:
    - Auxinit command
    - Based on message automation
  - Use **MEMSTORE** to cache the REXX execs

Automation

Automation Topics

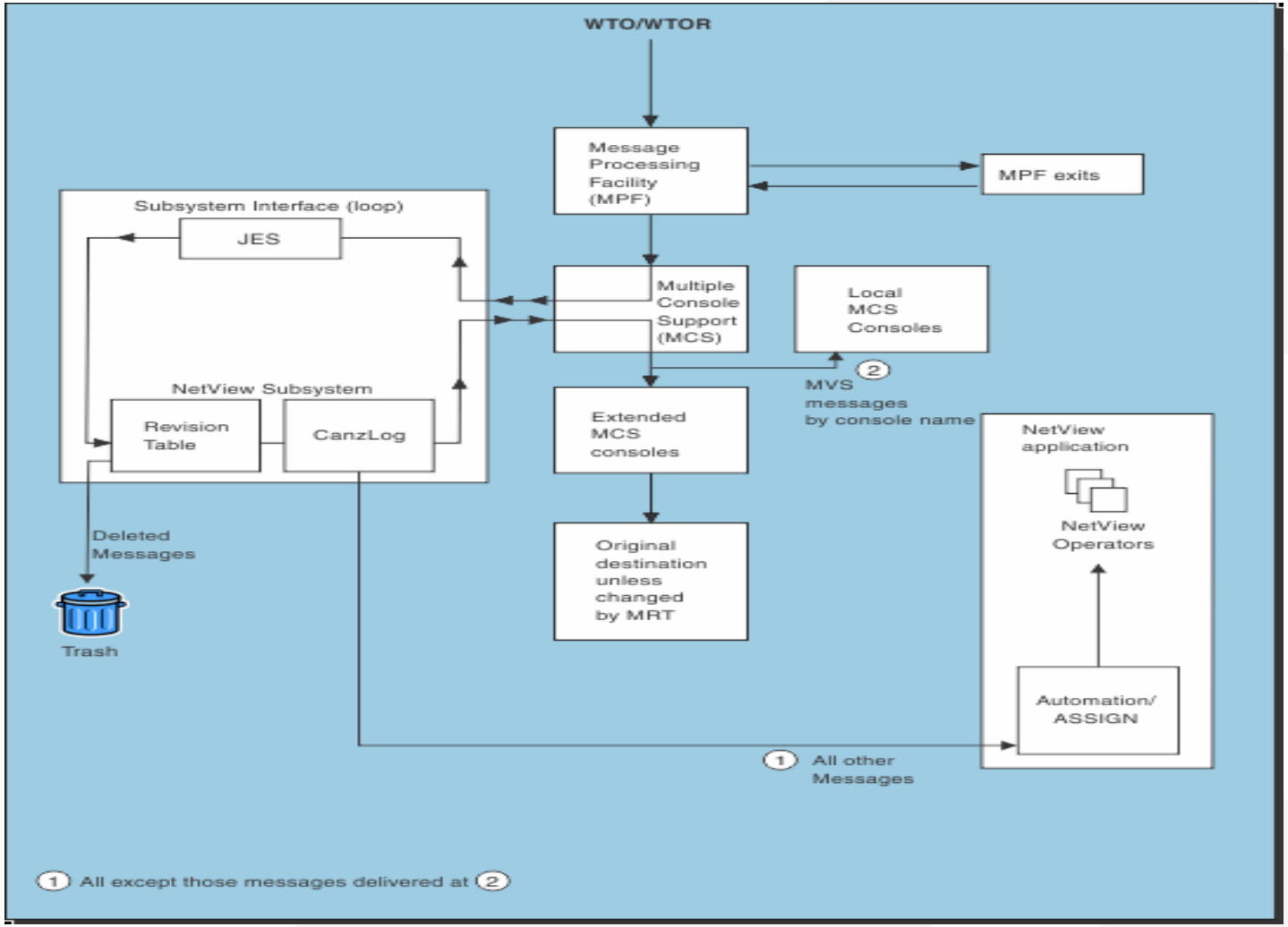
- Resolving Basic Syntax Errors
- Message Flow
- My Message isn't Being Automated – Why Not?
- Miscellaneous Tips

Resolving basic automation table syntax errors

- All operators specified in the automation table must be defined to NetView at the time of automation table validation during NetView initialization
- All commands specified in the automation table must have a CMDDEF statement
  - Issue LISTCMD to see defined commands

```
CNMKWIND OUTPUT FROM  LISTCMD                          LINE 0 OF 1181
*------------------------------------------------------- Top of Data ------------------------------------------------------------*
BNH137I 1179 NetView commands listed.
CMD_NAME   DATE     TIME     OPER_ID   USAGE_CNT MOD_NAME MOD_SZ D TY R E P SE ILS F ED (CMD_SYNS)...(PARMS(SYNS))
<          01/15/26 09:13:07 SYSOP            64 DSIPIFRD 0017D0 * P  Y N N BY   . N N  () ()
>          01/15/26 09:13:07 SYSOP             0 DSIPITOD 000AA8 * P  Y N N BY   . N N  (>HFS) ()
AAUDCPEX 01/15/26 09:13:09 NTV8CPPT            6 AAUDCPEX 023B50 N D  Y Y N BY   . N N  () ()
AAUDRRES 01/15/26 09:13:09 NTV8CPPT            0 AAUDRRES 000380 N D  Y Y Y BY   . N N  () ()
AAUDRSRT 01/15/26 09:13:09 NTV8CPPT            0 AAUDRSRT 006488 N D  Y N N DE   . N N  () ()
AAULRCRP 01/15/26 09:13:07 SYSOP               0 AAULRCRP 000458 * R  Y Y Y BY   . N N  () ()
AAUPCPEX 01/15/26 09:13:09 NTV8CPPT            0 AAUPCPEX 020AE0 N R  Y Y Y BY   . N N  () ()
AAUSLGEX 01/15/26 09:13:09 NTV8CPPT            0 AAUSLGEX 0005F8 N D  Y Y Y BY   . N N  () ()
AAUSRTEA 01/15/26 09:13:09 NTV8CPPT            0 AAUSRTEA 000CD0 N D  Y Y N BY   . N N  () ()
ADDCMD     01/15/26 09:13:09 NTV8CPPT          0 DSIADCMD 006D50 N R  N Y Y DE   . Y N  () (MOD(MODULE) RES(RESIDENT) SEC(SECURITY))
AFTER      01/15/26 09:13:09 NTV8CPPT          0 DSITIMER 0022F0 N R  Y Y Y DE   . N N  () ()
AINQ       01/15/26 09:13:09 NTV8CPPT          0 DSIAOICP 001940 N R  N Y Y DE   . Y N  () ()
ALLOCATE 01/15/26 09:13:09 NTV8CPPT            0 DSIALLOC 002F78 N R  Y Y Y DE   . Y N  (ALLOC) ()
APPEND     01/15/26 09:13:07 SYSOP             2 DSIPIAPP 000610 * P  Y Y Y BY   . N N  () ()
ASSIGN     01/15/26 09:13:09 NTV8CPPT          4 DSIASP   004360 N R  N Y Y DE   . Y N  () ()
AT         01/15/26 09:13:09 NTV8CPPT          0 DSITIMER 0022F0 N R  Y Y Y DE   . N N  () ()
```

Automation flow with MPF, MRT, and Canzlog



If other subsystems are defined ahead of NetView's SSI, they could prevent the NetView program from receiving messages.

Modify the attributes of a message with Message Revision

Why revise a message?

- Attract attention: change color
- Append text
- Customize response according to originating system
- Suppress the message
- Override z/OS Message Processing Facility (MPF)

- Act on Messages “in place”
  - WTO, WTOR, and first line of MLWTO
  - Change the message and attributes
  - No “copy to NetView” needed
- Message Revision Table (MRT)
  - Compiled/loaded by NetView
  - Resides in NetView SSI address space
  - Persists without the NetView program
  - Actions and statistics
  - Sample CNMSMRT1

My Message isn't Automating

- When a message is not automating as you think it should, check the following:
  - Is the message in MPF with AUTO(NO) specified?
  - Is there another subsystem in the subsystem interface loop that might be picking off the message?
  - Is the NetView Message Revision Table (MRT) "bit-bucketing" the message?
  - Is CONTINUE(NO) on an automation table statement being processed ahead of the automation table statement you want to process the message?
    - Use **AUTOTBL** or **AUTOMAN** commands to see list of automation table members
    - Browse the individual automation members for potential automation of the same message
  - Enable CNM493I messages to be logged – **DEFAULTS/OVERRIDE** commands
    - CNM493I CNMSDCA : #0000023 : MSGID=DSI081I : CNME8251
  - Look at the message details in Canzlog and see if the message was presented to automation by looking at the AutoTime field. If **AutoTime** is **none**, then the message was never presented to the NetView automation table

AutoTime Screenshot

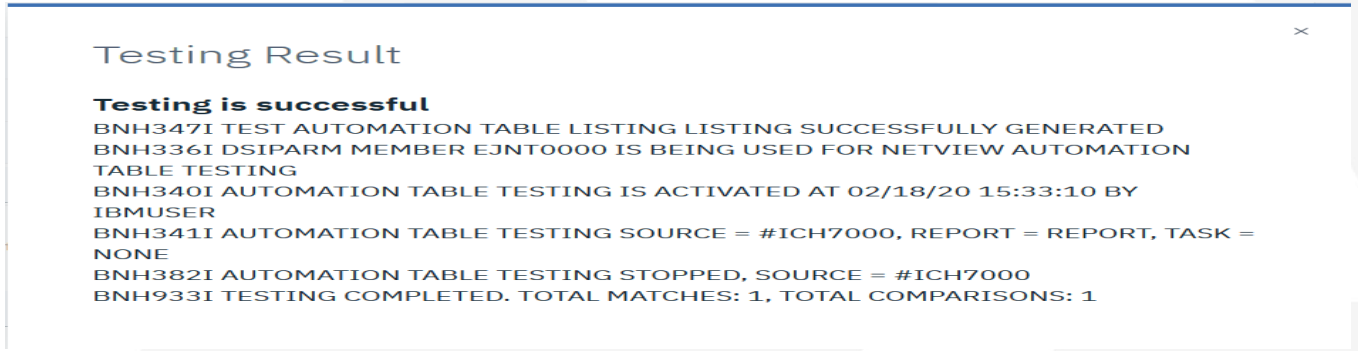
```
CzID: 203202 000319C2x     AutoTime: 1 msec          DomTime: none
OperID: NETOP1             Domain: CNM01             Mtype: - (60x)
Tags: NVMSG
Flags: none




DSI081I OPERATOR NETOP1, LOGOFF PROCEEDING: TERMINAL = N701
```

My Message isn't Automating cont.

- If the message is getting to the automation table but not being automated, there are 2 tools to help with further diagnosis:
  - **AUTOTEST** Command
    - Record the message and its attributes **AUTOTEST RECORD=member CZID=czid**
      - Member is stored in data set with DD of DSIASRC
      - DSIATOPT task must be enabled to use the AUTOTEST command
    - Create an automation table member with the automation table statement you want to match
      - Use **AUTOTEST MEMBER=member,REPORT=reportname,SOURCE=sname** to run a simulated test
      - The output will tell you if the message matched or not
    - Z Automation Web Console can also be used to record and test an automation table statement



Miscellaneous Automation Tips

- Why do I get message **DWO093W Required automation at risk. Member DSITBL01 not activated.** ?
  - In the past System Automation and GDPS offerings told users that DSITBL01 was not required
  - The NetView team leverages its own automation member to drive things during NetView initialization and beyond so DSITBL01 **MUST** be in the AUTOCMD list
    - DSITBL01 does not have to be first

- Make sure task **CNMCSSIR** is active

Canzlog

DEFAULTS command and Canzlog Settings

- Use **DEFAULTS CZFORMAT** to see more information for each message
  - Date
  - Time
  - MTYPE – HDRMTYPE value in the message
  - Origin – NetView domain or System name depending on message type
  - Source – NetView operator or MVS jobname, if one is present, depending on message type

- If you are seeing a lot of timeouts browsing Canzlog messages and you have archiving enabled, you can control the amount of data that will be browse by setting **DEFAULTS CZTOPAGE=numdays**
  - This can be also be set in your CNMSTYLE user member
  - The archive data sets that fit within the specified number of days is dynamically calculated

Canzlog Archiving and Index Files

- There are 3 types of Canzlog Archive data sets
  - **Main archive index data set** – keeps track of archive sub-index data sets
  - **Archive sub-index data sets** – keep track of the archived message data sets – contains at most 4096 entries
  - **Archived messages data sets**
- Problem symptoms related to archive data sets
  - Archive sub-index data set accidentally deleted
    - Archive message data sets referenced by that archive sub-index data set are no longer accessible
  - The main archive index data set accidentally deleted
    - No archive information can be browsed

Canzlog Archive Index Solution

- **BUILDARC** added to **CANZLOG** command
  - Rebuilds archive index datasets based on existing archive message datasets
  - Removes deleted archive message datasets from the archive indexes when ARCHIVE.HLQ CNMSTYLE statement has value other than *NONE* and CZDELAGE is not *NONE*

- **CZDELAGE=*NONE* | *numberdays*** added to **DEFAULTS** command
  - Causes archive message data sets to be deleted when older than the number of specified days when CANZLOG BUILDARC command is issued
    - Range is 1-10000 days

- New CNMSTYLE statement **ARCHIVE.SHARED.DOMAINS**
  - Specify all NetView domains on the same LPAR that share the same archive data set high level qualifier (HLQ)
  - Can be restyled

NetView REST Server

REST Server Setup Steps

- Creating UNIX directories for customized files
- Customizing /etc/profile
- Setting up the keystore and truststore or SAF certificates
- Customizing the REST Server application.yml file
- Customizing the NetView program
- Setting up user ids for the REST Server
- Starting and stopping the REST Server

Common Setup Problems

- Forgetting to copy the following statements from CNMSTYLE to a CNMSTYLE user member and uncommenting them:

  ***function.autotask.RESTOP = AUTOREST //Command receiver auto task**

  AUTOTASK.?RESTOP.Console = *NONE

  ***AUTOTASK.?RESTOP.InitCmd = CMDSERV NAME=EJNREST,AUTHSNDR=NO**

- Trying to start the REST Server from the sample startup procedure EJNSSRST. Always use the NetView **START RESTSERV=*** command. There are exchanges that occur between the Program-to-Program (PPI) and the START command

- Have the correct JAVA level
  - With the latest release 6.5, you need Java Semeru 21

Troubleshooting the REST Server

- Most of the problems with setup will not be discovered until you try to:
  - Start the REST Server
  - Authenticate to the REST Server
  - Issue commands to the REST Server

- Messages in Canzlog/netlog, ejnerest.stderr , and ejnerest.stdout alone are often not adequate to figure out what's going on.
  - It's a really good idea to specify **DEBUG** for the logging level in the application.yaml until you get everything working

- Always authenticate using the login API before trying other commands

Miscellaneous Topics

Troubleshooting PIPEs

- PIPEs can be simple or complex
  - When writing a PIPE:
    - A good way to test a complex PIPE is to start by playing with the individual pieces of the PIPE and then putting them together
  - What if you've been handed a long complex PIPE and it stops working?
    - Break it down into separate components and try to isolate which piece isn't working

- Tools to help debug PIPEs:
  - Add DEBUG to your PIPEs
  - Add COLORs for each section of a complex PIPE to help indicate if an error was received
  - Send output to the CONSOLE instead of where it supposed to go, like into a STEM, to ensure that you're actually getting the data up to that point

Too Many Messages in syslog

- If you have too many messages being written to syslog, you can turn them off using the SLOGCMDR keyword on the DEFAULTS or OVERRIDE commands
  - For a specific task, it is best to add this in an initial clist in the profile

Gathering Documentation for Support

Minimal Problem Documentation

- A good description of the problem – a one-liner is seldom enough
  - Include anything that you think may have happened that contributed to the problem surfacing
    - Maintenance, migration, etc.

- Netlog
  - Just providing snippets of the log around the immediate error may not be adequate, as there could be clues to the problem earlier in time

- For abends, a dump is required

Collecting Other Problem Documentation

- NetView Support often requests that you issue NVINFO
  - NVINFO issues lots of NetView commands that provide a comprehensive view of NetView configuration and more
    - It writes all of the information to the netlog/Canzlog
  - You can also take a dump of the **NetView address space** using NVINFO
    - The NetView internal trace is included in this dump
      - Using NVINFO to take the dump is adding extra entries into the NetView internal trace

NetViewGather Technotes

- NetView Support has written some technotes on collecting NetView documentation
  - https://www.ibm.com/support/pages/netviewgather-running-netview-internal-trace
    - This includes instructions for taking a console dump of the NetView address space
  - https://www.ibm.com/support/pages/netviewgather-dumping-canzlog-archive-datasets

More Information

More Information

NetView website

https://www.ibm.com/products/z-netview

NetView customer forum

https://groups.io/login?r=%2Fg%2FNetView%2Ftopics

NetView v6.5 documentation

English: https://www.ibm.com/docs/en/z-netview/6.5.0

Japanese: https://www.ibm.com/docs/ja/z-netview/6.5.0

NetView for Continuous Availability v6.5 documentation

English: https://www.ibm.com/docs/en/znfca/6.5.0

Japanese: https://www.ibm.com/docs/ja/znfca/6.5.0

More Information cont.

- Service Management Suite for z/OS info: ibm.biz/SMSzInfo
- Z Service Automation Suite info: ibm.biz/ZSASInfo
- Z System Automation : ibm.biz/SAzInfo
- Z NetView for z/OS Info: ibm.biz/NVzInfo
- Zowe Project Community Site: https://zowe.org/

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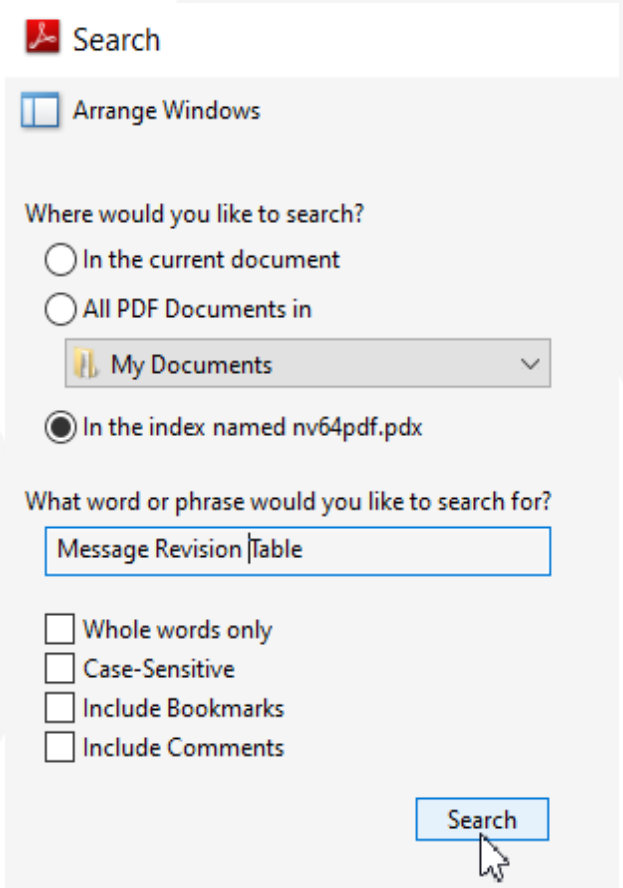
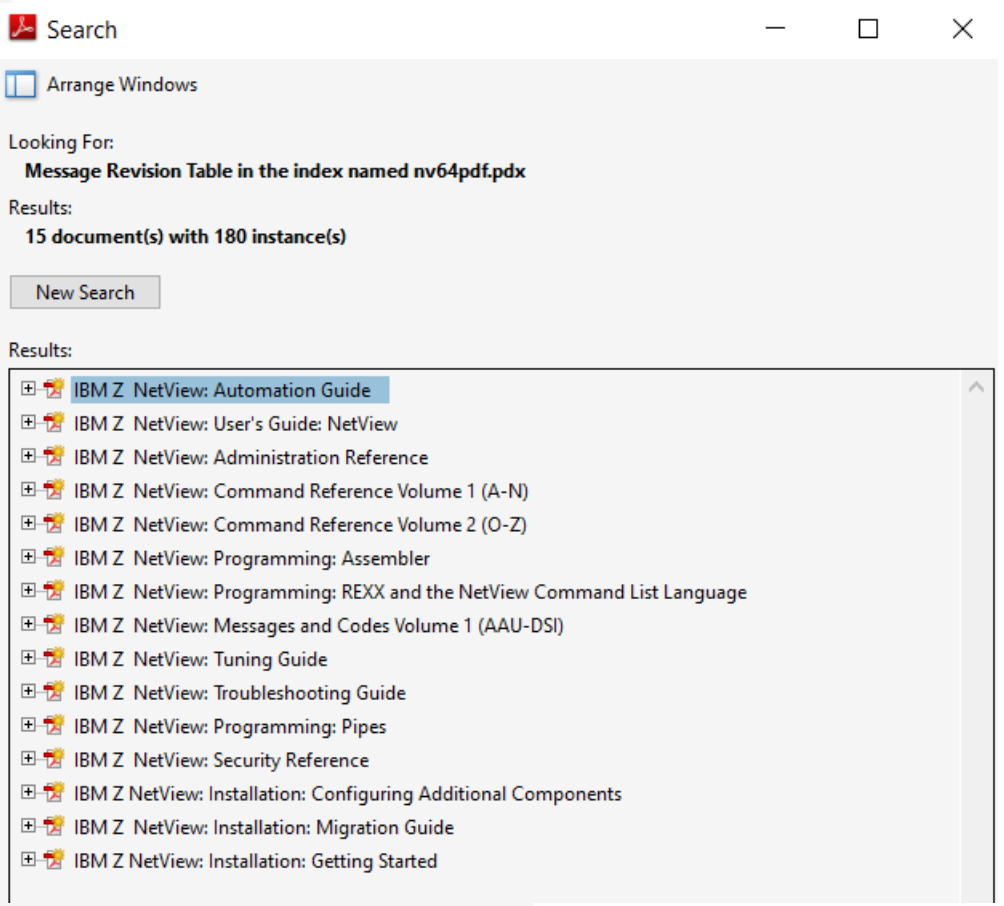
  - The .htm file lists the book titles so you can select the book by its name
  - The .pdx file is one that lets you search the entire library – double click that file and you will get a search window. Fill in your search string, select the Search button, and the list of matching books appears. Clicking on the book title or expanding the entries in the book will open the book.





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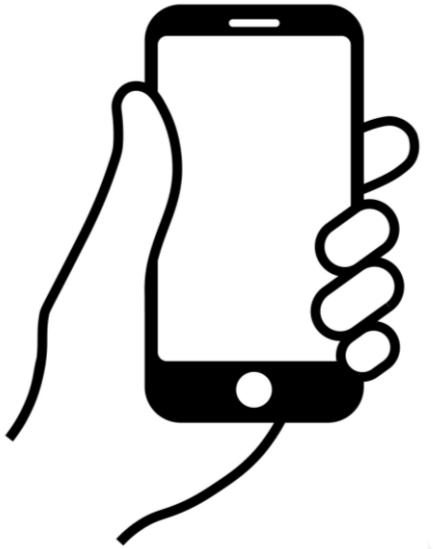


Observability and AIOps for IBM Z sessions at SHARE Orlando

Day	Time	Title	Featured Products
Monday	9:45 am	Data Center Automation - Z System Automation and Agentic AI	Z System Automation
	10:30 am	Using OpenTelemetry to Integrate the Mainframe Into Your Enterprise-Wide Observability Platform	Z Observability Connect, Instana
	1:15 pm	BYOD Lab: WXA4Z Agentic Hands-on Workshop	watsonx Assistant for Z
	1:15 pm	Intelligent Automation of a Hybrid Data Center With Next Generation of Z System Automation	Z System Automation
	2:30 pm	IBM Z NetView Technical Updates	Z NetView
	3:45 pm	Simplify Mainframe Operations with the Latest IBM Z OMEGAMON Enhancements	OMEGAMON
Tuesday	10:30 am	Stronger, Smarter Operations: How BPER Reinvented Data Resiliency Management with IZBR	Z Backup Resiliency
	2:30 pm	What's New in IBM Z Workload Scheduler V.10.2.x and Roadmap	Z Workload Scheduler
Wednesday	9:15 am	IBM Concert for Z, an AI-Powered Mainframe Resilience Platform: Solutions vs. Alerts	Concert for Z
	1:45 pm	BYOD Lab: AI Enabled Proactive Monitoring to Get the Most From Your System With IBM Concert for Z	Concert for Z
	2:30 pm	IBM Z Cyber Vault Explained - Soup to Nuts and Nose to Tail	Z Backup Resileincy
	3:45 pm	Using AI for Capacity Planning and Performance Management in Z	IntelliMagic
Thursday	10:30 am	IBM Z NetView Hints and Tips	Z NetView

Connect with IBM technical leaders and product management team:

Concert for Z
Domenico D'Alterio
Fabricio Miatto

OMEGAMON
Ash Mahay

Z Observability Connect Instana
Chris Walker

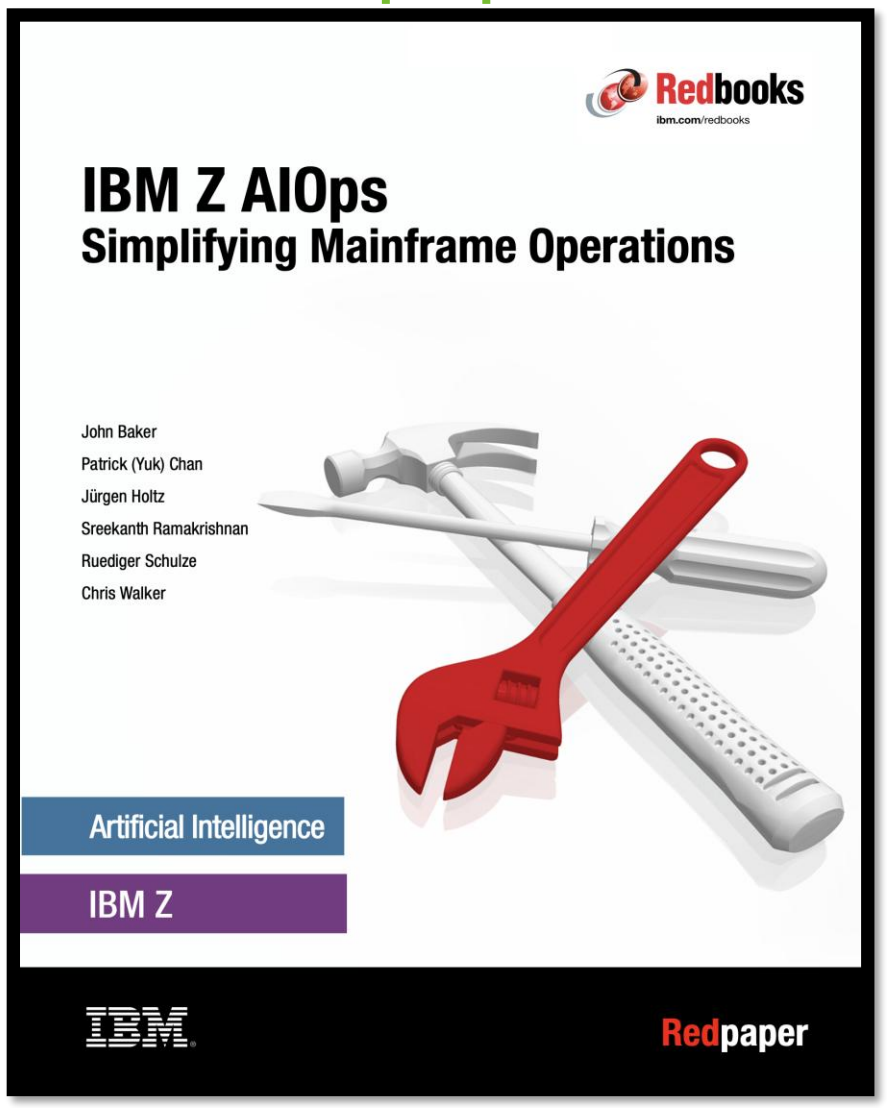
NetView
Derrick Washington

Z System Automation
Johannes Hausch

Z Workload Scheduler
Domenico D'Alterio
Wolfgang Schaeberle

IMS Tools
Tracy Dean

New Redpaper



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