NetView for z/OS
New Directions
Session 17786

Pam McLean (pamm@us.ibm.com)
NetView for z/OS - IBM z Systems Service Management
Agenda

- NetView v6 Review
- NetView v6.2.1 New Enhancements
  - Global Variable Name and Value Length
  - CNMSCATU
  - DBAUTO command
  - Message CNM493I
- Integration
  - GDPS Active/Active currency
  - IBM Operations Analytics for z Systems and NetView
  - Service Management Suite for z/OS
    - Service Management Unite and NetView
  - Service Management Unite, IBM Operations Analytics for z Systems and NetView
NetView v6 Review
NetView for z/OS v6 GA Dates

- NetView for z/OS v6.1  May, 2011
- NetView for z/OS v6.2  October, 2013
- NetView for z/OS v6.2.1  September, 2014
NetView v6 Focus Areas

Continue NetView's long history of providing management for the mainframe environment (including the operating system and its communications server) continues with enhancements to better manage IP networks.

Logging and browsing functions are greatly enhanced to provide consolidated access to all NetView and system messages. A new consolidated log (Canzlog) browser includes expanded access to message attributes on individual messages, which provides improved visibility to system activities.

Continue to provide tools to enable users to easily diagnose problems themselves and to provide proper information to support for problems.

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
August 2015
### NetView v6 Enhancement Summary

#### Consolidated Logging

**Canzlog**
- Consolidated NetView and System log with enhanced automation to provide faster problem determination
  - Automated archiving
  - Extensive filtering capability
  - Ability to browse Canzlog log for one or more remote NetView programs
  - Availability of early IPL messages for viewing and automation

#### IP Management Enhancements

**Packet Trace**
- Session analysis capability to pinpoint problems easily
- Ability to drop connections
- Multiple packet trace instances
- Ability to save trace data for future analysis by IPCS

**OSA Support**
- Support extended for OSA-Express4S and OSA-Express5S

**DVIPA Enhancements**

**Hot Standby Forwarding Support**
- Identifies distributed DVIPA targets defined as preferred or backup “Hot Standby” targets and displays status and rank of “Hot Standby” targets

**Intrusion Detection**
- Allow intrusion detection for additional DVIPA origin types

**NETVIP**
- New menu to access IP Management functions

**SNMPv3**
- AES encryption can be used for requests sent and received with SNMP command and traps encrypted with AES can be decrypted.

#### Serviceability

**NVINFO**
- Logs diagnostic information for support and provides optional capability to dump the NetView ASID and internal trace

**LISTVAR**
- Displays enabled sub-towers in addition to enabled towers

**GLOBALV AUTO**
- Enable or disable automation for global variable value changes by a REXX or NetView clist

---

### Time to Value and Automation Enhancements

**Modify Tower**
- Easily add or remove functionality without editing an existing TOWER statement

**Conditional Include (%INCLUDE)**
- Include information based on enabled towers in a single statement

**REXX Environments**
- Define REXX command environments & function packages in a NetView CNMSTYLE user member. This removes the need to modify an Assembler/JCL member.
- Display of settings for current REXX environments (LIST REXXENV) and contents of REXX parameters (LIST REXXPARM)

**Monitoring**

Ability to monitor the following products when configured in certain environments (see GDPS Active/Active)¹
- IBM Multi-site Workload Lifeline (Lifeline)
- IBM InfoSphere® Data Replication for DB2® for z/OS
- IBM InfoSphere Data Replication for IMS™ for z/OS
- IBM InfoSphere Data Replication for VSAM for z/OS

**IBM z System Enterprise Integration**

**Analytics with zAware**
- Samples interface with zAware server to generate a message that displays anomaly messages and counts. Automation can generate events and Canzlog can be used for further problem diagnosis.

**GDPS Active/Active**¹
- Provides enabling and capabilities to support the GDPS Active/Active Continuous Availability solution. These include monitoring and automation of events and processes for the solution to reduce recovery time and increase efficiency in the use of system resources.

**Service Management Suite for z/OS**
- Provides enterprise network management from a single point of control, maximizes availability of business resources, and improves operational efficiency and performance of IT assets and staff

¹ Requires IBM Tivoli NetView Monitoring for GDPS
NetView v6.2.1: Configuration Enhancements

- Conditional `%INCLUDE`
  - The `%INCLUDE` statement is enhanced to allow a member or file to be included when the specified tower or subtower is enabled. The conditional `%INCLUDE` statement can be specified in any file that supports the `%INCLUDE` statement.
  
  **Example:**

  ```
  %INCLUDE +DVIPA.DVTAD MEMBER1 MEMBER2
  ```

  - The `%INCLUDE` statement is evaluated in the following manner:
    - MEMBER1 is included if DVIPA.DVTAD is enabled
    - MEMBER2 is included if DVIPA.DVTAD is not enabled
    - If MEMBER2 is not really a member in a data set, it will be treated as a comment
MODIFY .TOWER

Add or delete towers (including subtowers) in your CNMSTYLE user members

Example CNMSTYLE statements:

TOWER = *SA *AON *MSM *Graphics NPDA NLDM TCPIPCOLLECT

*AMI *DVIPA *TEMA *IPMGT *NVSOA DISCOVERY

TOWER.DISCOVERY = TELNET

MODIFY .TOWER.Aa = +DVIPA.DVTAD – Discovery.TELNET

MODIFY .TOWER.AB = + DVIPA

The MODIFY .TOWER statements are evaluated in the following manner:

- “Aa” (interpreted as “AA”) and “AB” are sort keys and is evaluated very early
- The DVIPA DVTAD subtower is not enabled because the DVIPA tower is not yet enabled
- The DISCOVERY TELNET subtower is disabled because both the DISCOVERY tower and its TELNET subtower were previously enabled
- The DVIPA tower is enabled

Note: Tower statements are evaluated first, followed by MODIFY .TOWER statements
NetView v6.2.1: IP Management Enhancements

- Sysplex Management
  - Discovery Manager
    - Support has been added for OSA-Express5S.
- SNMP command
  - Encryption using Advanced Encryption Standard (AES) can be used for SNMP version 3 (SNMPv3) requests sent and received using the SNMP command.
- Inbound SNMP trap processing
  - An SNMP trap automation task can decrypt SNMPv3 traps that were encrypted using AES.
NetView v6.2.1: Retired Functions

- MVS Command Management - This function is superseded by the Command Revision Table function.
- Visual BLDVIEWS (VBV) - This function is superseded by the RODM Collection Manager function in the NetView Management Console.
- Common Event Infrastructure Service - There are several alternatives to this function, including the use of Event Integration Facility (EIF) events, SNMP traps, and system messages.
- 4700 support facility (TARA) - This function has no replacement. The hardware it supported is no longer manufactured and is out of support.
- GDPS Active/Active Continuous Availability solution - Functionality in support of the GDPS Active/Active Continuous Availability solution has been removed from the NetView for z/OS product and is available in the NetView Monitoring for GDPS product.
New Enhancements in NetView for z/OS v6.2.1
Global Variable Name and Value Length

- APAR OA47872 – will be available by September 4, 2015
- Current
  - Global variable names limited to 31 characters
  - Global variable values limited to 255 characters
- Problem: Current limits are too small for many customers
- Enhancement:
  - Increase length limits for name to 250 and for value to 31000 characters
  - Applies to both common and task global variables
  - No changes planned for NetView CLIST language or VIEW command
  - Save/Restore: name+value length limited to 4000 characters
    - New sample CNMSJM15 provided for migration of the DSISVRT VSAM cluster
Global Variable Name and Value Length (cont.)

- **Goal**
  - Keep external interfaces the same as they are for migration reasons

- **Examples of affected functions**
  - QRYGLOBL
    - New LONGVAR keyword
      - Use for programming – value is not lined up in a static column
  - PIPE stages (VAR, VARLOAD, STEM)
    - Modified to support 250-character variable names
  - Automation table functions (ATFs: DSITGLOB, DSICGLOB)
    - Modified to support 250-character variable names
  - GLOBALV command (DEF, GET, AUTO, TRACE, PUT, SAVE, RESTORE, PURGE options)
    - Modified to support 250-character variable names
Command Authorization Definitions

- APAR OA48179 - available
- Current: CNMSCAT2 – NetView command authorization table
- Problem: User-defined authorization statements can be lost when PTF or new release is applied
- Enhancement:
  - Add new member CNMSCATU for user-defined command authorization, similar to DSIOPFU, CNMCMGU, CNMSTUSR
  - %INCLUDEd in existing CNMSCAT2
  - Simpler command table administration for user definitions
DBAUTO Command

- APAR OA48180 - available
- Function: Purge entries from your VSAM database, reorganize the database, switch to a secondary database, clear the database altogether
- Problem
  - If DBAUTO or a sub-process fails, current message(s) don’t clearly indicate what failed.
- Enhancement:
  - Reflect actual (sub)-process that fails, not just overall command
  - Example: depending on specifics of the command, failing activity might be purge process, IDCAMS reorg process, or something else

DBAUTO: ALLOCATE NEW SPACx(2 1) TRACKS
DSI646I KEYWORD SPACX INVALID
DBAUTO: REORG FAILED
Message CNM493I

- APAR OA48181 – will be available by September 4, 2015
- Logs the entry of a command to NetView from automation processing
  - Current: **CNM493I member : seqnum : commandtext**
- Problem: sequence number can change with every update to automation table
- New
  - **CNM493I member : seqnum : label/group : commandtext**
  - Even though seqnum may change, label/group is constant
  - label/group insert will be one of the following:
    - Label or group name, if specified
    - Message id
    - **(AUTOMATED MSU)**
    - **(NO MSGID)**
New Enhancements Summary

- **Delivery**
  - Implement only on NetView v6.2.1
  - Ship in groups periodically through the year

- **Customer input desired:**
  - To review designs, provide feedback
  - To test new functions
IBM z Systems Enterprise Integration: GDPS Active/Active Currency
GDPS Active/Active Currency

- NetView Monitoring for GDPS and NetView for z/OS provided additional monitoring support for Multi-site Workload Lifeline v2.5 in December 2014. Support included:
  - Monitoring workloads and workload servers for workloads that utilize SNA applications for select SNA configurations
  - Monitoring workloads and workload servers that utilize applications on Linux on System z
    - Monitoring support is provided in the Tivoli Enterprise Portal (TEP) and the NetView 3270 console with the ACTVLIFE command
  - APARs OA46519 and OA46516
IBM z Systems Enterprise Integration: IBM Operations Analytics for z Systems NetView for z/OS
Centralized, Distributed, Cloud, Resilient Architectures Increase Data Volume

Where do I start??

404 ERROR

It’s SLOW!!

Everything is “green”

Logs, Traces, ...
Core files

Events
Metrics

Transactions
Config

The Challenge
Find the right needle in one of many haystacks – QUICKLY!

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
August 2015
IBM Operations Analytics for z Systems

Avoid outages and accelerate problem isolation and identification
Reduce mean time to repair

- **Analyze** various types data from multiple sources
- **Locate problems** from system, configuration, software logs and performance metrics using **machine learning** and **rapid index search**
- **Isolate issues** across various domains including OS, Middleware, applications, etc
- **Leverage Expert Advice** via links to support documentation and operations notes to resolve problems quickly
- **Visualize** search results with analytic tools to **rapidly determine root cause**
- **Out-of-the-box analysis and insights** for z/OS, WebSphere, DB2, CICS, IMS, MQ, Network
- **Fully customizable** to meet your needs

**in 2015**
- Network Insights
- Event notification
- Hadoop Support
- Analysis of Performance Metrics (new SMF real time Data Provider)
- Integration with ITM/OMEGAMON and Netcool Operations Insight, Service Management Unite, Trouble Ticketing
IBM Operations Analytics for z Systems (IOAz)

- The IBM Operations Analytics server is installed on z System (or x System) running Linux (64 bit)
- z/OS Insight Packs are installed on the IBM Operations Analytics server
- z/OS Log Forwarder / SMF Data Provider installed on each z/OS LPAR where you want to provide Search and Analysis

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
August 2015
IOAz v2.2 announced a network insights pack in April 2015

- Helps analyze logs (including syslogd) for common network issues related to TCP/IP, FTP, TN3270, etc.

- This is a good compliment for those using NetView for z/OS and OMEGAMON XE for Mainframe Networks for IP management.

- The IOAz team has a requirement to consume the NetView network log for components such as automation and network management to its network insights pack
  - There is a beta running with this function
  - We would like your input!
Scenario: IOAz and NetView

• Today IOAz consumes syslog messages
• Many “important” NetView messages are sent to an “authorized receiver”.
  • Depending on how you have this set up:
    • These messages will go to an operator that is logged on as an “authorized receiver” or they can go to syslog
• Let’s find a NetView “resource limit” message that went to syslog
• The search will start broadly, then be narrowed down to just NetView syslog messages.
IOAz Navigation Tree from Search ICON

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
August 2015
IOAz Network Insights Pack sample searches
Search string is *

Timeframe is 1 day

2240 msgs – quite a few!

Let's look at the job name pattern.

The configuration synchronization completed successfully.

Complete your session evaluations online at www.SHARE.org/Orlando-Eval

in Orlando 2015

August 2015
Search by the NetView job name

Search on NetView job name

Complete your session evaluations online at www.SHARE.org/Orlando-Eval

August 2015
NetView Resource Limit Message

Only 14 messages

BNH161I for MAXSTG, task DSIWBTSTK

Complete your session evaluations online at www.SHARE.org/Orlando-Eval

August 2015
A new IBM Operations Analytics for z Systems Early Access and Beta Program was announced on January 29, 2015.

In 2015, we will build on the strong foundation established over the past months as we develop and implement our product roadmap.

We are looking for customers and business partners worldwide who would like to help influence our roadmap and test new capabilities. The program is open-ended; interested participants may join at any time and stay on as long as they wish. That said, it is our desire to establish a set of “customer sponsor” relationships that will become instrumental in shaping the future of our offering.

To see the full program announcement, and to learn how to sign up, please visit us in our developerWorks community at:

[https://ibm.biz/BdEkZV](https://ibm.biz/BdEkZV)
IBM z Systems Enterprise Integration: Service Management Suite for z/OS
Service Management Unite
NetView for z/OS
Provides comprehensive service management capabilities for IBM z Systems

One Solution
Single offering that contains capabilities to manage z/OS and all key subsystems

High Availability & Automated Operations
Improve Service Levels and reduce system downtime

Network Management
Maintain the highest degree of availability of your z Systems networks

Performance Management
Real-time and historical performance and availability management

Asset Discovery
Who is using what, where and when

Dashboards
Single point of control to monitor and operate your applications

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
NEW: Service Management Suite for z/OS 1.3

- Modern Web UI for automated operations of z and non-z Systems environments
- Enhanced automation to support larger environments
- Enhanced problem determination with Operations Analytics

Service Management Suite for z/OS
NetView 6.2.1 Updates
Service Management Unite
OM PM Suite 5.3.1

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
August 2015
Service Management Suite for z/OS 1.3

Service Management Unite V1.1.0
System Automation for z/OS V3.5
NetView for z/OS V6.2.1
Tivoli Asset Discovery V8.1

OMEGAMON z/OS Perf Mgmt Suite
- OMEGAMON XE for DB2 PE V5.3.0
- OMEGAMON XE for Messaging on z/OS V7.3.0
- OMEGAMON XE for CICS V5.3.0
- OMEGAMON XE for IMS V5.3.0
- OMEGAMON Dashboard Edition on z/OS 5.3.0
- OMEGAMON XE for z/OS V5.3.0
- OMEGAMON XE for Mainframe Networks V5.3.0
- OMEGAMON XE for Storage V5.3.0
- OMEGAMON DE for z/OS V5.3.0
- ITCAM AD V7.1 (only ITCAM for WR component)
- Composite Application Manager for Web Resources on z/OS 7.1.0
- Operations Analytics Log Analysis
  - OMEGAMON z/OS Insight Pack

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
August 2015
Financial Benefits & Business Value

Simple Pricing Metric

z/OS Value Units

One stop shop for all your mainframe management needs

Pick components you need

Flexible to use

5698-AAF

ONE PID

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
August 2015
Service Management Unite - What is it?

A modernized, state-of-the-art service management dashboard for visibility and operations of IBM z Systems

Identify

Isolate

Restore
Service Management Unite and NetView

- NetView functions are a key part of Service Management Unite (SMU)
  - Automation
  - System Log
    - (NetView’s Consolidated Audit, NetView, and z/OS log - Canzlog)
  - NetView command support
- You can also launch into IBM Operations Analytics for z Systems and use its capabilities to look for NetView messages across all applications:
  - System Automation for z/OS
  - IBM Workload Scheduler
  - GDPS
- User-written applications
Scenario 1: SMU and NetView

- While looking at an error for a System Automation domain, you discover that NetView is “repeatedly” issuing failure messages for task DSIIPLOG.

- From SMU, we will see how to view the System Log (Canzlog) and issue a command to stop task DSIIPLOG.

- This is one of many commands that can be issued.
Welcome to IBM Service Management Unite

Version 1.1.0

IBM Service Management Unite is a service management dashboard user interface that brings mainframe management information and tasks from disparate sources into a single environment. It helps IBM z Systems™ programmers, operators and administrators with integrated visibility into mainframe operations to monitor system health and reduce problem determination and resolution times with IBM OMEGAMON®, IBM System Automation for z/OS, NetView® for z/OS and IBM Operations Analytics. You can access pre-defined dashboards from below or you can create your own custom dashboards using the Page Editor.

Monitor System Health
- Monitor your system health.

Domain and Automation Health
- Get an overview of your automation domains.

Explore Automation Domains
- Navigate through automation domains.

IBM Electronic Support
- Find IBM Service Management Unite in the Internet.

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
August 2015
SMU: Explore Automation Domains

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
August 2015
SMU: “View System Log” results

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Message ID</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-08-09 17:05:31 -0400</td>
<td>IST490i</td>
<td>VARY ACT FOR ID = EEWrt2a OVERRIDDEN BY VARY ACT</td>
</tr>
<tr>
<td>2015-08-09 17:05:31 -0400</td>
<td>IST490i</td>
<td>VARY ACT FOR ID = EEWrt2a OVERRIDDEN BY VARY ACT</td>
</tr>
<tr>
<td>2015-08-09 17:05:29 -0400</td>
<td>BNH167i</td>
<td>TASK 'DSIREXEC' MACRO 'EZASMI FUNCTION 'BIND' ERROR CODE '48'</td>
</tr>
<tr>
<td>2015-08-09 17:05:29 -0400</td>
<td>BNH167i</td>
<td>TASK 'DSILOG' MACRO 'EZASMI FUNCTION 'BIND' ERROR CODE '48'</td>
</tr>
<tr>
<td>2015-08-09 17:05:29 -0400</td>
<td>BNH167i</td>
<td>TASK 'DSIREXEC' MACRO 'EZASMI FUNCTION 'BIND' ERROR CODE '48'</td>
</tr>
<tr>
<td>2015-08-09 17:05:29 -0400</td>
<td>BNH167i</td>
<td>TASK 'DSILOG' MACRO 'EZASMI FUNCTION 'BIND' ERROR CODE '48'</td>
</tr>
<tr>
<td>2015-08-09 17:05:29 -0400</td>
<td>BNH167i</td>
<td>TASK 'DSIREXEC' MACRO 'EZASMI FUNCTION 'BIND' ERROR CODE '48'</td>
</tr>
<tr>
<td>2015-08-09 17:05:29 -0400</td>
<td>BNH167i</td>
<td>TASK 'DSILOG' MACRO 'EZASMI FUNCTION 'BIND' ERROR CODE '48'</td>
</tr>
</tbody>
</table>

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
August 2015
SMU: “Execute Command” Action
SMU: Stop task DSIIPLOG

Execute Command...

Execute a command on system <b>TESTMVS</b> in domain <b>TESTPLX INGXSGAD</b>.

Command: stop task=dsiiplog
Output:
DSI660I STOP TASK ISSUED FOR dsiiplog BY FREI
DSI531I 'DSIIPLOG' : 'DSIIPLOG' IS TERMINATING
DSI200I TASK DSIIPLOG HAS TERMINATED
IBM z Systems Enterprise Integration: Service Management Unite
IBM Operations Analytics for z Systems
NetView for z/OS
SMU, IOAz, and NetView

- We’ve shown you how to look for NetView messages in IOAz and how to look at Canzlog and issue NetView commands in SMU.
- You can now access these capabilities from a single user interface.
- From the Performance icon, you can get to the OMEGAMON XE Overview views.
- From the OMEGAMON XE Overview views, you can launch to IOAz to isolate messages related to problems quickly.
- You can then use System Automation for z/OS and NetView log and command capabilities to resolve the problem.
Scenario: SMU, IOAz, and NetView

- From the OMEGAMON LPAR Overview view, launch to IOAz to find DSI*I messages for LPAR CANSYSG
- There are 450+ messages which meet the criteria
- There are some optional NetView tasks that aren’t active
  - If necessary, these can be started using the “Execute Command” Action from the LPAR Overview view.
Launching to IOA from SMU with DSI*I

Start here

Log Analysis

Text: *  
Time: last hour  
Type:  
Sysplex  
LPAR

Analyze Logs

Default search

Modified Search
IOAz Search Results for DSI*I and CANSYSG

In context: DSI*I and LPAR CANSYSG

460 messages

BNJDSERV inactive

August 2015
Issuing NetView Commands from OM SMU View

Selected LPAR
LPAR Name: CANSYSG
SYSPLEX Name: OHC51PM

Log Analysis
Text: DSI#I
Time: last week
Type: Sysplex, LPAR

LPAR Summary

Actions
- View LPAR Details for CANSYSG
- Execute Command
- Properties...
- Refresh
- Export
- Print

Healthy: CANSYSG, SYS
Summary

- NetView for z/OS:
  - Continues to provide enhancements for:
    - Ease of use
    - Time to value
    - Serviceability
    - Security
  - Continues to be an integral component in integration solutions with Canzlog, automation, and network management capabilities
    - Service Management Suite for z/OS
    - IBM Operations Analytics for z Systems
    - GDPS Active/Active and other GDPS services
  - Is part of IBM z Service Management, which is critical for Mobile, Cloud, and Analytics

August 2015
More Information

• NetView website

• Service Management Suite for z/OS

• IP management with NetView for z/OS

• NetView customer forum
  http://tech.groups.yahoo.com/group/NetView/

• NetView documentation

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
August 2015
Related Sessions

• 17594: Proactive Outage Avoidance with IBM Service Management Suite for z/OS – Monday, 08/10/15, Uwe Gramm

• 17931: Lunch&Learn: IT Operations Analytics Solutions for z Systems – Monday, 08/10/15, Paul Smith


• 17736: Introduction to Mainframe Network Management – Monday, 08/10/15, Dean Butler

• 17536: How IBM Can Identify z/OS Networking Issues without Tracing - Wednesday, 08/12/15, Dean Butler and Ernie Gilman

• 17595: Exploiting IT Log Analytics to Find and Fix Problems Before They Become Outages – Thursday, 08/13/15, Paul Smith

• 17739: NetView for z/OS: IP Management Topics and Solutions – Thursday, 08/13/15, Pam McLean

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
August 2015
Please fill out your session evaluation

- NetView for z/OS: New Directions
- Session # 17886
- QR Code:

Complete your session evaluations online at www.SHARE.org/Orlando-Eval

August 2015
THANK YOU

Complete your session evaluations online at www.SSHARE.org/Orlando-Eval
August 2015