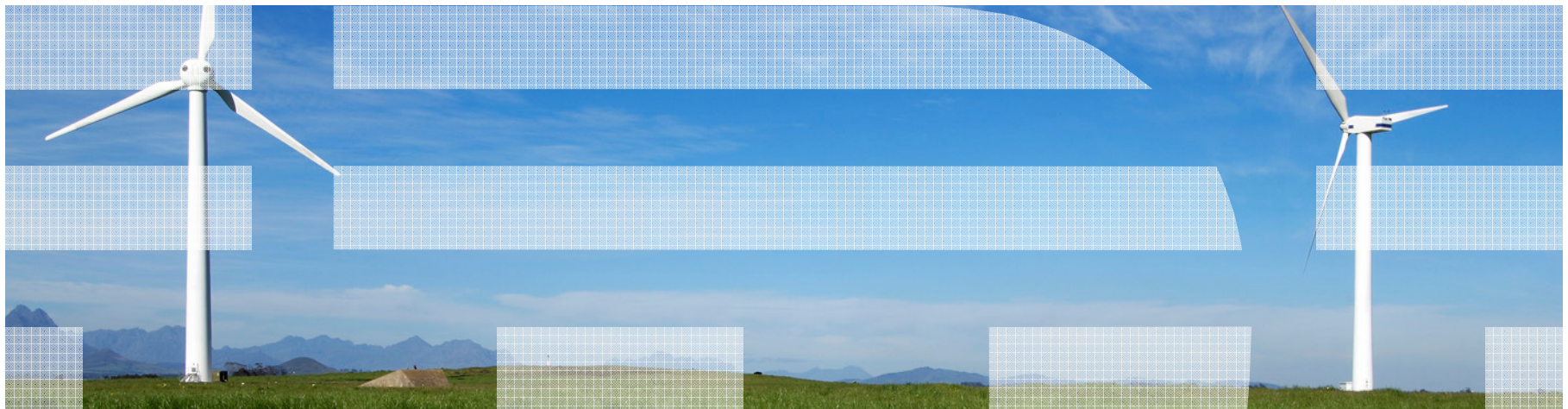


IBM Tivoli NetView[®] for z/OS[®] Integration with Other Products



Leverage NetView's Open Architecture and Integration Points to Improve Key ITIL Services Management Processes

IBM Tivoli NetView for z/OS

Leveraging NetView for z/OS Integration Points

- Improve System z Network and Operational Efficiency and Resiliency

- Management of TCP/IP networks
- Sysplex management
- Automated responses to messages and events
- Automated response to Network intrusions

- Improve Data Center Availability, Predictability, and Scalability

- Application Performance Management
- Discovery and Change Management
- Business Service Management
- Incident and Problem Management
- End-to-End Network Management

- Improve Data Center Agility and Resiliency

- High Availability Management
- Disaster Recovery Management
- Workload Automation

Agenda

OMEGAMON® products and ITM

- **Workspace linkage**
- Command authorization with NetView

Tivoli® Application Dependency Discovery Manager (TADDM)

Tivoli Business Services Manager (TBSM)

Tivoli Service Request Manager (TSRM)

IBM Tivoli Network Manager (ITNM)

System Automation for z/OS (SA)

Geographically Dispersed Parallel Sysplex (GDPS®)

Tivoli Workload Scheduler (TWS)

Summary

Workspace Linkage

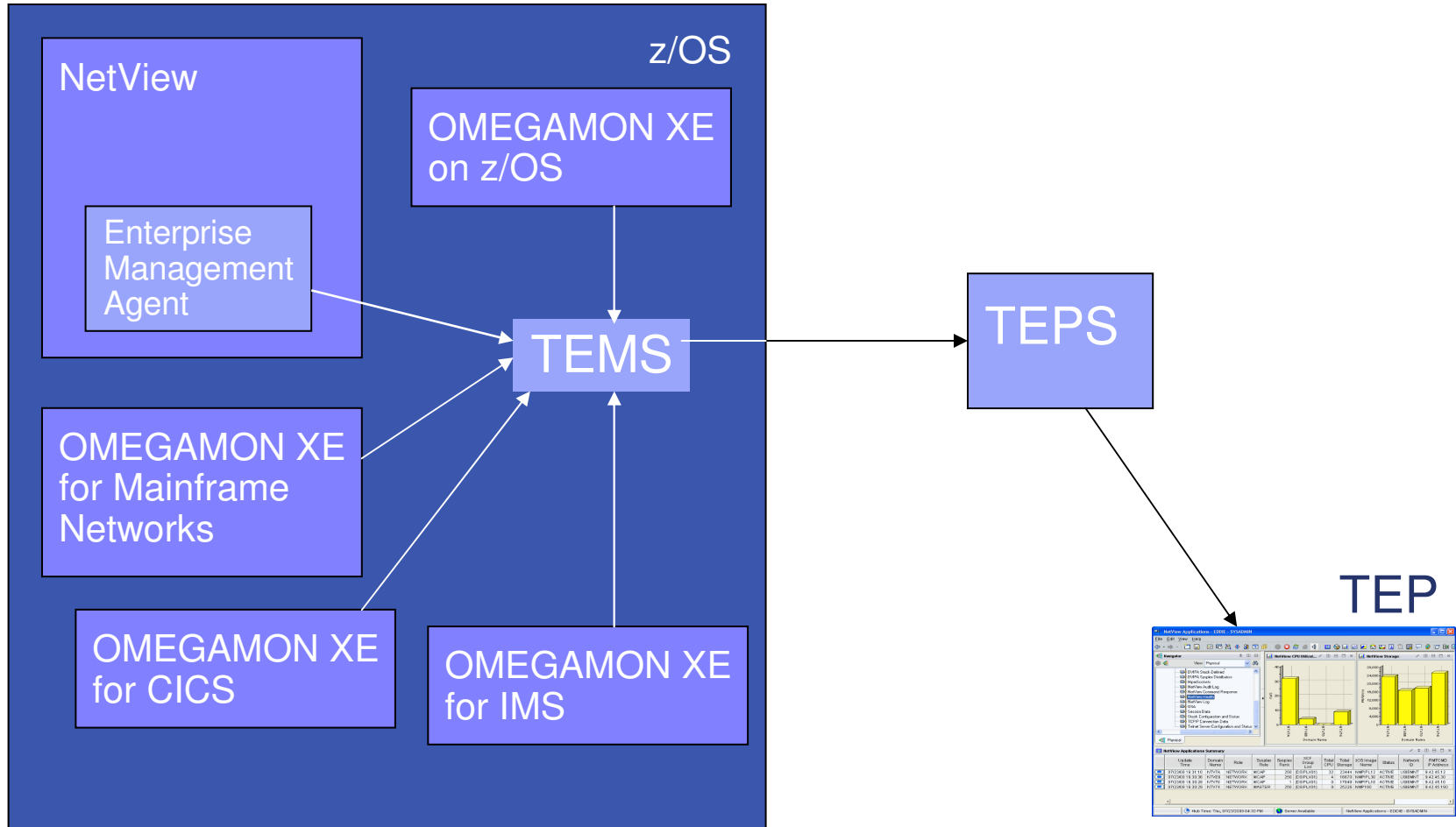
- Integration through Tivoli Enterprise Portal (TEP)
 - Dynamic workspace links
 - Linkage in context

- Correlated links between NetView and ...
 - OMEGAMON XE for Mainframe Networks
 - OMEGAMON XE on z/OS
 - OMEGAMON XE for CICS®
 - OMEGAMON XE for IMS™

White paper on OPAL describing how to create/customize your own links:

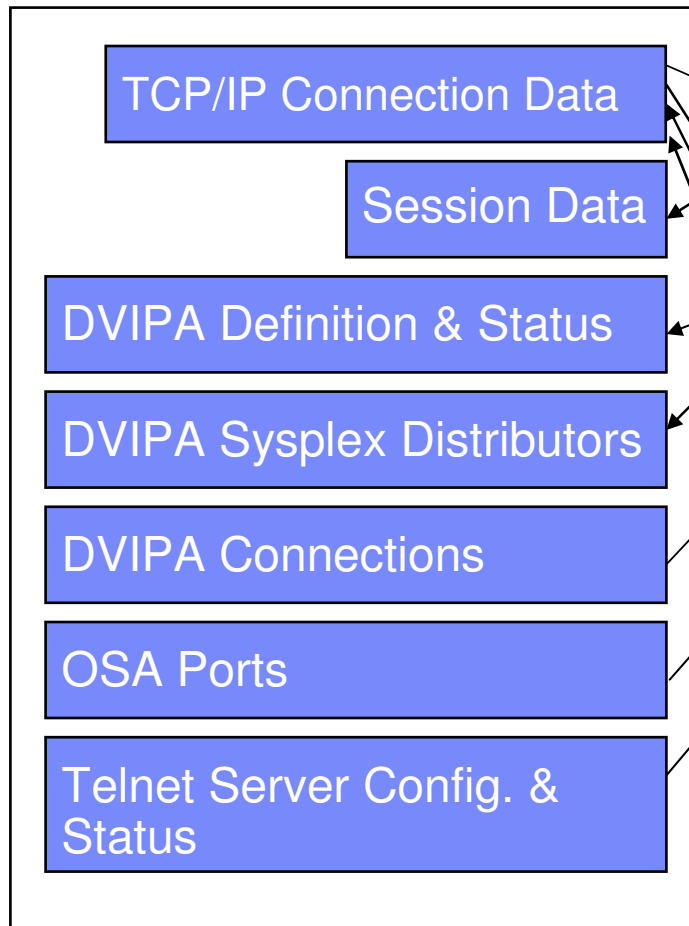
<http://www1.ibm.com/software/brandcatalog/opal/details?catalog.label=1TW10NV06>

Architecture

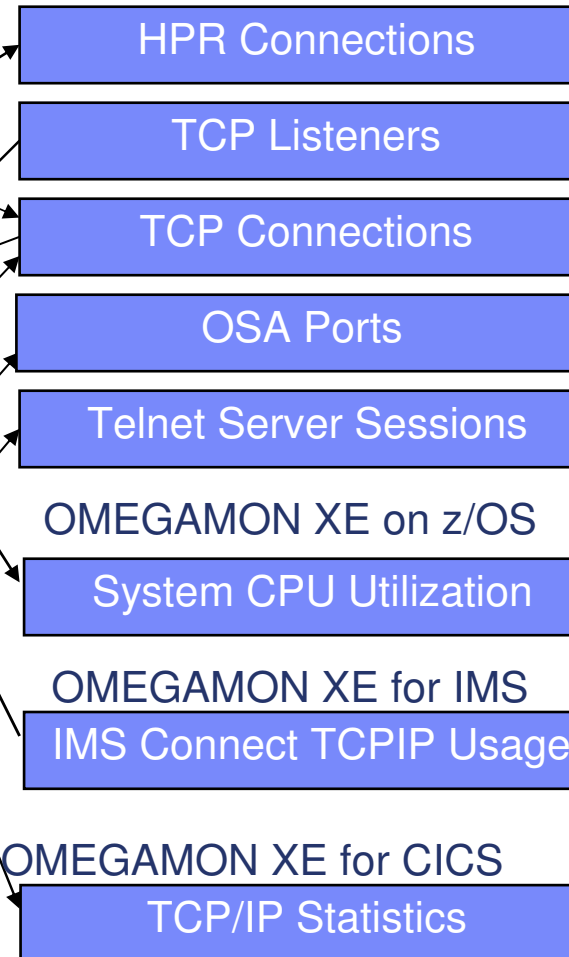


Cross-product Linkage

NetView workspaces



OMEGAMON XE for Mainframe Networks



NetView: Telnet Server Configuration & Status

Telnet Server Summary

Update Time	Telnet Server Job Name	Number of Configured Ports	Number of Active Ports
06/11/08 13:37:13	TN3270	2	2
06/11/08 13:37:13	TN3270B	1	1

Number of Ports by Server

Telnet Server Job Name	Number of Configured Ports	Number of Active Ports
TN3270	2	2
TN3270B	1	1

Telnet Server Port Summary

Update Time	Telnet Server Job Name	Server Status	Port	Port Status	TCPIP Stack Job Name	Sysplex Name	zOS Image Name	zOS Release
06/11/08 13:37:13	TN3270	ACTIVE	80	QUIESCED	TCPIP	NVDIFLEX1	NMP190	
06/11/08 13:37:13	TN3270	ACTIVE	4080	ACTIVE	TCPIP	NVDIFLEX1	NMP190	
06/11/08 13:37:13	TN3270B	ACTIVE	80	ACTIVE	TCPIP	NVDIFLEX1	NMP190	

Number of configured / active ports by server

NetView: Telnet Server Configuration & Status

Telnet Server Summary

Update Time	Telnet Server Job Name	Number of Configured Ports	Number of Active Ports
06/11/08 13:37:13	TN3270	2	2
06/11/08 13:37:13	TN3270B	1	1

Number of Ports by Server

Telnet Server Port Summary

Update Time	Telnet Server Job Name	Server Status	Port	Port Status	TCPIP Stack Job Name	Sysplex Name	zOS Image Name	zOS Release Level
06/11/08 13:37:13	TN3270	ACTIVE	80	QUIESCED	TCPIP	NVDPLEX1	NMP190	V1R8
06/11/08 13:37:13	TN3270	ACTIVE	4080	ACTIVE	TCPIP	NVDPLEX1	NMP190	V1R8
06/11/08 13:37:13	TN3270B	ACTIVE	80	ACTIVE	TCPIP	NVDPLEX1	NMP190	V1R8

Take actions:

- ▶ Quiesce the port:
MVS VARY TCPIP,tcpName,T,QUIESCE,...
- ▶ Resume the port:
MVS VARY TCPIP,tcpName,T,RESUME,...

Hub Time: Tue, 06/17/2008 11:42 AM

NetView: Telnet Server Configuration & Status

The screenshot displays the NetView interface for Telnet Server Configuration and Status. It includes a navigation pane on the left, a 'Telnet Server Summary' table, a 'Number of Ports by Server' bar chart, and a 'Telnet Server Port Summary' table at the bottom.

Telnet Server Summary

Update Time	Telnet Server Job Name	Number of Configured Ports	Number of Active Ports
06/11/08 13:37:13	TN3270	2	2
06/11/08 13:37:13	TN3270B	1	1

Number of Ports by Server

Telnet Server Port Summary

Update Time	Telnet Server Job Name	Server Status	Port	Port Status	TCPIP Stack Job Name	Sysplex Name	zOS Image Name	zOS Release Level
06/11/08 13:37:13	TN3270	ACTIVE	80	QUIESCED	TCPIP	NVDPLEX1	NMP190	V1R8
06/11/08 13:37:13	TN3270	ACTIVE	4080	ACTIVE	TCPIP	NVDPLEX1	NMP190	V1R8
06/11/08 13:37:13	TN3270B	ACTIVE	80	ACTIVE	TCPIP	NVDPLEX1	NMP190	V1R8

Link in context to OMEGAMON XE for Mainframe Networks "Telnet Server Session Details" workspace

OMEGAMON XE for Mainframe Networks

TN3270 Server Session Details Table for 0x3E26E

Collection Time	TN3270 Server Name	Telnet LU Name	SNA Application Name	Remote IP Address	Remote Port	Local IP Address	Local Port	Session Start	Session End	Average Total Response Time	Average IP Response Time	Average SNA Response Time	Average Transaction Count
08/19/08 16:11:51	TN3270	NTC00106		9.42.8.221	2776	9.42.32.85	23	08/01/08 17:14:30		1	1	0	0

Telnet Server Session Details

Hub Time: Wed, 03/25/2009 01:07 PM | Server Available | TN3270 Server Session Details - MFN16 - SYSADMIN

NetView: OSA Ports Workspace

The screenshot shows the NetView OSA Ports workspace. At the top, there is a 'Take Action' dialog box with a dropdown menu for 'Name' (set to '<Select Action>') and a text field for 'Command'. Below this is a 'Destination Systems' section. The main area displays the 'OSA Ports Summary' table.

Collection Time	Channel Number	Channel Hardware Level	Subtype	Port Name	Port Number	Port Type	Active MAC Address	Burned In MAC Address	LAN Traffic State	Service Mode	Disabl Status
06/11/08 13:37:13	01	osaExp300	osaexp3gigabitEthernet	OSAPORT1	800	osaexp3gigabitEthernet	01BC00010002	01BC00010002	enabled	Yes	0

Link in context to OMEGAMON XE for Mainframe Networks workspaces

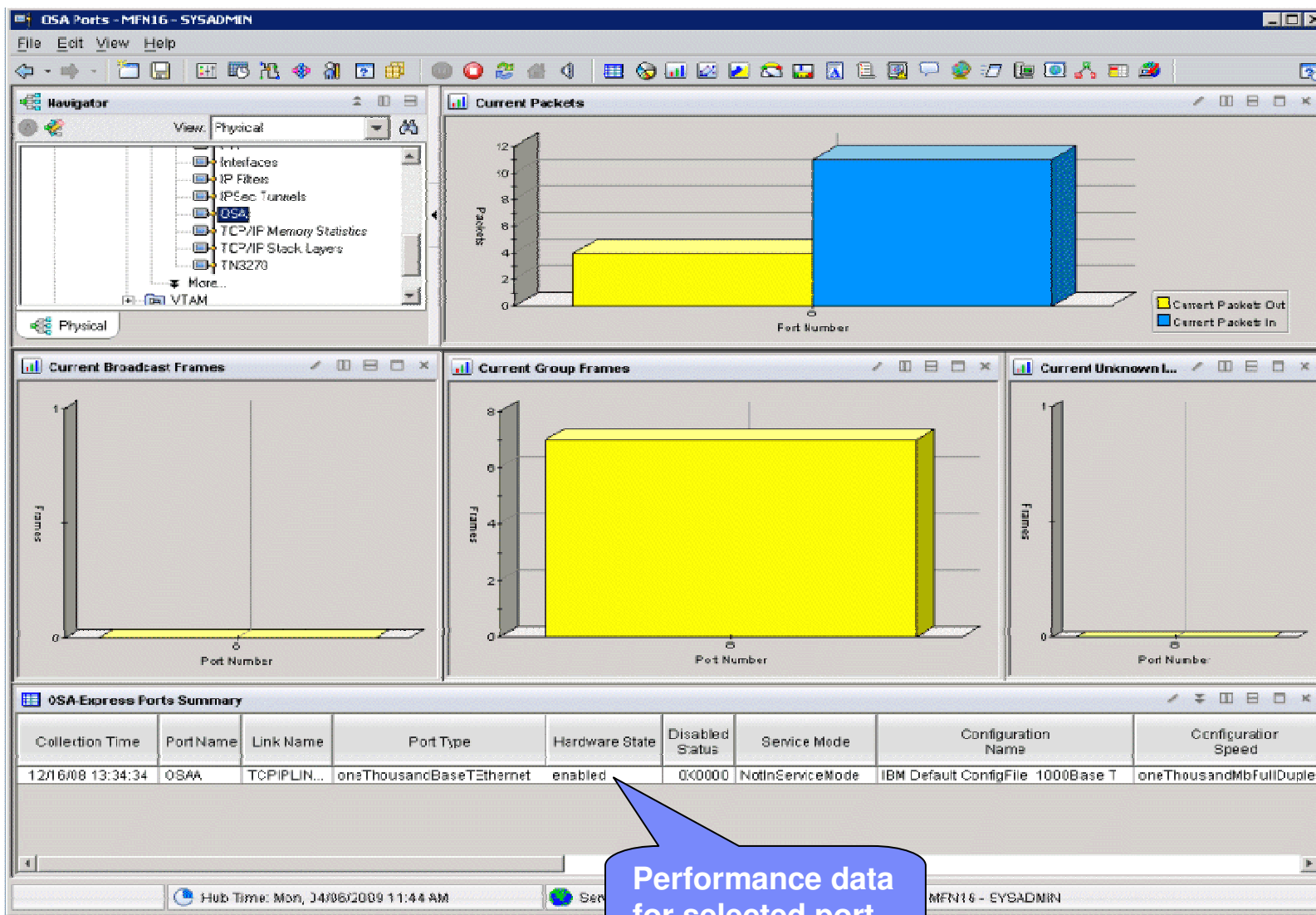
- ▶ OSA Ports
- ▶ OSA-Express2 10 GB Ports
- ▶ OSA-Express3 Ports

Config. data for OSA ports

OSA Ports

- Collection Time
- Channel Number
- Channel Hardware Level
- Channel Subsystem ID
- Subtype
- Port Name
- Port Number
- Port Type
- Active MAC Addr.
- Burned-in MAC Addr.
- LAN Traffic State
- Service Mode
- Disabled Status
- Config. Speed Mode
- Active Speed Mode
- Sysplex Name
- System ID

OMEGAMON XE for Mainframe Networks: OSA Ports



Agenda

OMEGAMON® products and ITM

- Workspace Linkage
- **Command Authorization with NetView**

Tivoli Application Dependency Discovery Manager (TADDM)

Tivoli Business Services Manager (TBSM)

Tivoli Service Request Manager (TSRM)

IBM Tivoli Network Manager (ITNM)

System Automation for z/OS (SA)

Geographically Dispersed Parallel Sysplex (GDPS)

Tivoli Workload Scheduler (TWS)

Summary

Command Authorization with NetView

- Applies only to agents running on z/OS
- For agents that do not have a command handler
 - Route OMEGAMON Take Action commands to NetView for execution
- Command authorization is performed at NetView leveraging NetView's command authorization facilities.
 - Command Table Authorization
 - SAF Authorization
 - TEP userID is used to determine the NetView operator whose command authority is checked. If command authorization passes, the command is executed on that NetView operator.
- Messages written to NetView Log to provide audit trail of who did what
- TEP user reporting can be used to view the NetView Log (3270 or workspace) and Take Action status information.

z/OS OMEGAMON Agents

- OMEGAMON XE for CICS on z/OS V3.1.0, V4.1.0 and later
- OMEGAMON XE for DB2® on z/OS V3.1.0, V4.1.0 and later
- OMEGAMON XE for IMS on z/OS V3.1.0, V4.1.0 and later
- OMEGAMON XE for Storage on z/OS V3.1.0, V4.1.0 and later
- OMEGAMON XE for Mainframe Networks V3.1.0, V4.1.0 and later
- OMEGAMON XE on z/OS V3.1.0, V4.1.0 and later
- OMEGAMON z/OS Management Console V1.1.0, V4.1.0 and later
- OMEGAVIEW® V3.1.0
- OMEGAVIEW II® for the Enterprise V3.1.0

Installation Requirements

- OMEGAMON 3.1.0 PTFs
- OMEGAMON 4.1.0 PTFs
- Configuration Tool PTFs
- Notes:
 - Does not require a NetView for z/OS Agent
 - NetView for z/OS must reside on the same LPAR as the OMEGAMON XE Agent and/or TEMS

ICAT Configuration – PPI

```
Session B - [24 x 80]
File Edit View Communication Actions Window Help
[Icons]

KDS62PP1 ----- SPECIFY CONFIGURATION VALUES -----
COMMAND ==>

Started task          ==> CICTH@@L
Type (Hub or Remote) ==> HUB

Security settings:
  Validate security? ==> N (Y, N)

ITMS password encryption information:
  Integrated Cryptographic Service Facility (ICSF)
  ICSF load library
  ==> CSF.SCSFM00
  ITMS encryption key
  ==>
                                     <== ** Password encrypted **
  (Note: Press F1=Help for additional encryption options.)

Program to Program Interface (PPI) information:
  Forward Take Action commands to NetView for z/OS? ==> N (Y, N)
  NetView PPI receiver ==> CNMPCMDR
  TEMS PPI sender      ==>           

Enter=Next  F1=Help  F3=Back  F5=Advanced

MA  b                                     04/029
[Icons] Connected to remote server/host wlaa.tivlab.raleigh.ibm.com using lu/pool TCPA0407 and port 23
```

Want NetView command authorization? (Default is No.)

Program to Program Interface (PPI) information:
Forward Take Action commands to NetView for z/OS? ==> N (Y, N)
NetView PPI receiver ==> CNMPCMDR
TEMS PPI sender ==>

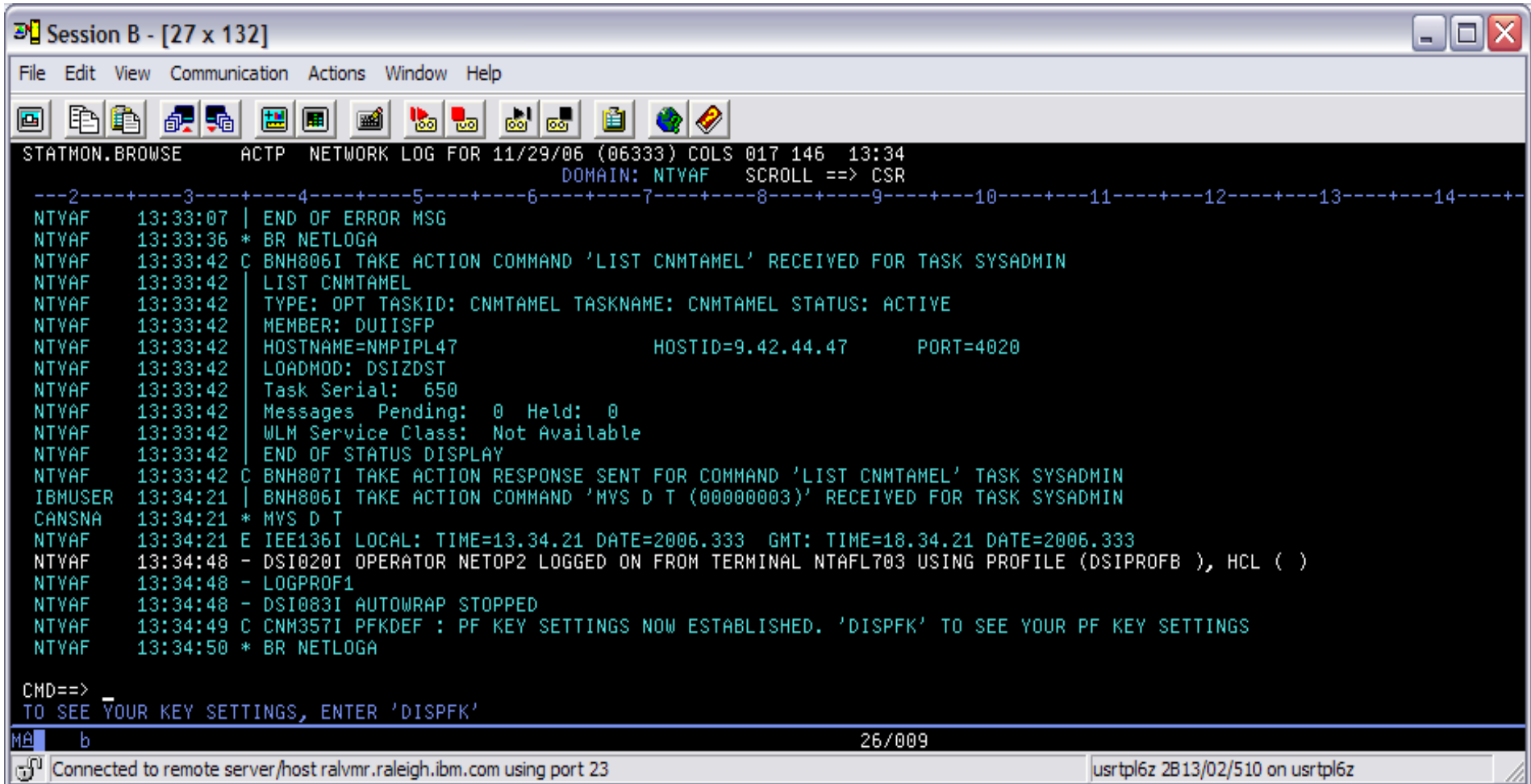
NetView Configuration

- NetView Configuration
 - Define TEP user ID(s) to NetView
 - Define NetView PPI receiver in NetView's configuration member, CNMSTYLE (optional)
 - Start NetView PPI receiver by issuing the APSERV command
 - Basic syntax: **APSERV *ppircvrname***

Defining TEP User IDs to NetView

- Command authorization for Take Action commands uses the TEP userID, which is passed to NetView with the command.
- Must do one or more of the following:
 - Create a new TEP user whose userID exactly matches a new or existing NetView operator ID
 - Define an existing TEP userID as a NetView operator ID
 - Map the TEP userID to a valid NetView operator ID
 - Use the `NACMD.OPID.TEPLogonid` statement in `CNMSTYLE`
- Only the userID is used for command authorization. No password validation.

NetView Log after Commands



```

Session B - [27 x 132]
File Edit View Communication Actions Window Help
STATION.BROWSE  ACTP  NETWORK LOG FOR 11/29/06 (06333) COLS 017 146 13:34
                                DOMAIN: NTVAF  SCROLL ==> CSR
---2---+---3---+---4---+---5---+---6---+---7---+---8---+---9---+---10---+---11---+---12---+---13---+---14---+
NTVAF 13:33:07 | END OF ERROR MSG
NTVAF 13:33:36 * BR NETLOGA
NTVAF 13:33:42 C BNH806I TAKE ACTION COMMAND 'LIST CNMTAMEL' RECEIVED FOR TASK SYSADMIN
NTVAF 13:33:42 | LIST CNMTAMEL
NTVAF 13:33:42 | TYPE: OPT TASKID: CNMTAMEL TASKNAME: CNMTAMEL STATUS: ACTIVE
NTVAF 13:33:42 | MEMBER: DUISFP
NTVAF 13:33:42 | HOSTNAME=NMPIPL47          HOSTID=9.42.44.47      PORT=4020
NTVAF 13:33:42 | LOADMOD: DSIZDST
NTVAF 13:33:42 | Task Serial: 650
NTVAF 13:33:42 | Messages Pending: 0 Held: 0
NTVAF 13:33:42 | WLM Service Class: Not Available
NTVAF 13:33:42 | END OF STATUS DISPLAY
NTVAF 13:33:42 C BNH807I TAKE ACTION RESPONSE SENT FOR COMMAND 'LIST CNMTAMEL' TASK SYSADMIN
IBMUSER 13:34:21 | BNH806I TAKE ACTION COMMAND 'MVS D T (00000003)' RECEIVED FOR TASK SYSADMIN
CANSNA 13:34:21 * MVS D T
NTVAF 13:34:21 E IEE136I LOCAL: TIME=13.34.21 DATE=2006.333 GMT: TIME=18.34.21 DATE=2006.333
NTVAF 13:34:48 - DSI020I OPERATOR NETOP2 LOGGED ON FROM TERMINAL NTAFL703 USING PROFILE (DSIPROFB ), HCL ( )
NTVAF 13:34:48 - LOGPROF1
NTVAF 13:34:48 - DSI083I AUTOWRAP STOPPED
NTVAF 13:34:49 C CNM357I PFKDEF : PF KEY SETTINGS NOW ESTABLISHED. 'DISPFK' TO SEE YOUR PF KEY SETTINGS
NTVAF 13:34:50 * BR NETLOGA

CMD==>
TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'
MA  b                                     26/009
Connected to remote server/host ralvmr.raleigh.ibm.com using port 23  usrtpl6z 2B13/02/510 on usrtpl6z

```

NetView Log after Commands

Session B - [27 x 132]

File Edit View Communication Actions Window Help

STATION.BROWSE ACTP NETWORK LOG FOR 11/29/06 (06333) COLS 017 146 13:33:07
DOMAIN: NTVAF SCROLL ==>

```
---2---+---3---+---4---+---5---+---6---+---7---+---8---+---9---+---10---+---11---+---12---+---13---+---14---+
NTVAF 13:33:07 | END OF ERROR MSG
NTVAF 13:33:36 * BR NETLOGA
NTVAF 13:33:42 C BNH806I TAKE ACTION COMMAND 'LIST CNMTAMEL' RECEIVED FOR TASK SYSADMIN
NTVAF 13:33:42 | LIST CNMTAMEL
NTVAF 13:33:42 | TYPE: OPT TASKID: CNMTAMEL TASKNAME: CNMTAMEL STATUS: ACTIVE
NTVAF 13:33:42 | MEMBER: DUISFP
NTVAF 13:33:42 | HOSTNAME=NMPIPL47 HOSTID=9.42.44.47 PORT=4020
NTVAF 13:33:42 | LOADMOD: DSIZDST
NTVAF 13:33:42 | Task Serial: 650
NTVAF 13:33:42 | Messages Pending: 0 Held: 0
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NTVAF 13:34:48 - LOGPROF1
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NTVAF 13:34:49 C CNM357I PFKDEF : PF KEY SETTINGS NOW ESTABLISHED. 'DISPFK' TO SEE YOUR PF KEY SETTINGS
NTVAF 13:34:50 * BR NETLOGA

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

Command received

Command results

MA b 26/009

Connected to remote server/host ralvmr.raleigh.ibm.com using port 23 usrtpl6z 2B13/02/510 on usrtpl6z

NetView Log after Commands

Session B - [27 x 132]

File Edit View Communication Actions Window Help

STATION.BROWSE ACTP NETWORK LOG FOR 11/29/06 (06333) COLS 017 146 13:34
DOMAIN: NTVAF SCROLL ==> CSR

```
---2---+---3---+---4---+---5---+---6---+---7---+---8---+---9---+---10---+---11---+---12---+---13---+---14---+
NTVAF 13:33:07 | END OF ERROR MSG
NTVAF 13:33:36 * BR NETLOGA
NTVAF 13:33:42 C BNH806I TAKE ACTION COM... EIVED FOR TASK SYSADMIN
NTVAF 13:33:42 | LIST CNMTAMEL
NTVAF 13:33:42 | TYPE: OPT TASKID: CNMTA... STATUS: ACTIVE
NTVAF 13:33:42 | MEMBER: DUISFP
NTVAF 13:33:42 | HOSTNAME=NMPIPL47... HOSTID=9.42.44.47 PORT=4020
NTVAF 13:33:42 | LOADMOD: DSIZDST
NTVAF 13:33:42 | Task Serial: 650
NTVAF 13:33:42 | Messages Pending: 0 Held:
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IBMUSER 13:34:21 | BNH806I TAKE ACTION COMMAND 'MVS D T (00000003)' RECEIVED FOR TASK SYSADMIN
CANSNA 13:34:21 * MVS D T
NTVAF 13:34:21 E IEE136I LOCAL: TIME=13.34.21 DATE=2006.333 GMT: TIME=18.34.21 DATE=2006.333
NTVAF 13:34:48 - DSI020I OPERATOR NETOP2 LOGGED ON FROM TERMINAL NTAFL703 USING PROFILE (DSIPROFB ), HCL ( )
NTVAF 13:34:48 - LOGPROF1
NTVAF 13:34:48 - DSI083I AUTOWRAP STOPPED
NTVAF 13:34:49 C CNM357I PFKDEF : PF KEY SETTINGS NOW ESTABLISHED. 'DISPFK' TO SEE YOUR PF KEY SETTINGS
NTVAF 13:34:50 * BR NETLOGA

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

Command received

Command results

MA b 26/009

Connected to remote server/host ralvmr.raleigh.ibm.com using port 23 usrtpl6z 2B13/02/510 on usrtpl6z

NetView Log in the TEP

The screenshot displays a Windows window titled 'nvlogta.bmp - Windows Picture and Fax Viewer'. It contains two main components: a 'Message Count' bar chart and a 'NetView Log Summary Table'.

Message Count Chart: A 3D bar chart showing the count of messages over time intervals on 08/01/06. The Y-axis is labeled 'Count' (0-6) and the X-axis is 'Time Interval'. The bars represent counts for intervals: 20:58:10 (5), 20:58:38 (1), 20:59:05 (6), 20:59:33 (3), 21:00:00 (0), 21:00:28 (0), 21:00:55 (0), 21:01:22 (0), 21:01:51 (1), and 21:02:18 (2).

NetView Log Summary Table: A table with columns: SeqNum, Log, OperID, Message Domain, Routing, Date, Time, MTYPE, and Message. The following rows are highlighted with a red border:

SeqNum	Log	OperID	Message Domain	Routing	Date	Time	MTYPE	Message
3999	ACTS	NETOP1	NTVAF		08/01/06	20:58:31	*	NACMD HOSTDEST=9.76.102.203
4000	ACTS	NETOP1	NTVAF		08/01/06	20:58:31	C	BNH804I 'NETVIEW TIVOLI ENTERPRISE PORTAL AGENT' 'SIG-9-76-102-21
4001	ACTS	NETOP1	NTVAF		08/01/06	20:58:54	C	BNH804I 'NETVIEW TIVOLI ENTERPRISE PORTAL AGENT' 'SIG-9-76-102-21
4002	ACTS	NETOP1	NTVAF		08/01/06	20:59:32	C	BNH806I TAKE ACTION COMMAND 'NANVCMD COMMAND=STOP TASK=CM
4003	ACTS	NETOP1	NTVAF		08/01/06	20:59:32		stop task=cnmtnamel
4004	ACTS	NETOP1	NTVAF		08/01/06	20:59:32		BNH232E 'SYSADMIN' IS NOT AUTHORIZED TO ISSUE COMMAND 'STOP'
4005	ACTS	NETOP1	NTVAF		08/01/06	20:59:32		BNH233E THE COMMAND 'STOP' IS PROTECTED BY COMMAND IDENTIFIE
4006	ACTS	NETOP1	NTVAF		08/01/06	20:59:32		DSI213I ACCESS TO 'stop' IS NOT AUTHORIZED
4007	ACTS	NETOP1	NTVAF		08/01/06	20:59:32	C	BNH807I TAKE ACTION RESPONSE SENT FOR COMMAND 'NANVCMD COI
4008	ACTS	NETOP1	NTVAF		08/01/06	20:59:51	C	BNH806I TAKE ACTION COMMAND 'NALBRW NETVIEWLOG= ID= AMT= BLO
4009	ACTS	NETOP1	NTVAF		08/01/06	20:59:51		NALBRW NetViewLog= ID= AMT= BLOG=() BRPRMS=() SUBCMD=() INTVL=
4010	ACTS	NETOP1	NTVAF		08/01/06	20:59:52	C	BNH807I TAKE ACTION RESPONSE SENT FOR COMMAND 'NALBRW NETV
4011	ACTS	NETOP1	NTVAF		08/01/06	21:02:09	*	BR NETLOGA
4012	ACTS	NETOP1	NTVAF		08/01/06	21:02:46	C	BNH806I TAKE ACTION COMMAND 'NALBRW NETVIEWLOG= ID= AMT=18 E
4013	ACTS	NETOP1	NTVAF		08/01/06	21:02:46		NALBRW NetViewLog= ID= AMT=18 BLOG=() BRPRMS=() SUBCMD=() INTV

Agenda

OMEGAMON products and ITM

Tivoli Application Dependency Discovery Manager (TADDM)

Tivoli Business Services Manager (TBSM)

Tivoli Service Request Manager (TSRM)

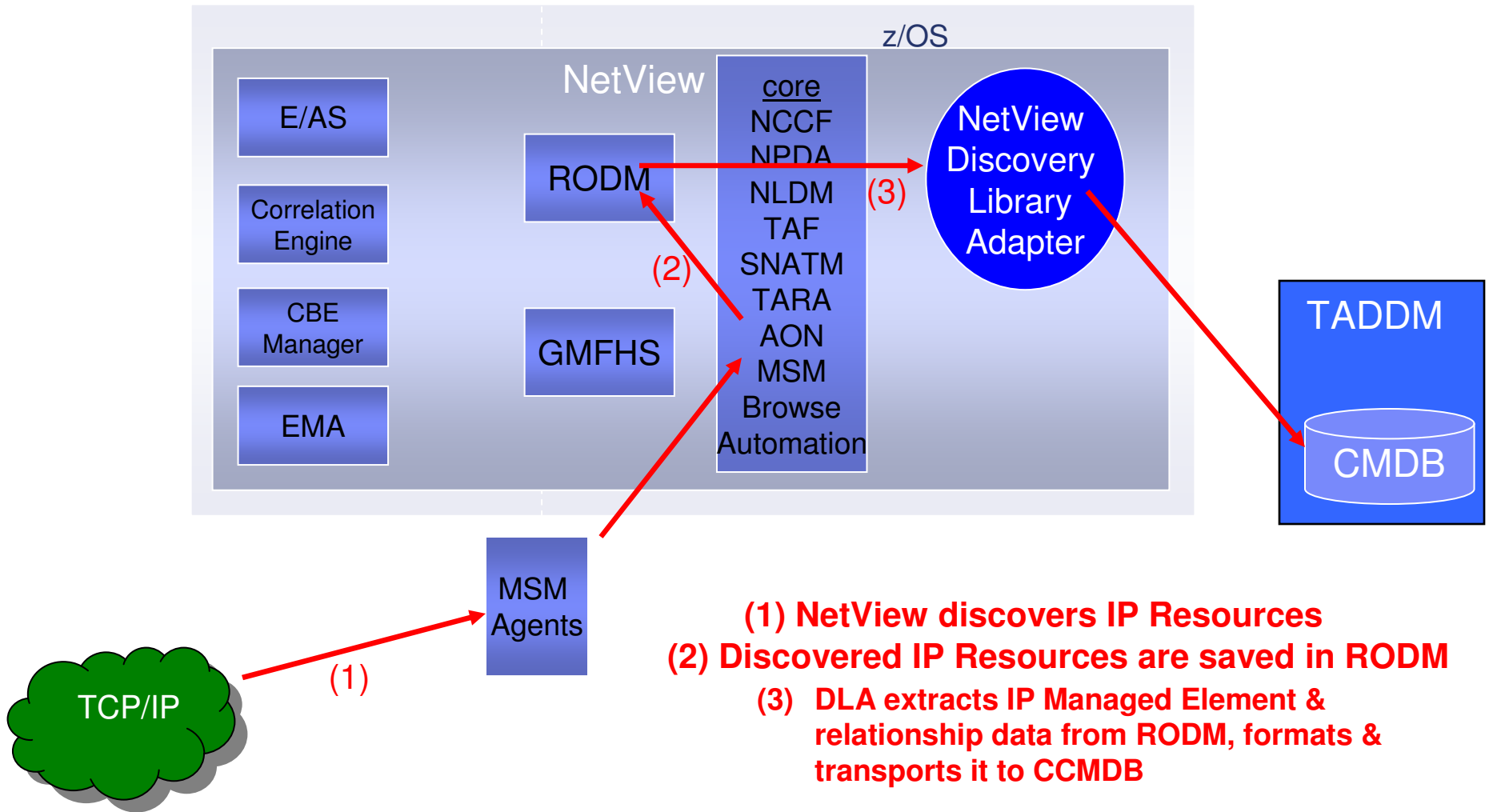
IBM Tivoli Network Manager (ITNM)

System Automation for z/OS (SA)

Geographically Dispersed Parallel Sysplex (GDPS)

Tivoli Workload Scheduler (TWS)

Summary



NetView Data + z/OS DLA Data in TADDM

The screenshot shows the Configuration Discovery and Tracking interface. On the left, a tree view under 'Physical Infrastructure' shows a hierarchy: Sysplexes > PLEX1(4) > z/OS nmp196. The main pane displays 'Subnet - 9.42.44.0' with two 'Z Series' icons, one labeled 'nmp127' and one labeled 'nmp196'. The 'Details' pane shows 'Items: z/OS IPO1-PLEX1' and a table of system parameters.

Property	Value
Label	nmp196
Name	NMP196.tivlab.raleigh.ibm.com
OS Name	NMP196
SMF ID	IPO1
Net ID SSCP	USIEMNT.NTCAMVS
SysRes Volume	G15E1B
Version	01.05.00
Primary JES	JES2
JES Node	NMS196
IPL Parm Dataset	SYS2.IPLPARM
IPL Parm Device	0400
IPL Parm Member	LOAD0C
IPL Parm Volume	G15E1B
IPL Time	4/10/07 14:44 EDT

zSeries NMP196 (IP01) discovered by NetView DLA reconciles with NMP196 discovered by z/OS DLA.

z/OS DLA adds system infrastructure while NetView provides network infrastructure

NetView DLA Deployment options

- One centralized NetView for z/OS
collects data from other NetView installations & multiple distributed NetView agents
- or –
- Multiple NetView for z/OS instances
when topology info is distributed across multiple NetViews, each with its own RODM

Agenda

OMEGAMON products and ITM

Tivoli Application Dependency Discovery Manager (TADDM)

Tivoli Business Services Manager (TBSM)

Tivoli Service Request Manager (TSRM)

IBM Tivoli Network Manager (ITNM)

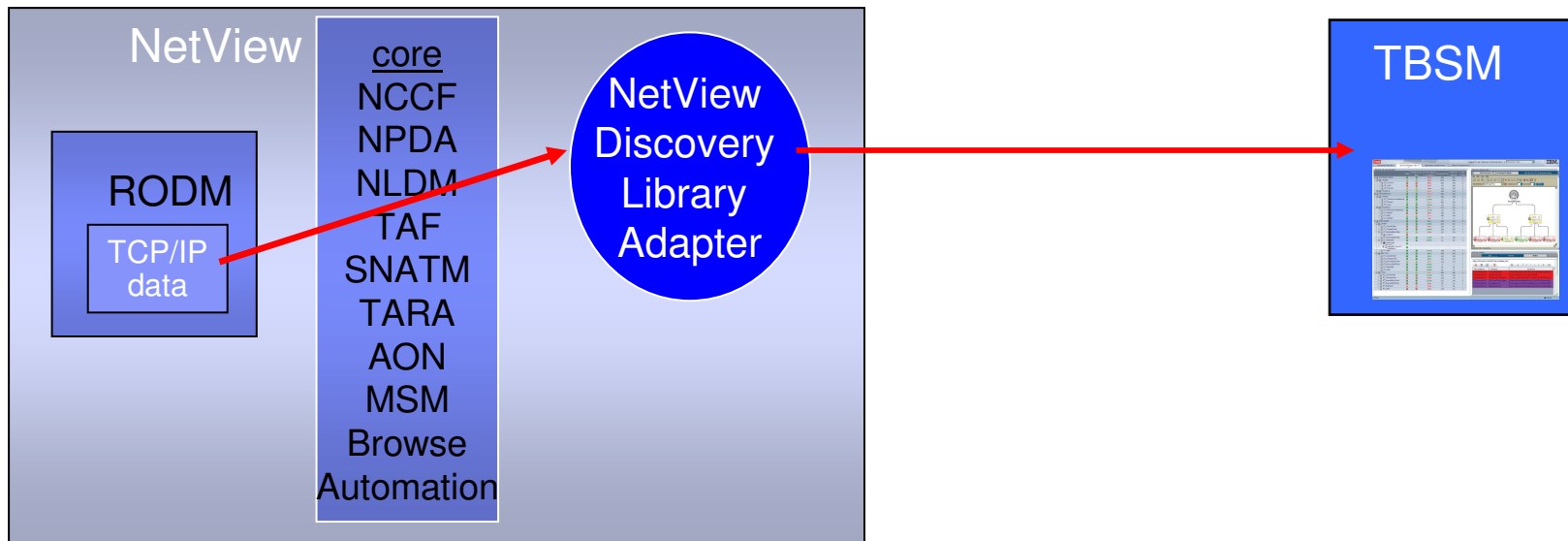
System Automation for z/OS (SA)

Geographically Dispersed Parallel Sysplex (GDPS)

Tivoli Workload Scheduler (TWS)

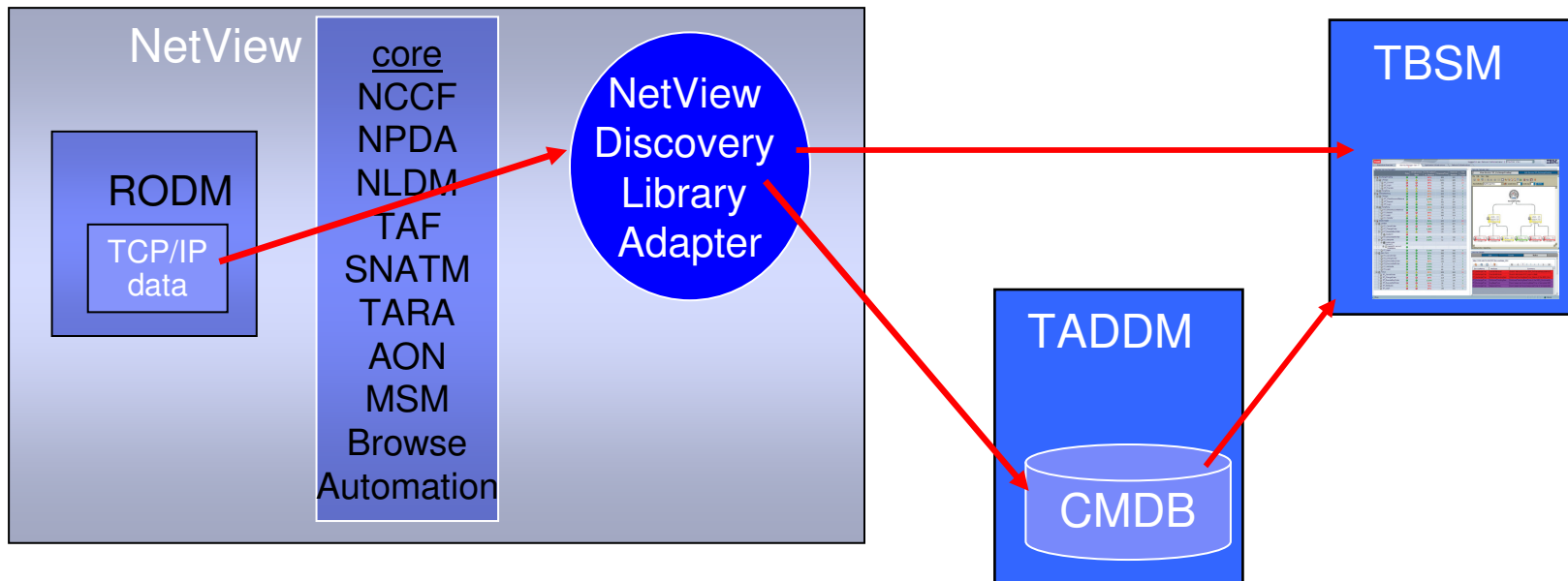
Summary

NetView IP resources and TBSM



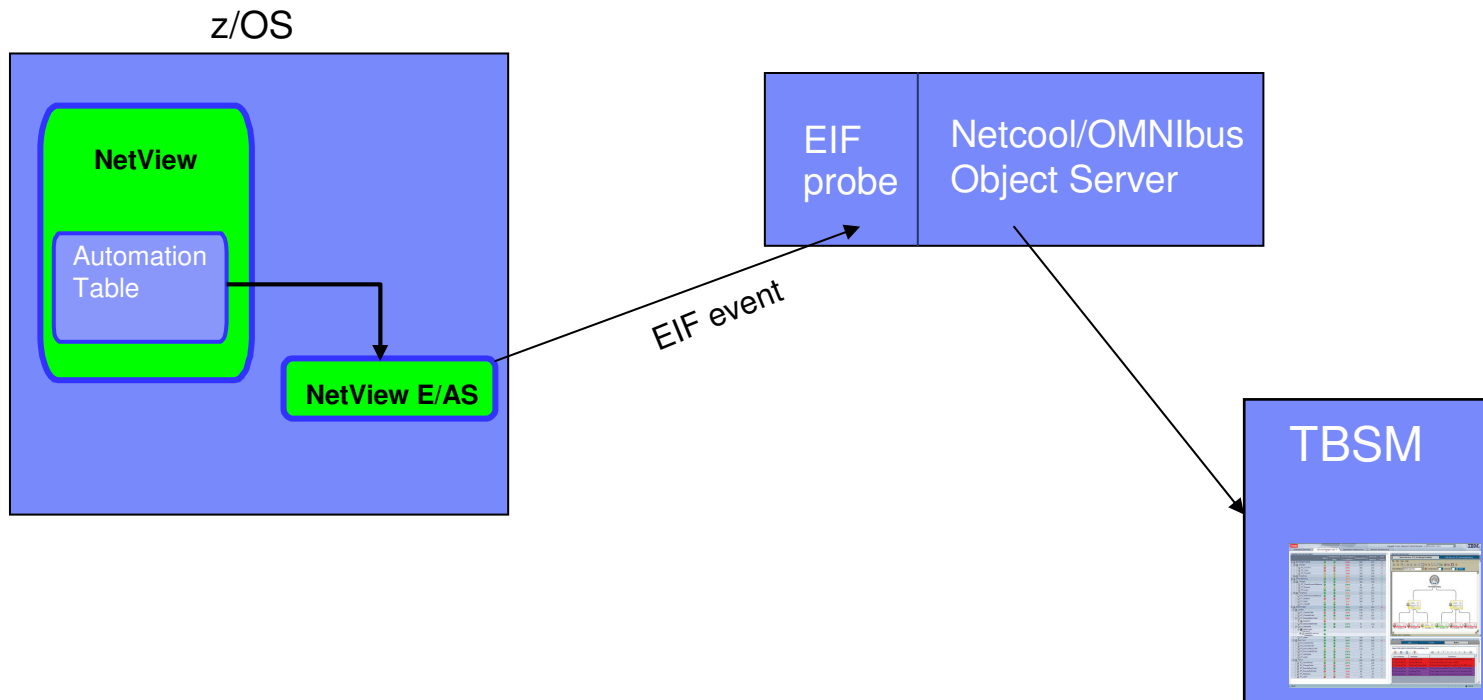
- TBSM can read DLA-generated books (NetView or z/OS) directly.

NetView IP resources and TBSM



- TBSM can read DLA-generated books (NetView or z/OS) directly.
- Can also read from CMDB in TADDM.
- TBSM reconciles data received from both sources (DLA book directly and TADDM/CMDB).

Business Impact: Events to TBSM



Route EIF events to the OMNibus Object Server for analysis by TBSM of events that affect service models.

Agenda

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IBM Tivoli Network Manager (ITNM)

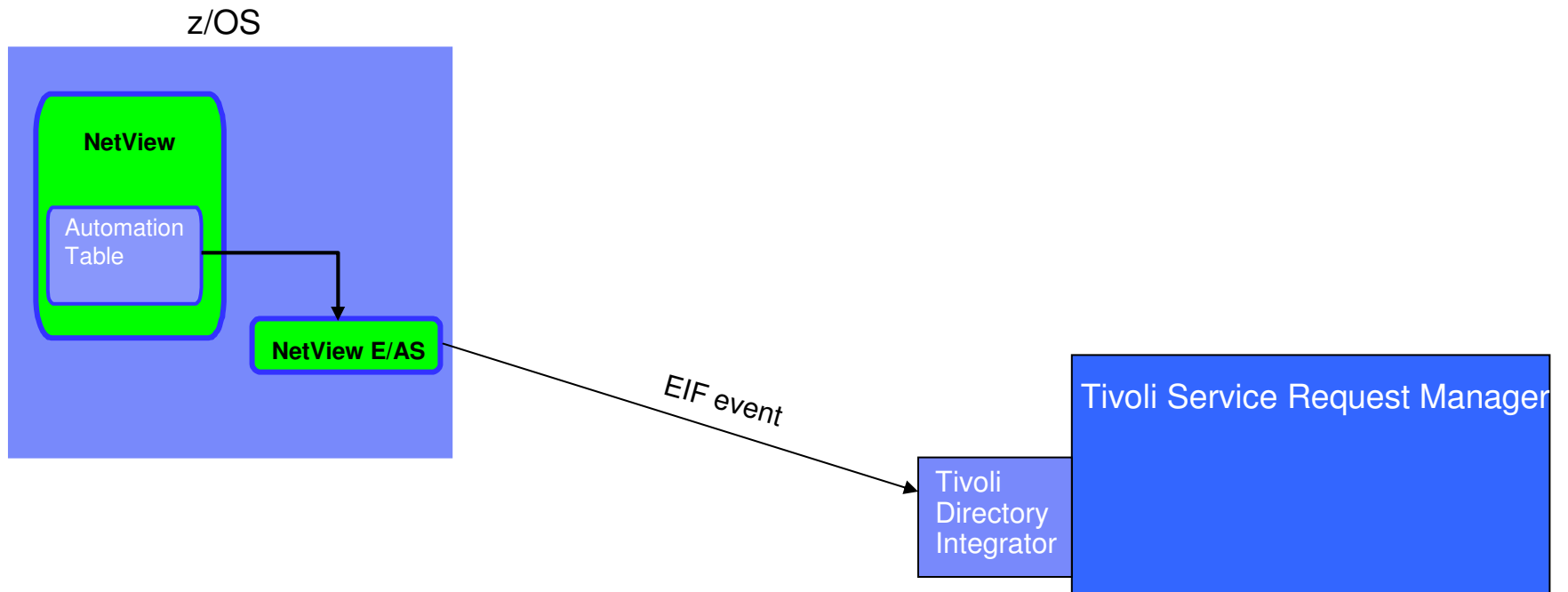
System Automation for z/OS (SA)

Geographically Dispersed Parallel Sysplex (GDPS)

Tivoli Workload Scheduler (TWS)

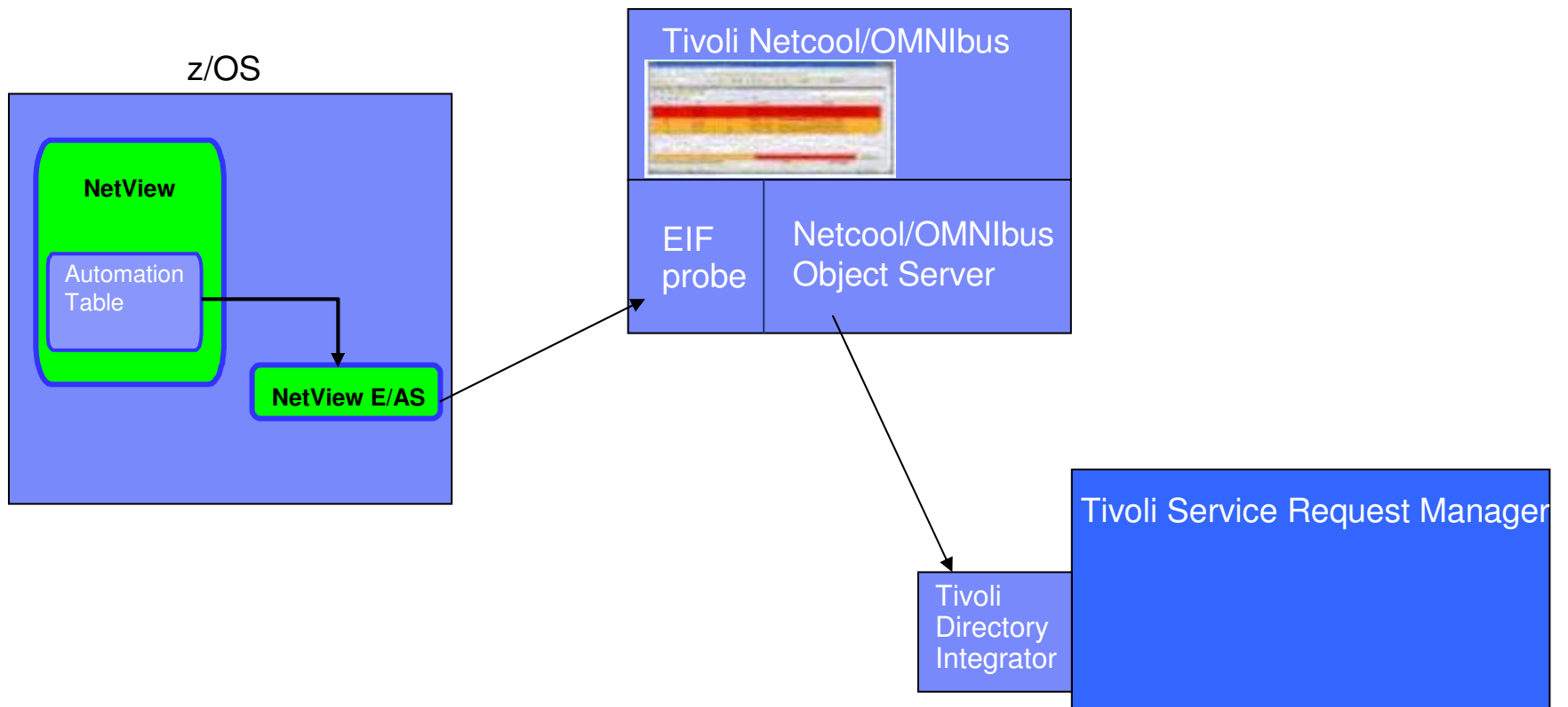
Summary

Trigger automatic service request



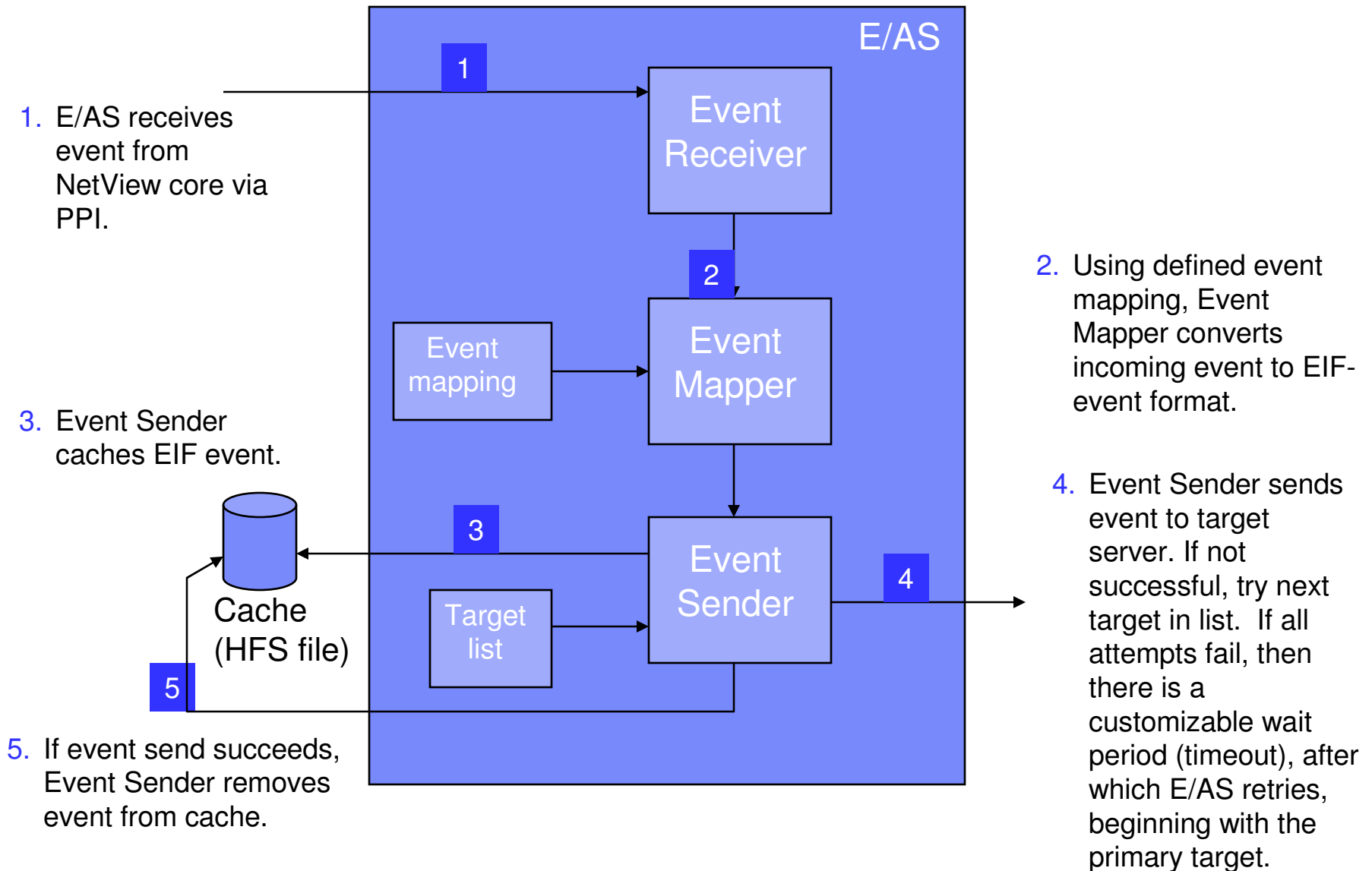
Route EIF events from NetView to TSRM via Tivoli Directory Integrator, for automatic creation of service requests

Trigger automatic service request



Or, first route to OMNIbus for event monitoring / consolidation.

E/AS Alert Adapter Component Structure



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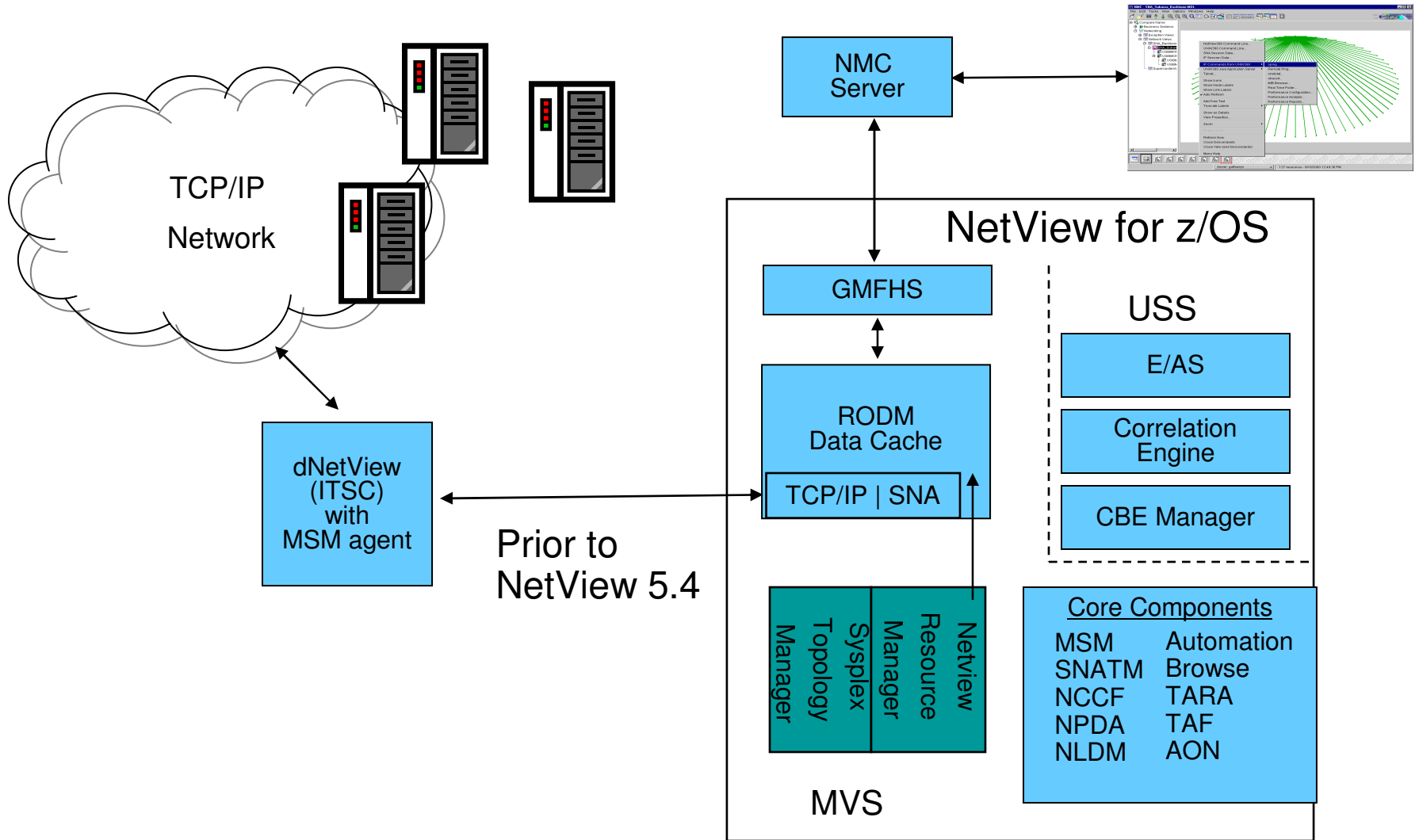
Tivoli Workload Scheduler (TWS)

Summary

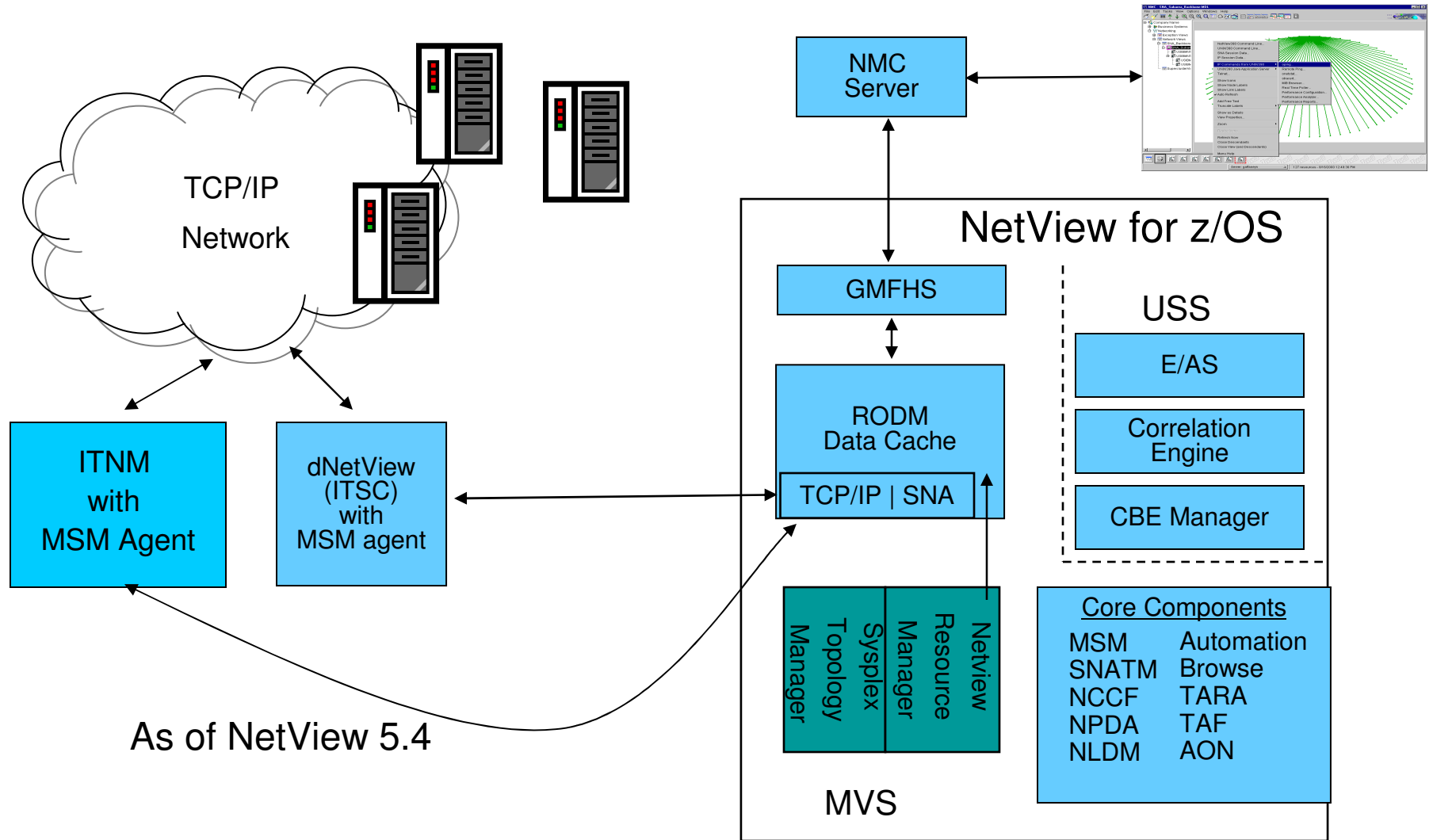
Enterprise Integration

- Integration with Tivoli Network Manager IP Edition (ITNM-IP)
 - Transition from Tivoli NetView (Distributed NetView)
 - All NetView for z/OS V5R4 customers are entitled to free download of limited-use version of IBM Tivoli Network Manager
 - Provides discovery of
 - Layer 3 IP resources
 - Resources that are “1 hop” away from z/OS
 - Together, provide enterprise-wide IP availability management
 - Data on distributed resources is stored in RODM
 - Maintain updated resource status
 - Topology views in NMC
 - Provides ability to manage the distributed IP network from a central z/OS point
 - Allows customers who have separate mainframe and distributed shops to see beyond the z/OS network.

NetView for z/OS environment

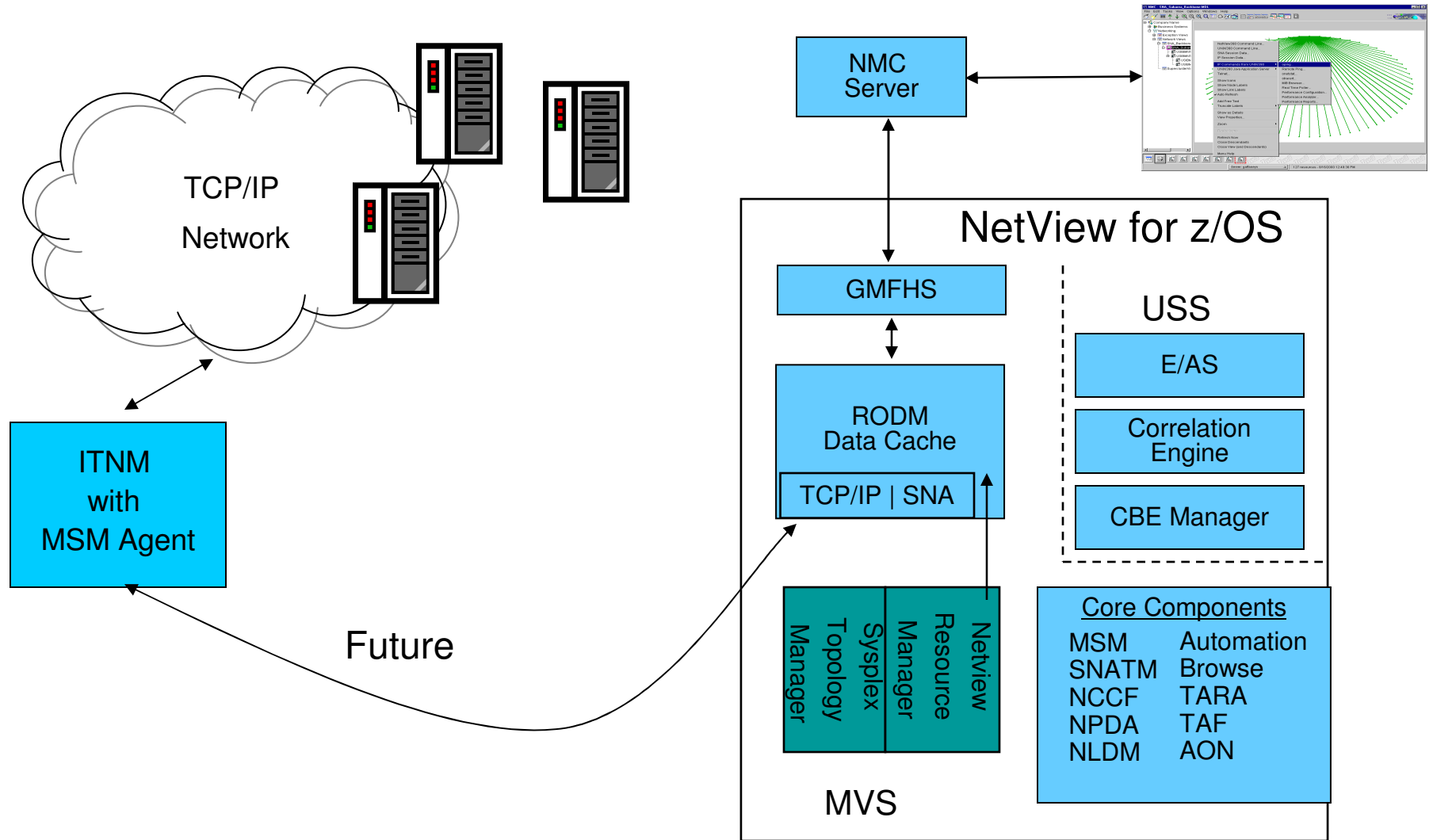


NetView for z/OS environment



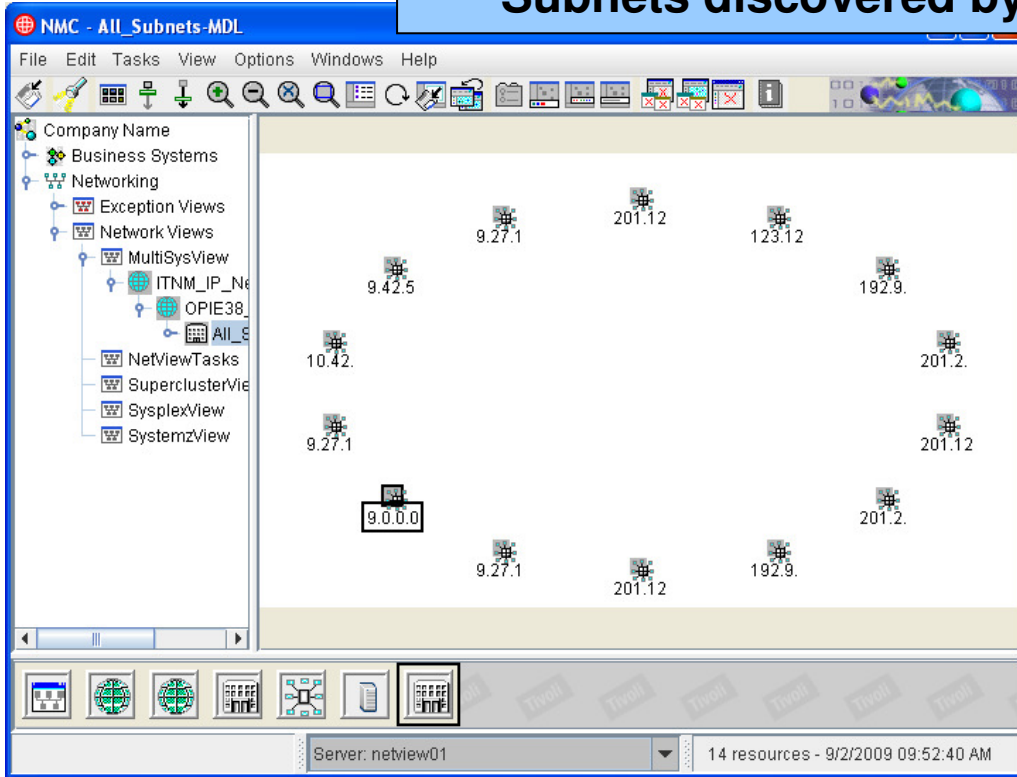
As of NetView 5.4

NetView for z/OS environment



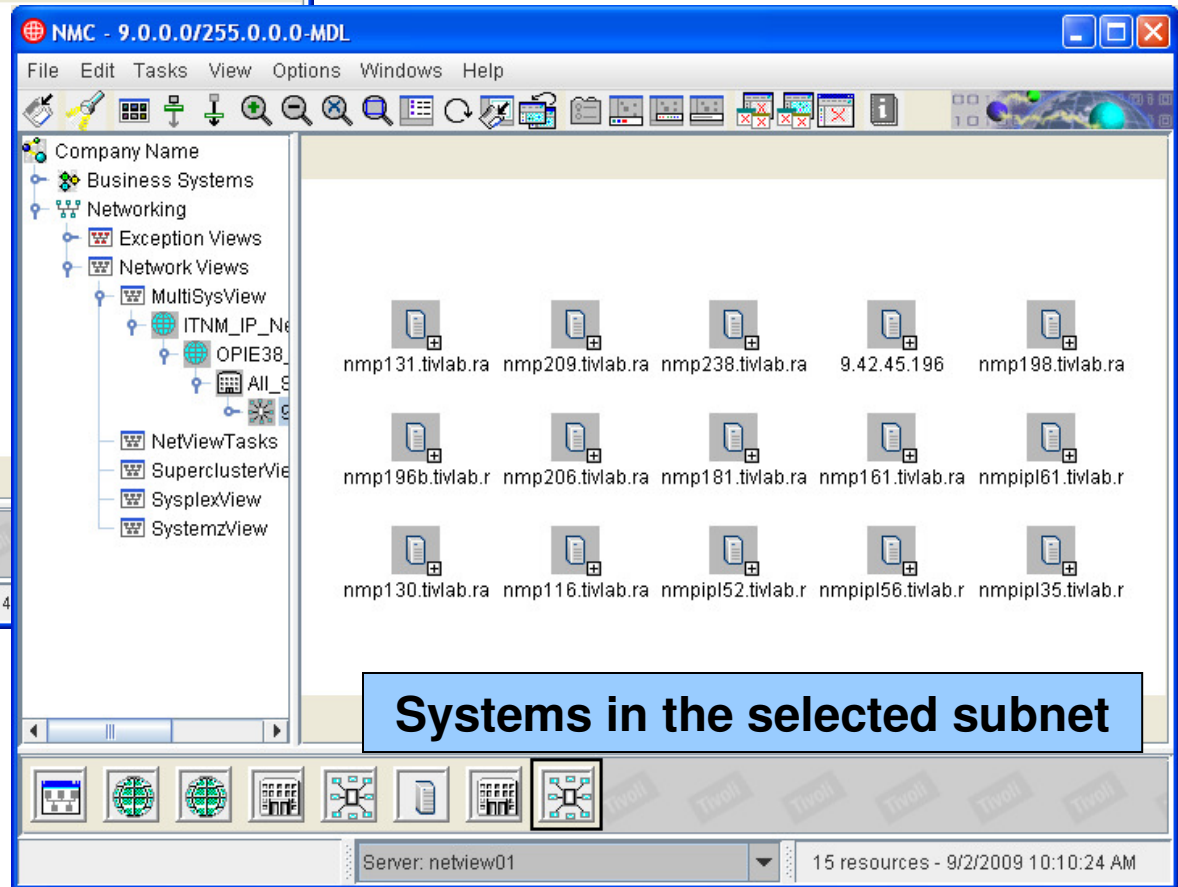
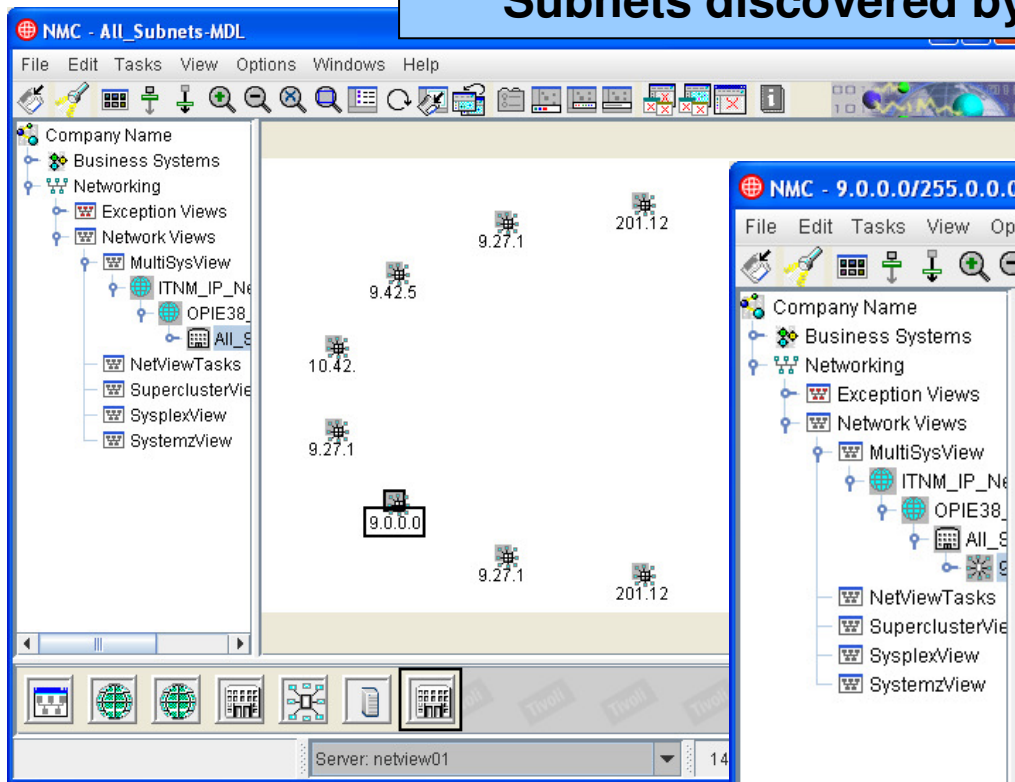
Views in NMC

Subnets discovered by ITNM



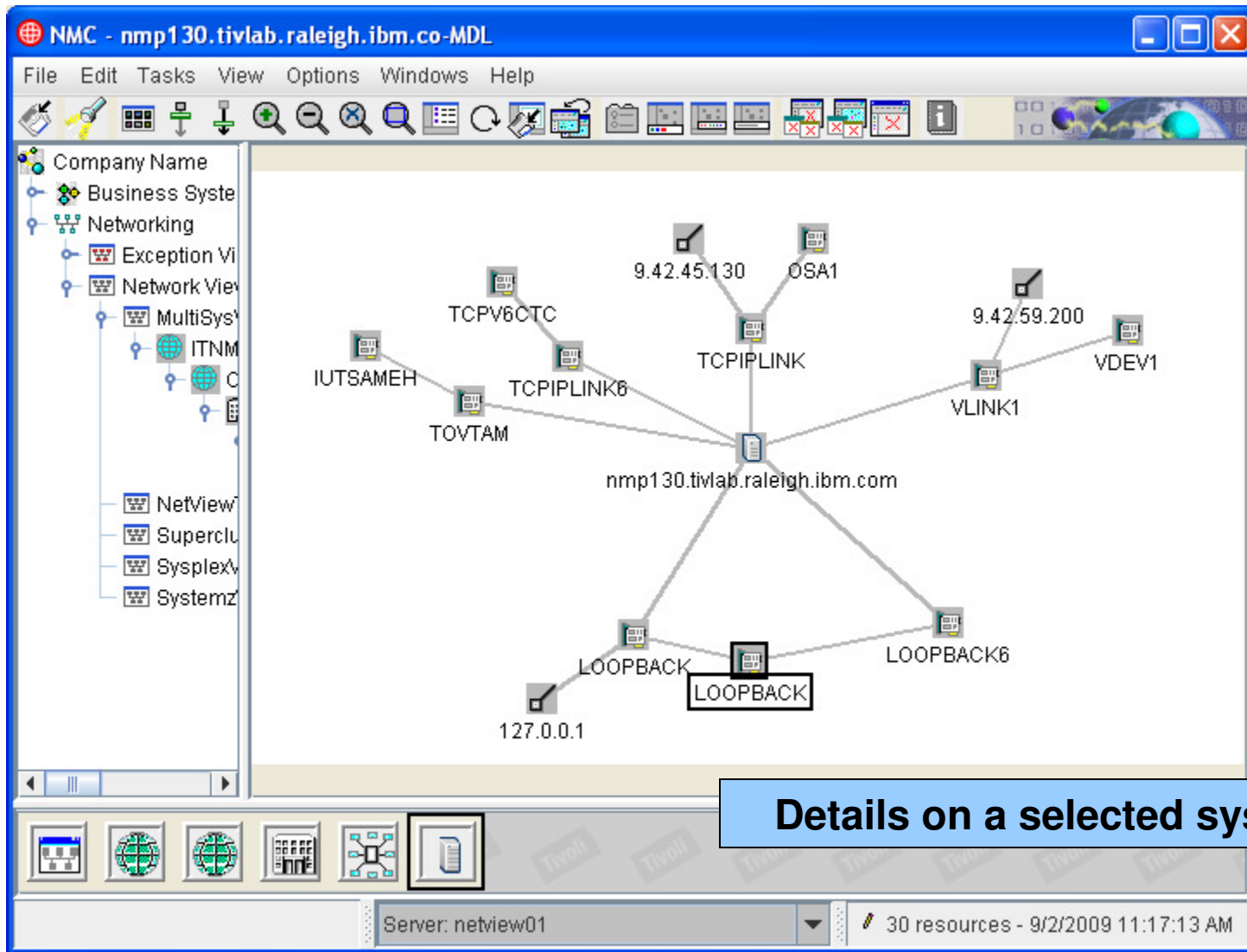
Views in NMC

Subnets discovered by ITNM



Systems in the selected subnet

Views in NMC



Event Viewer

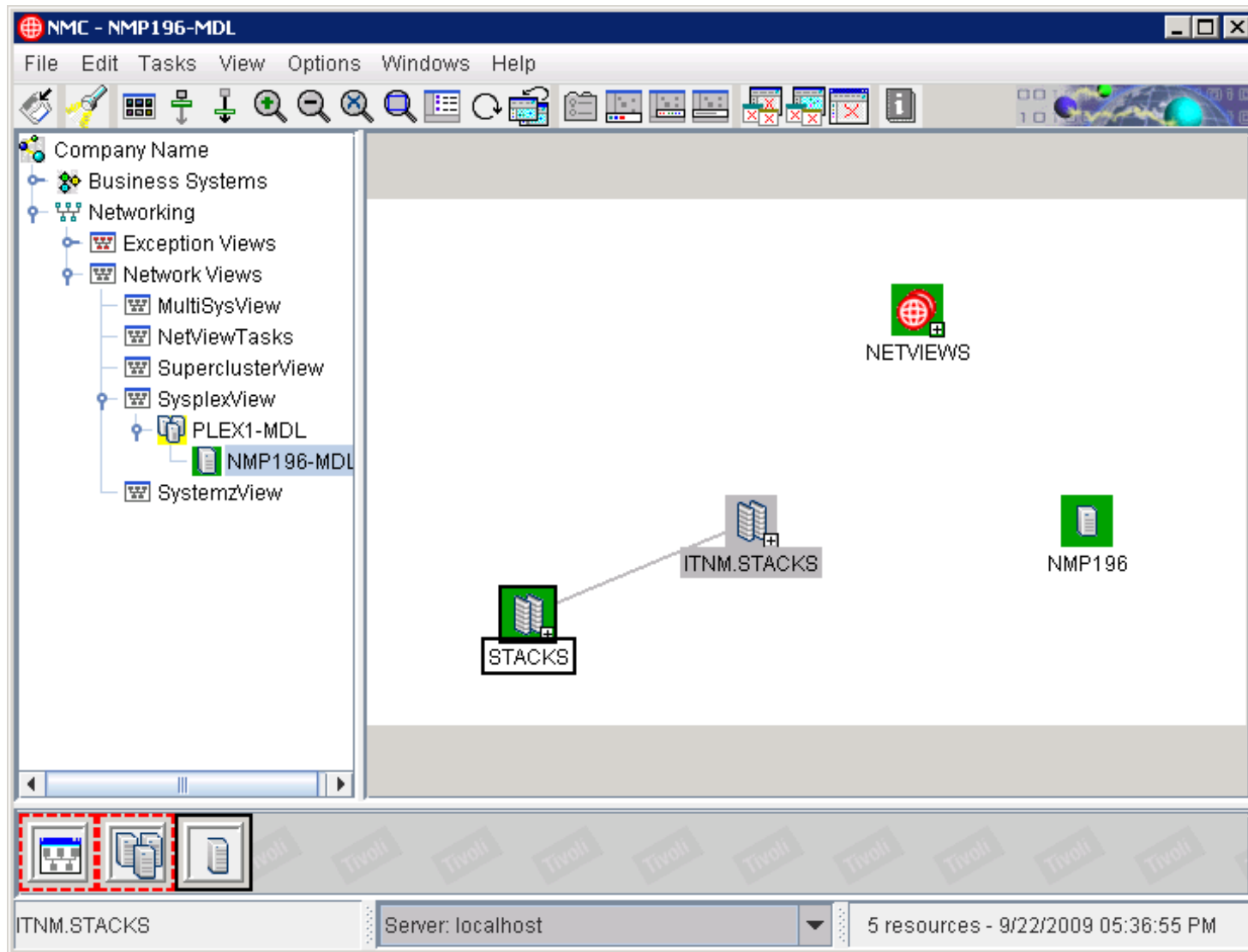
The screenshot shows the 'Event Viewer' application window for the resource 'nmp196b.tivlab.raleigh.ibm.com'. The window title is 'Event Viewer - nmp196b.tivlab.raleigh.ibm.com'. The menu bar includes 'Event', 'Edit', 'Options', 'Windows', and 'Help'. Below the menu bar is a toolbar with buttons for event categories: Unsat (0), MedUns (0), SevDeg (0), LowUns (0), Deg (0), IntMed (0), MedSat (0), Sat (0), Unk (7), Open (7), Ack (0), and Closed (0). The main area is a table with columns: Severity, Status, Date Received, Message, and Source. The table contains 7 rows of events, all with 'Unknown' severity and 'OPEN' status. The messages are 'TCP/IP CONNECTION FAILURE:REVIEW EVENT DETAIL FOR PROBABLE CAUSE' and the source is 'NPDA'. A blue callout box with the text 'Events for a selected resource' is overlaid on the bottom right of the table. The status bar at the bottom shows 'Manual refresh', '7 events as of 9/22/2009 05:24:38 PM', and '1 of 7 selected'.

Severity	Status	Date Received	Message	Source
Unknown	OPEN	05:24:36 PM 9/22...	TCP/IP CONNECTION FAILURE:REVIEW EVENT DETAIL FOR PROBABLE CAUSE	NPDA
Unknown	OPEN	05:23:36 PM 9/22...	TCP/IP CONNECTION FAILURE:REVIEW EVENT DETAIL FOR PROBABLE CAUSE	NPDA
Unknown	OPEN	05:22:36 PM 9/22...	TCP/IP CONNECTION FAILURE:REVIEW EVENT DETAIL FOR PROBABLE CAUSE	NPDA
Unknown	OPEN	05:21:36 PM 9/22...	TCP/IP CONNECTION FAILURE:REVIEW EVENT DETAIL FOR PROBABLE CAUSE	NPDA
Unknown	OPEN	05:20:36 PM 9/22...	TCP/IP CONNECTION FAILURE:REVIEW EVENT DETAIL FOR PROBABLE CAUSE	NPDA
Unknown	OPEN	05:19:36 PM 9/22...	TCP/IP CONNECTION FAILURE:REVIEW EVENT DETAIL FOR PROBABLE CAUSE	NPDA
Unknown	OPEN	05:18:37 PM 9/22...	TCP/IP CONNECTION FAILURE:REVIEW EVENT DETAIL FOR PROBABLE CAUSE	NPDA

Events for a selected resource

Manual refresh | 7 events as of 9/22/2009 05:24:38 PM | 1 of 7 selected

Integration with Sysplex



Agenda

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Tivoli Workload Scheduler (TWS)

Summary

System Automation for z/OS

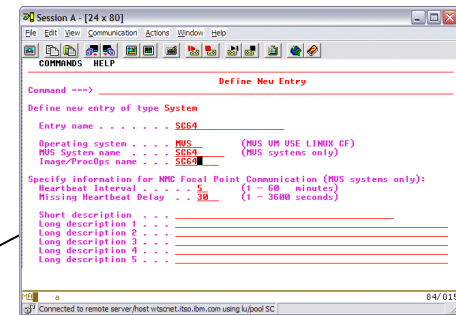
- Automation application for
 - CICS, IMS, Tivoli Workload Scheduler, and WebSphere and DB2 software
 - I/O resources including channels, devices, ESCON and FICON Directors
 - Processor operations
 - Sysplex applications
- Example automation tasks
 - Perform IPLs
 - Perform system power-on reset (POR)
- Policy-based automation
- Integration with
 - Tivoli Enterprise Console
 - Tivoli Business Systems Manager
 - OMEGAMON for CICS
 - OMEGAMON for DB2
 - OMEGAMON for IMS
 - OMEGAMON for MVS
- Choice of UIs
 - NetView 3270 console
 - NetView Management Console (NMC)
 - TEP

System Automation for z/OS

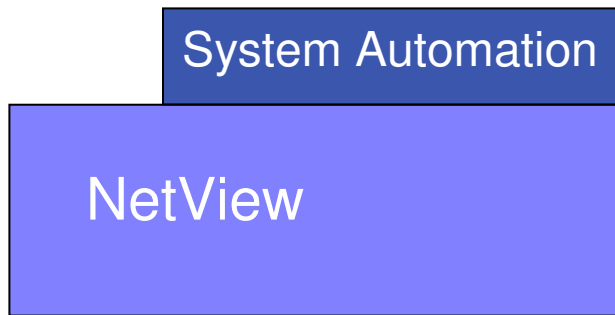
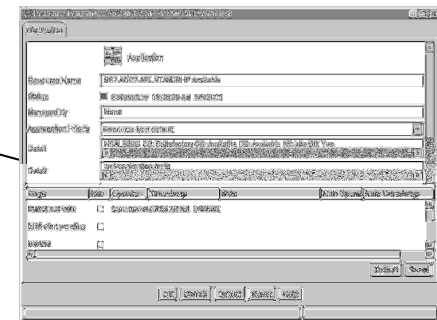
NetView provides services and infrastructure for System Automation

- Automation
- UI
- Basic communication services to z/OS

SA in the NetView 3270 console



SA in NMC



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Summary

The GDPS Family for IT Resilience

Disaster recovery, continuous or near-continuous availability

- GDPS PPRC
- GDPS PPRC Hyperswap Manager
- GDPS XRC
- GDPS Global Mirror
- GDPS RCMF/PPRC
- GDPS RCMF/XRC

For prereqs, see <http://www.ibm.com/systems/z/advantages/gdps/getstarted/gdpsxrc.html>

GDPS

NetView provides services and infrastructure for GDPS

- Automation
- UI
- Basic communication services to z/OS

GDPS in the NetView 3270 console

```

VPCPNLP          GDPS - Disaster/Recovery System          GDPS V3, R5, M3
System           = G001  R0P01  Primary Daid = OK  SITE1 CONTROL
Current Master   = G002  R0P09
Parallel mode    = YES
HyperSwap FD/FB = ENABLED YES  Pri Open LUN = OK  SITE1
Debug           = ON

1  Daid Remote Copy
2  Tape Remote Copy
3  Standard Actions

5  Net Management
6  Planned Actions
7  Sysplex Resource Management
8  Debug ON/OFF
9  View Definitions

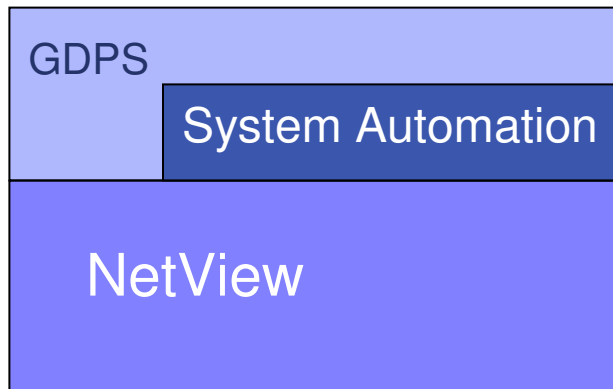
C  Config Management
M  Run Monitor1/Monitor3

Selection ==> -
Fi=Help          F3=Return          F6=Roll
  
```

GDPS in the NetView Web app.

The screenshot shows the NetView Web app interface for GDPS. It includes a 'My Tasks' sidebar, a main status area with 'Status Information' and 'GDPS commands', and a 'Status Menu' at the top right. The status information table is as follows:

System/Domain	Current Master	Parallel Mode	HyperSwap	HyperSwap FD/FB	Debug	WebDebug	Primary Daid Status	Primary Daid Site	GDPS Page
G001 / R0P01	G002 / R0P09	YES	ENABLED	YES	ON	No WebDebug active.	OK	SITE1 SITE1 K0Y5	GDPS Page: VPCVPMEN



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Tivoli Workload Scheduler (TWS)

Summary

TWS can notify NetView

- Use TWS to plan, execute jobs, track execution
- TWS can generate alerts to NetView when problems are detected in production workload, such as:
 - An operation ends in error
 - A batch job has been queued by JES for a long time
 - A batch job or started task has been running longer than expected
 - Processing is getting late and deadlines are in jeopardy
 - A Tivoli Workload Scheduler for z/OS subtask fails
 - A defined threshold has been reached on the Tivoli Workload Scheduler for z/OS queue
 - Jobs above a certain priority are late
 - A workstation that has been unavailable/failed for more than xx minutes becomes available

Leverage NetView automation facilities

- Automation Table
 - Trap TWS messages
 - Trigger responses
 - Issue commands
- EZLESMTP
 - REXX routine to send a one-line e-mail
- EZLEMAIL
 - REXX window routine that allows operator to send e-mail
- INFORM
 - NetView command that generates an immediate inform action based on policy. Specify person or group to contact, optionally specify message text.

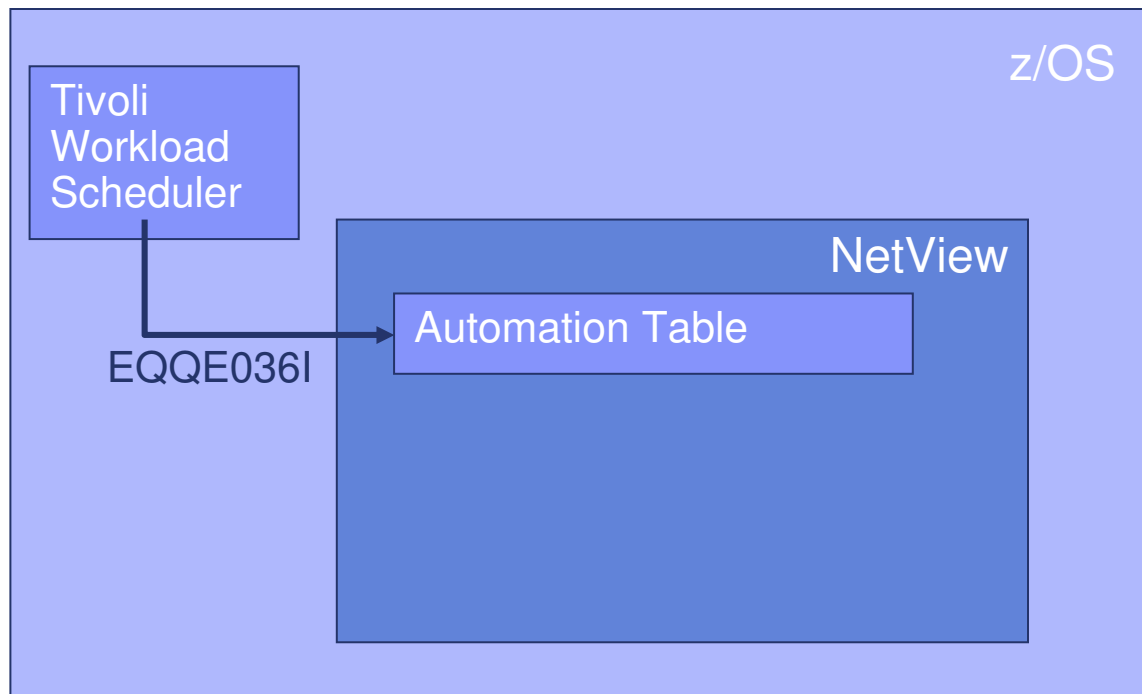
Example: operation ended in error status

The setting

Job TWSEXTCP ended with error 0012

TWS issues message EQQE036I:

```
EQQE036I JOB TWSEXTCP(JOB04259), OPERATION(0020), ENDED IN ERROR 0012  
PRTY=9, APPL = DAILYPLAN, WORK STATION = CPU1, IA = 0501180700
```



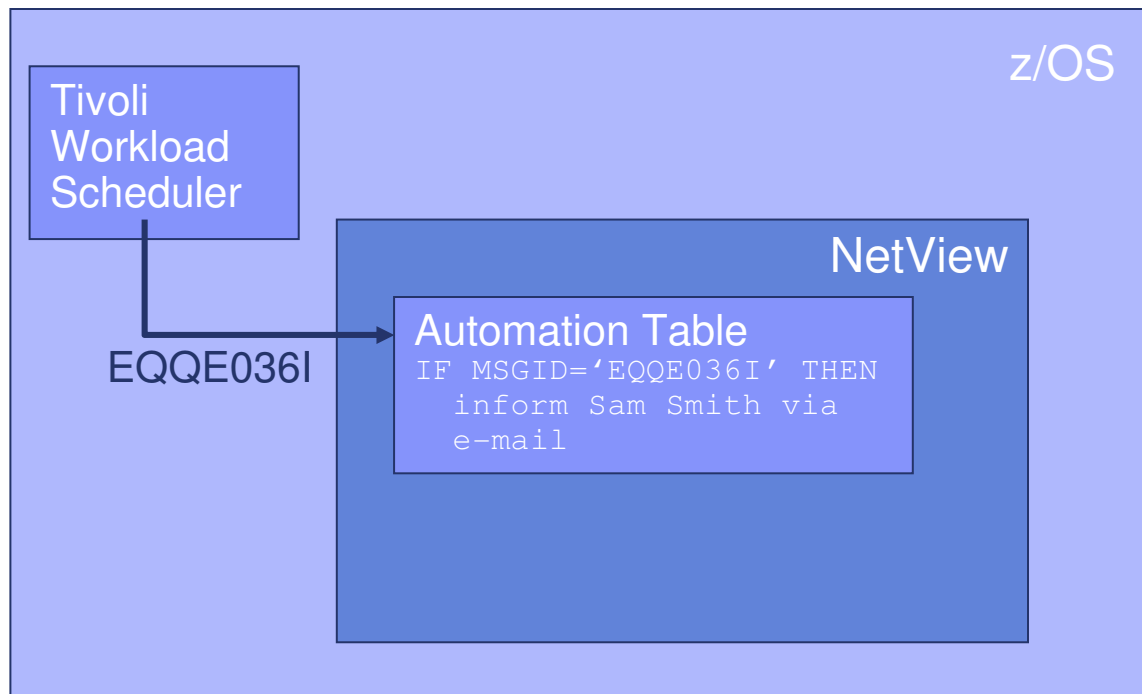
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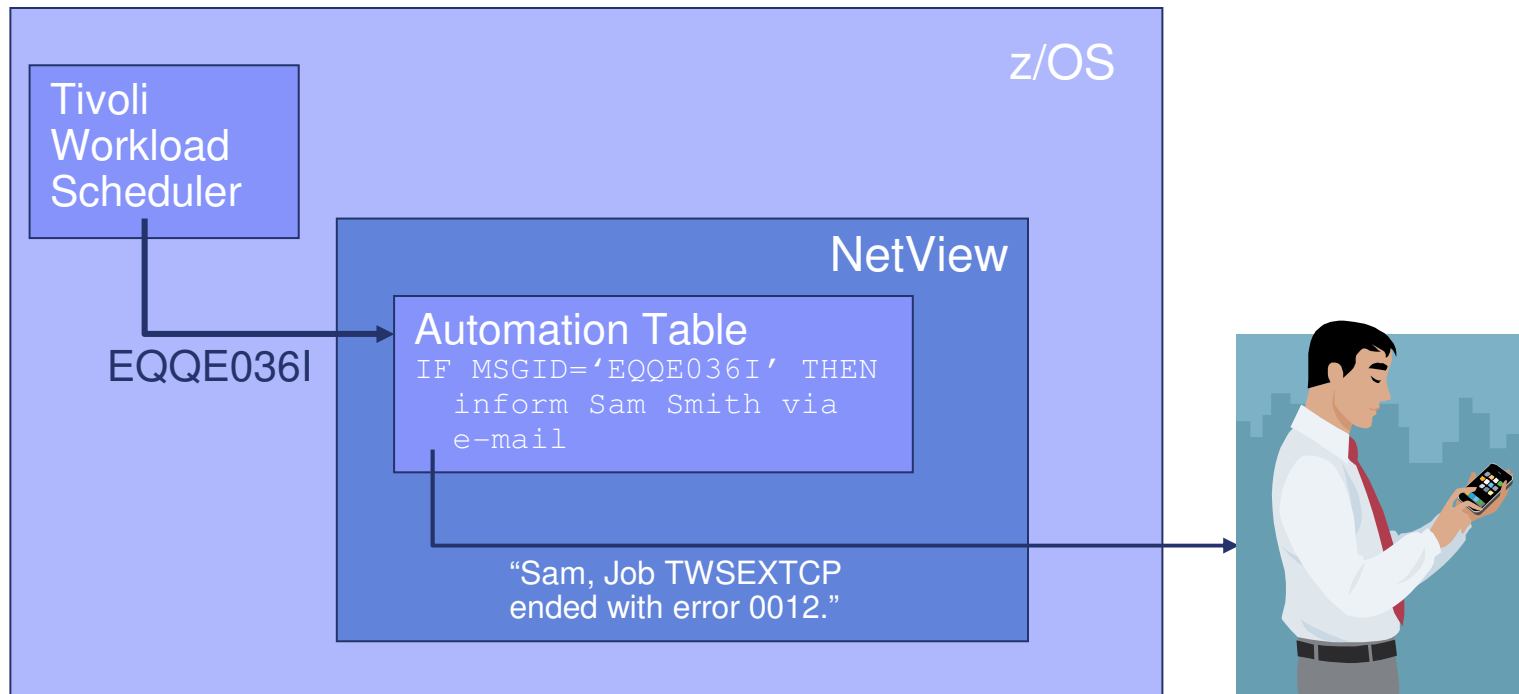
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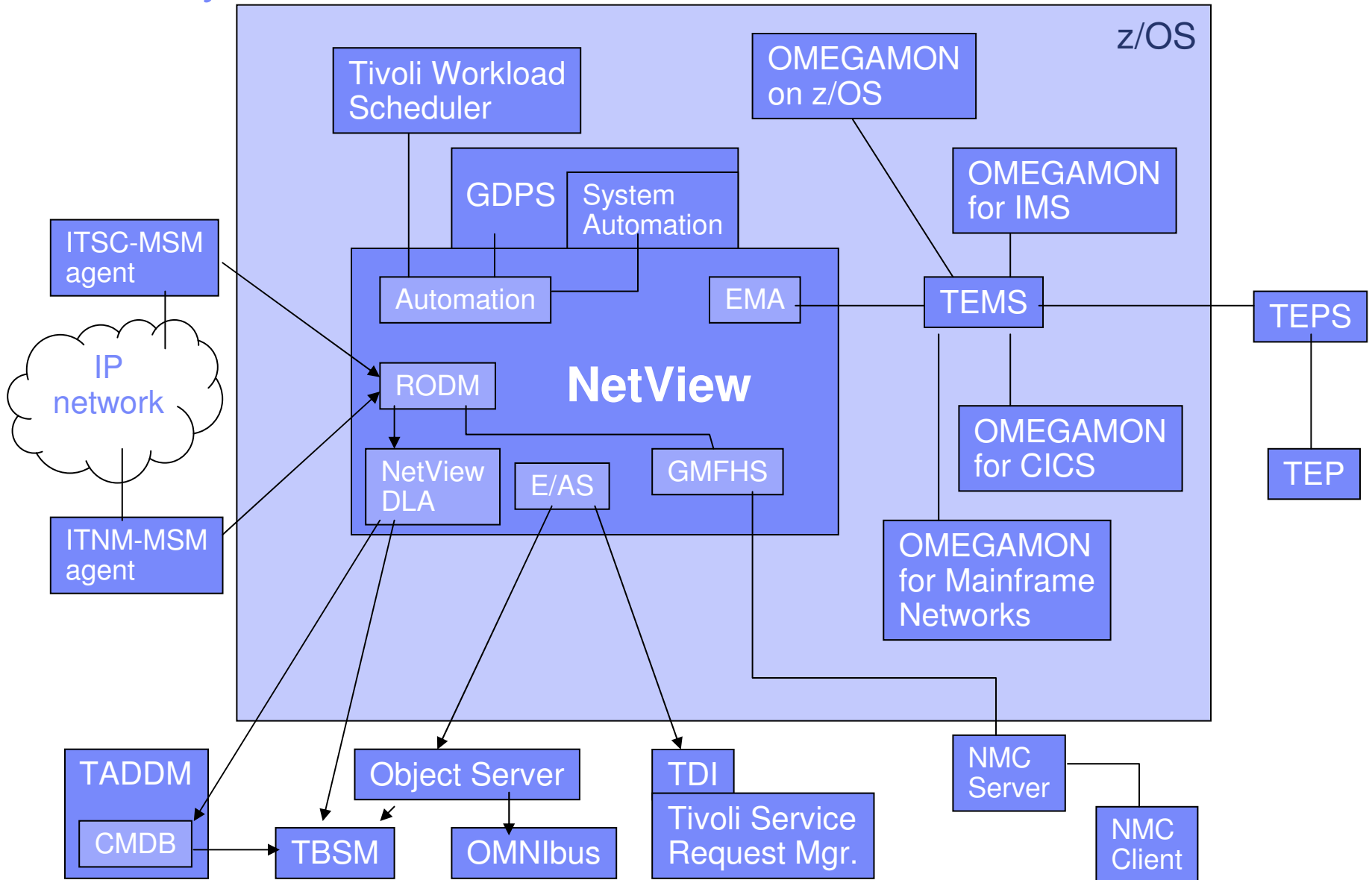
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Summary

Summary



For More Information

- White Papers

- “Integrating IBM Tivoli NetView for z/OS with IBM Tivoli Monitoring” (March, 2010)
<http://www-03.ibm.com/support/techdocs/atmastr.nsf/WebIndex/WP100560>
- “How to Automatically Notify Someone If Something goes Wrong in Your Workload Scheduling Operations using NetView for z/OS with Tivoli Workload Scheduler for z/OS” (March, 2009)
<http://www-03.ibm.com/support/techdocs/atmastr.nsf/WebIndex/WP101046>
- “Options for sending z/OS Events to TBSM 4.1 and Netcool/OMNIbus” (December, 2008)
<http://www-03.ibm.com/support/techdocs/atmastr.nsf/WebIndex/WP101032>
- Discovery Library Adapter for NetView for z/OS V5.3 (August, 2007)
<http://www.ibm.com/software/brandcatalog/opal/details?catalog.label=1TW10CC1F>
- Customizing NetView for z/OS and OMEGAMON XE workspaces in Tivoli Enterprise Portal (September, 2006)
<http://www.ibm.com/software/brandcatalog/opal/details?catalog.label=1TW10NV06>

- Manuals

- TBSM *Scenarios Guide*
<http://publib.boulder.ibm.com/infocenter/tivihelp/v3r1/index.jsp?topic=/com.ibm.tivoli.itbsm.doc/welcome.htm>

Thank You