



IBM Software Group

Managing Your Sysplex with NetView for z/OS 5.4

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@business on demand.

Agenda

- Enabling NetView to Manage a Sysplex
- XCF Services Details
- Discovery Manager
- DVIPA Discovery, Events, and DDVIPA Statistics



NetView as a Sysplex Application



Enabling NetView to Manage a Sysplex

- Provides management from a single point of control for a “true” sysplex in NetView 5.4 (Master NetView)
- To achieve this:
 - ▶ Make NetView a sysplex application
 - ▶ Determine which items to discover
 - ▶ Determine which user interfaces (UIs) to use
- Requires z/OS 1.9 or later
 - ▶ Some functions only available with z/OS V1R11 Communications Server



NetView as a Sysplex Application

- Use XCF Services for communication between NetViews
- Allow RMTCMD to use DVIPA for the NetView application
- Use RODM as the data cache
 - ▶ GRAPHICS tower is no longer needed



Discovery

- Sysplex, coupling facility, z/OS image, NetView application, and TCP/IP stack and TCP/IP subplex discovery is enabled by default
 - ▶ Interface, Telnet server and port discovery (must be enabled)
 - ▶ OSA and HiperSockets discovery requires RODM (must be enabled)
- DVIPA functions are disabled by default
 - ▶ Includes DVIPA, distributed DVIPA (DDVIPA), DVIPA connections, VIPA routes, and DDVIPA connection routing
 - Determine whether to use DVIPA events for up to date information
 - Determine whether to use DDVIPA workload statistics for problem determination or historical information



Discovery per z/OS Image

- Each z/OS image requires a NetView with discovery enabled for the desired functions to provide a complete view of the sysplex
 - ▶ A network NetView is not required
- Support for multiple NetViews on a single z/OS image is also provided
 - ▶ Option to discover just enough information to instantiate additional NetView
 - Prevents extra CPU utilization discovering identical resources



User Interfaces

- NetView 3270 console
 - ▶ Commands are available for discovered information (sysplex, DVIPA, OSA, and HiperSockets)
 - ▶ Provides real-time data
 - ▶ Has a REXX command interface and a sample command (user-friendly) interface
 - Output is in the form of an MLWTO and can be automated
- NetView Management Console (NMC)
 - ▶ Topology is available for sysplex, OSA, and HiperSockets information
 - ▶ Commands are provided for some sysplex resources
 - ▶ Provides data based on sampling, events, or both

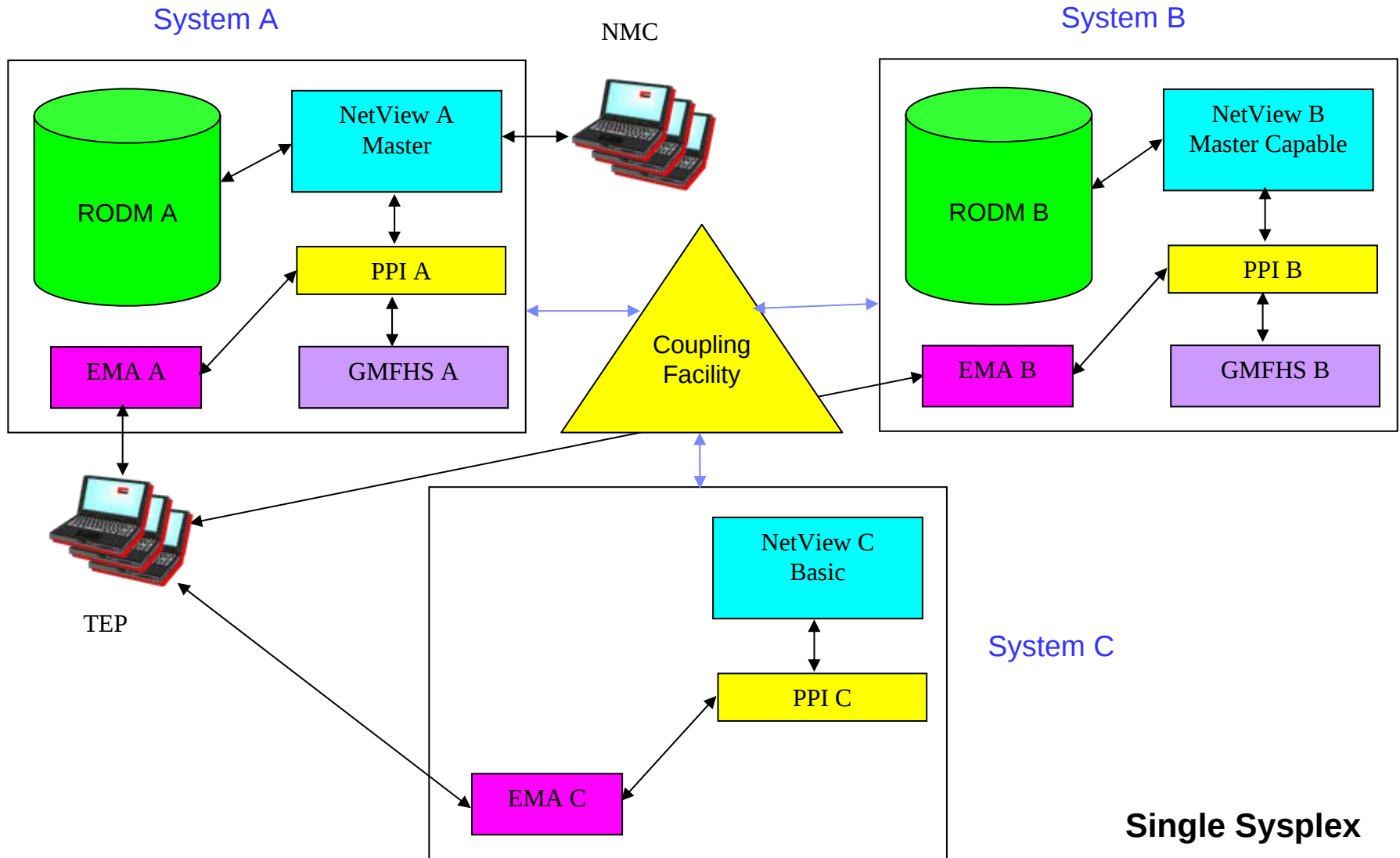


User Interfaces cont.

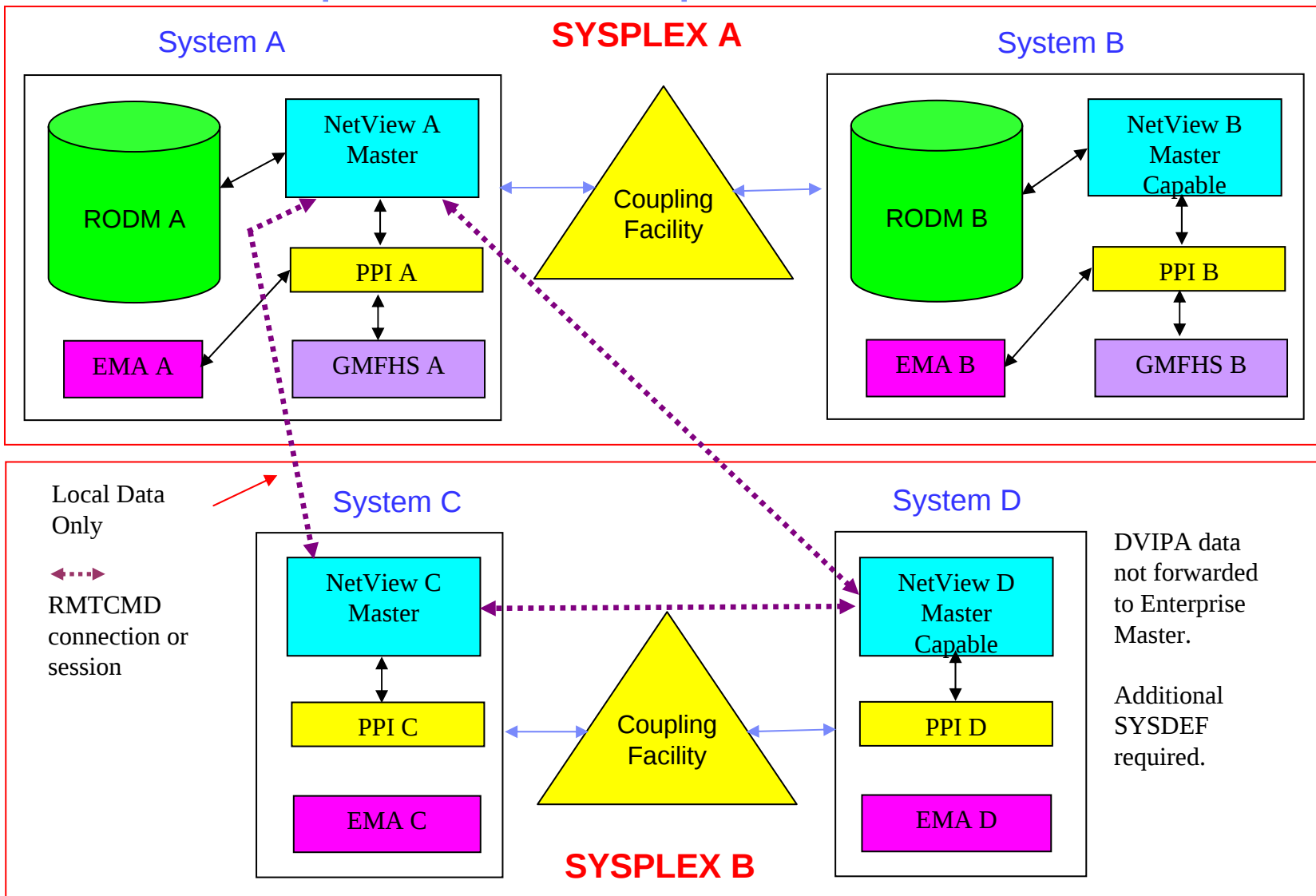
- Tivoli Enterprise Portal (TEP) using the NetView for z/OS Enterprise Management Agent
 - ▶ Workspaces are provided for discovered information (sysplex, DVIPA, OSA, and HiperSockets)
 - ▶ New Take Action commands are provided
 - ▶ New situations and expert advice are provided
 - ▶ Provides data based on sampling, events, or both
- NetView Web application
 - ▶ Continues to display sysplex and DVIPA data as was provided in NetView 5.3



High Level Architectural Components



"Mini Enterprise" – Enterprise Level RODM



XCF Services Details



XCF Services Overview

- XCF support is enabled by default, but it can be disabled
- NetView will use XCF services to establish a sysplex-wide group called DSIPLXnn
 - ▶ Each NetView in the sysplex can be a member of the group (one member per NetView domain)
 - ▶ XCF drives exits to inform all group members of events affecting one of the members, such as:
 - Entering or leaving the group
 - Updating shared information with the group
 - ▶ XCF provides send and receive services between members for communications purposes



How Does NetView Use XCF?

- XCF exits
 - ▶ Allow NetViews to know when the master has failed or become disabled so a master-capable NetView can take over
 - ▶ Allow NetView to know when new NetView has become active so resource status forwarding can be sent up to the master
- XCF messaging
 - ▶ Support internal communication between NetViews so control information can flow between group members

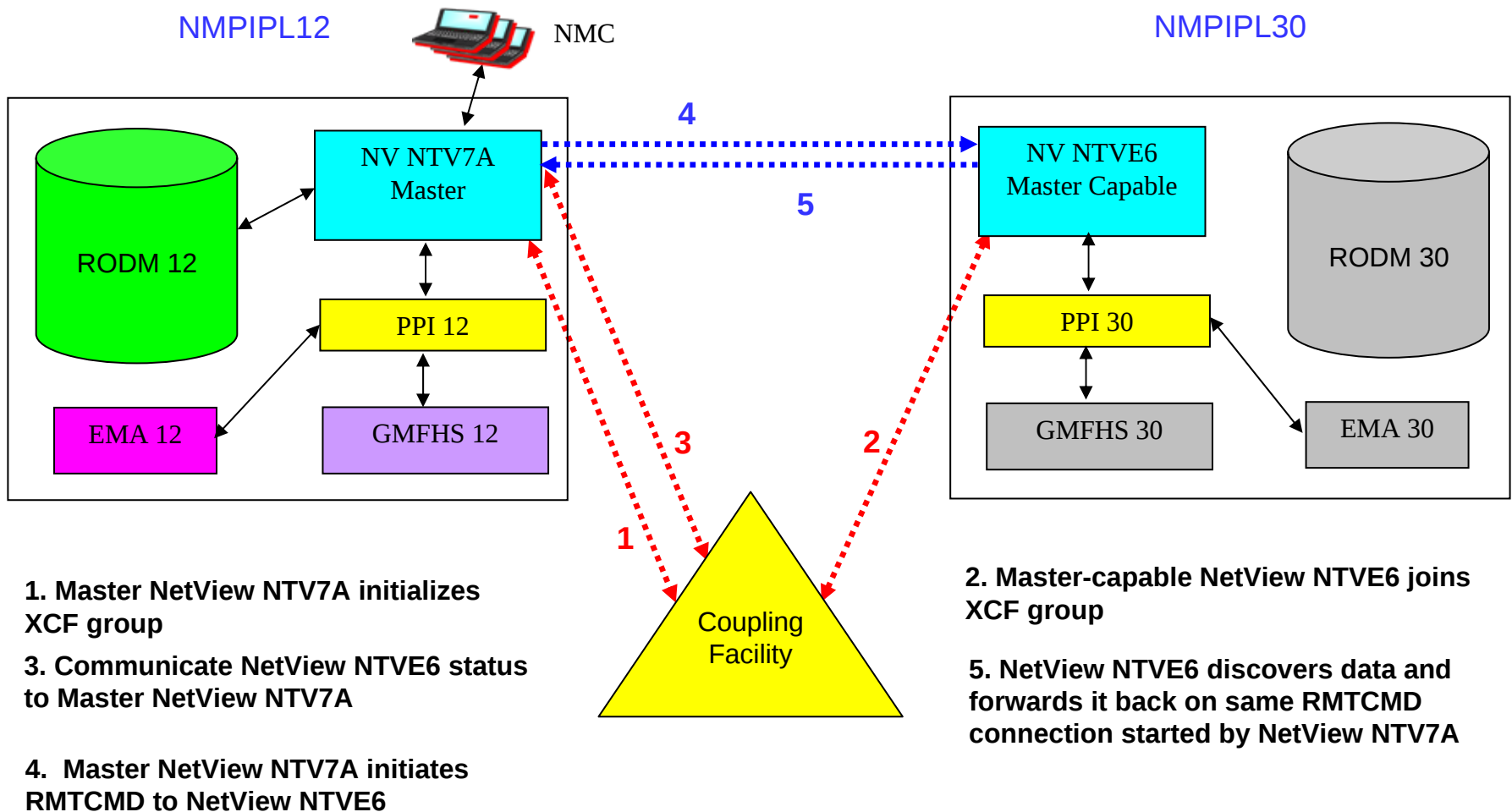


XCF Services Configuration

XCF Parameter	NMPIPL12	NMPIPL30	NMP190
RANK	250	100	1
GROUPNUM	01	01	01
PROCSTR01	*NONE*	RODM,TYPE=C,INIT=EKGLISLM	*NONE*
PROCSTR02		GMFHS.C	
PROCSTR03		CANSNA	
INTWAIT	10	10	0
TAKEOVER.DURATION	5	5	0
TAKEOVER.CLIST	*NONE*	*NONE*	MONTHEND
TAKEOVER.DELAY	0	600	0
TAKEOVER.NETCONVS	YES	YES	NO
TAKEOVER.CONVIP1	1.2.3.4/4022	1.2.3.4/4022	

Master Initialization and Data Flow

NVDPLEX1



Displays showing NetView status

■ LIST STATUS=XCFGRPS

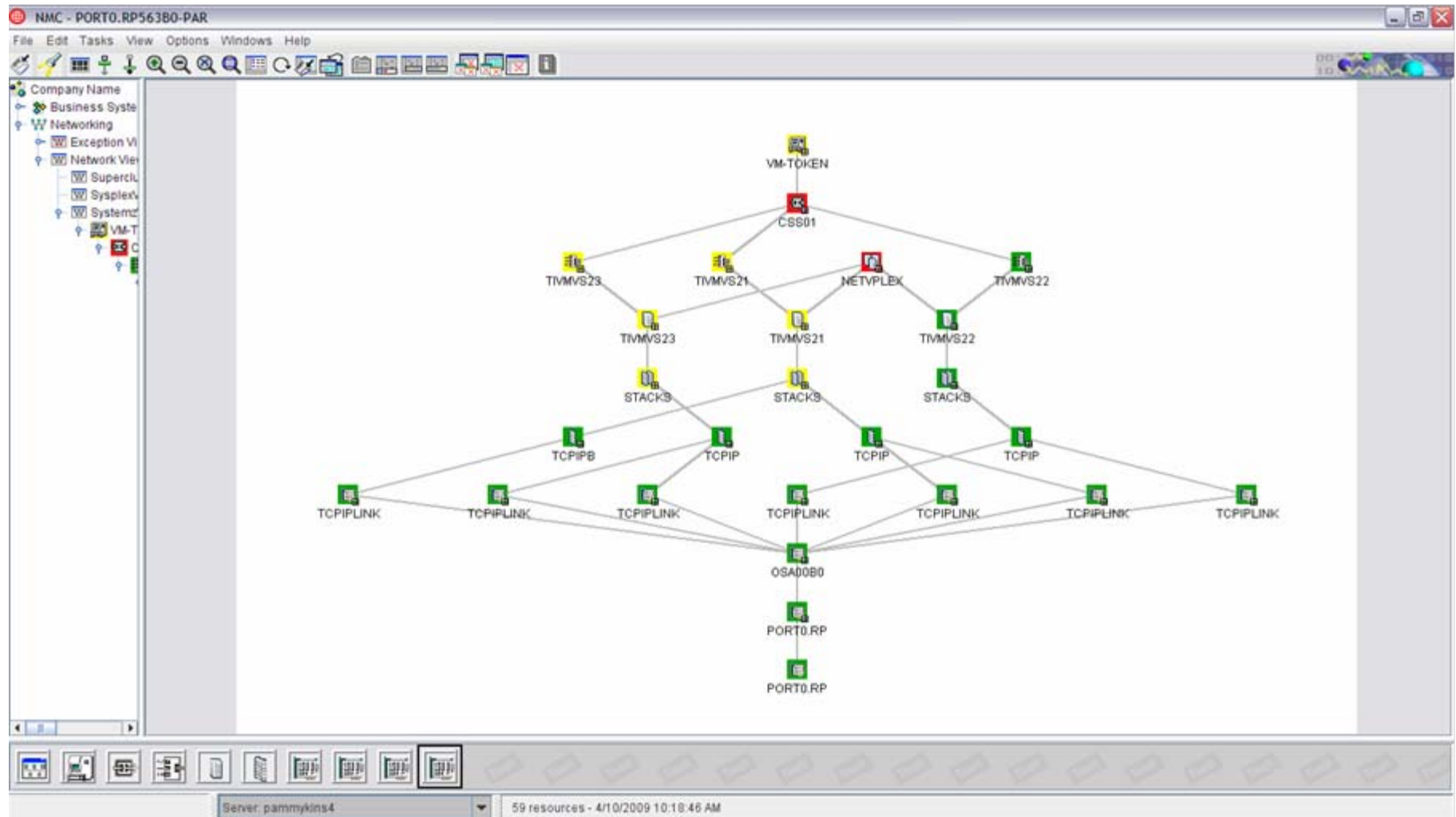
```
NetView V5R4 - NM          Tivoli NetView  NTV7A NETOP2  04/12/09 14:06:41
* NTV7A    LIST STATUS=XCFGRPS
' NTV7A
BNH594I PLEXNAME GROUP      MEMBER      SYSTEM  STATUS  ROLE RANK DUR.  FLG
        NVDPLEX1 DSIPLX01 NTV7A      NMPIPL12 ACTIVE  M    250  5    600
        NVDPLEX1 DSIPLX01 NTV74      NMP190  ACTIVE  C     1   5    000
        NVDPLEX1 DSIPLX01 NTV70      NMPIPL10 ACTIVE  C     1   5    000
        NVDPLEX1 DSIPLX01 NTVE6      NMPIPL30 ACTIVE  C    100  5    000
```

■ CNMSNVST DOMAIN=ALL output

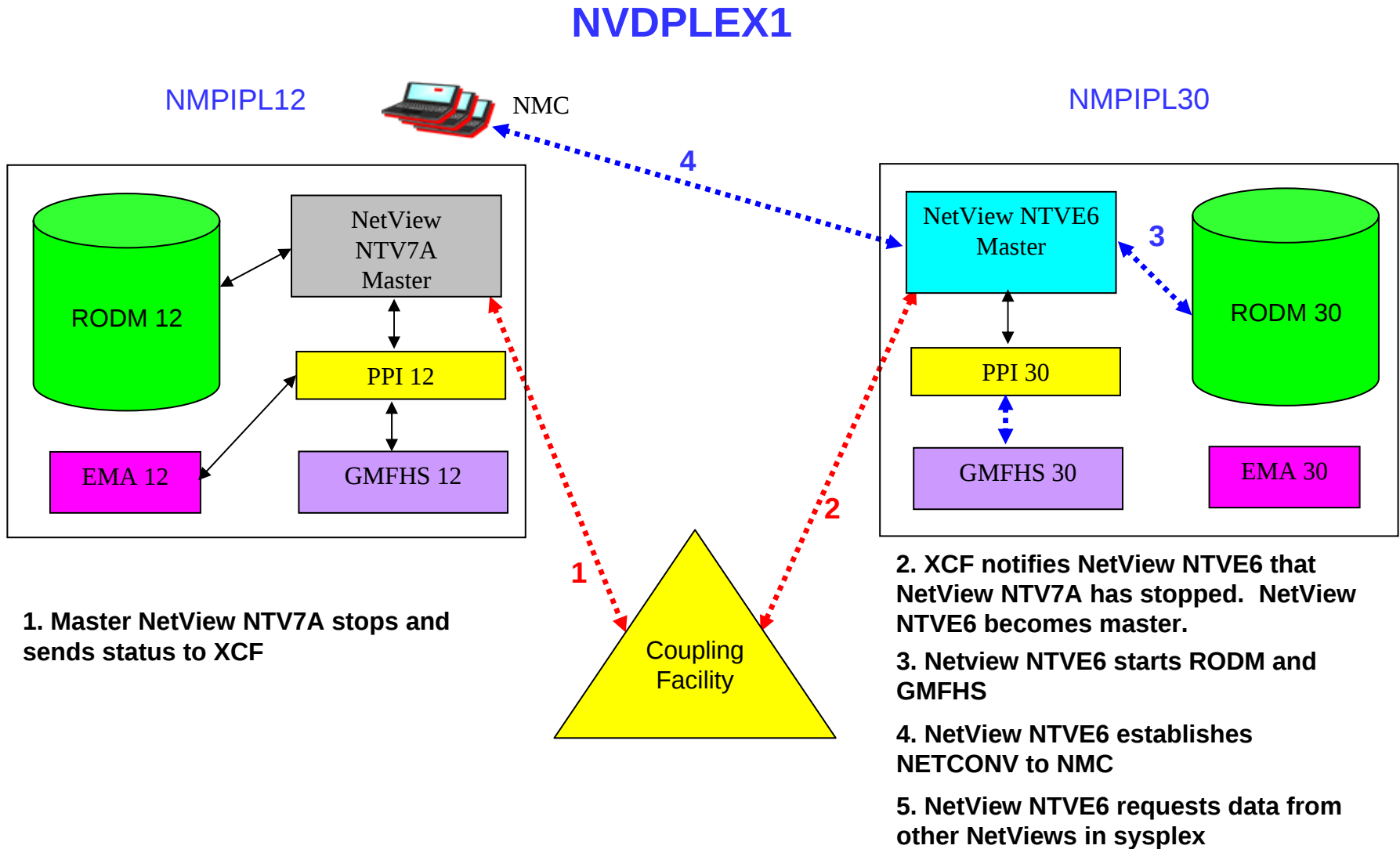
```
CNMKWIND OUTPUT FROM DOMAIN=ALL LINE 0 OF 6
*----- Top of Data -----
BNH495I NUMBER OF NETVIEW APPLICATIONS: 4
# Domain Status Total-CPU % Total-Stor Role Sysplex-Role Syspl
1 NTV7A ACTIVE 10.22 95116 NETWORK MASTER 250
2 NTV74 ACTIVE 7.73 68792 NETWORK MCAP 1
3 NTV70 ACTIVE 8.00 54052 NETWORK MCAP 1
4 NTVE6 ACTIVE 8.77 80760 NETWORK MCAP 100
*----- Bottom of Data -----*
```

NetView
Application
workspace is also
available

OSA Port Topology – Parent View



Master NetView Failover



XCF Services Commands

- LIST STATUS=XCFGRPS
 - ▶ Returns a list of z/OS XCF groups in which the NetView participates
- PLEXCTL
 - ▶ Changes the rank of the NetView in the DSIPLXnn in which it participates
- START/STOP XCFGROUP
 - ▶ Specifies the name of the XCF group to join or leave
- PIPE stages XCFMSG, XCFTABLE, and XCFQUERY
- Commands, keywords, and pipe stages are restricted to highest authority operators



Discovery Manager

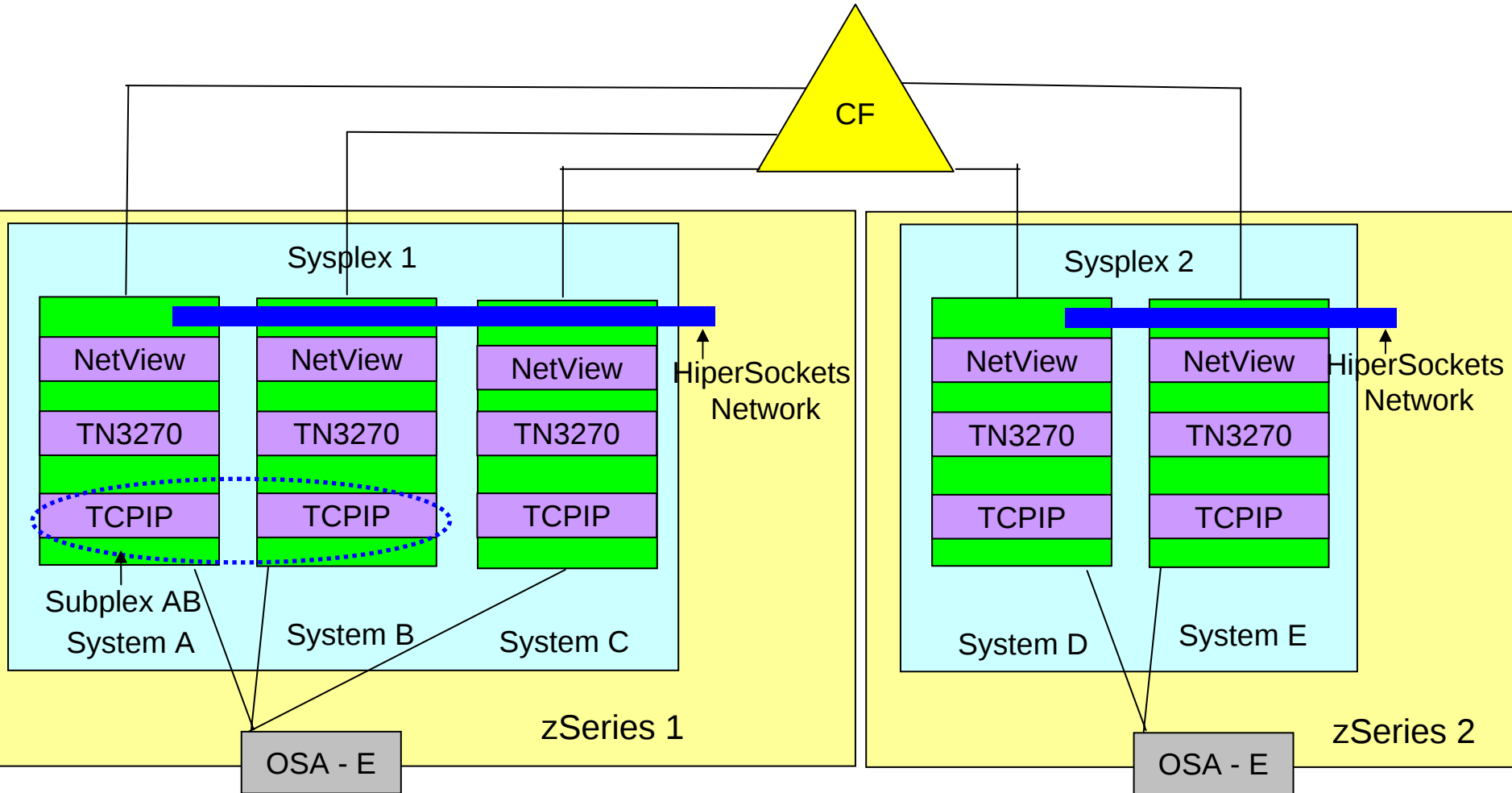


Discovery Manager

- Previously called Sysplex IP Stack Manager
- Functionality expanded to discover additional sysplex and System z resources providing more robust IP management
- Data collected using a combination of events (message automation) and sampling
- Provided manual rediscovery capability
- Information forwarded to a master and enterprise NetView
- Compatibility PTF provided for NetView 5.2 and 5.3 so Sysplex IP Stack Manager information is still available in NetView 5.4 for migration



Discovery Manager Components

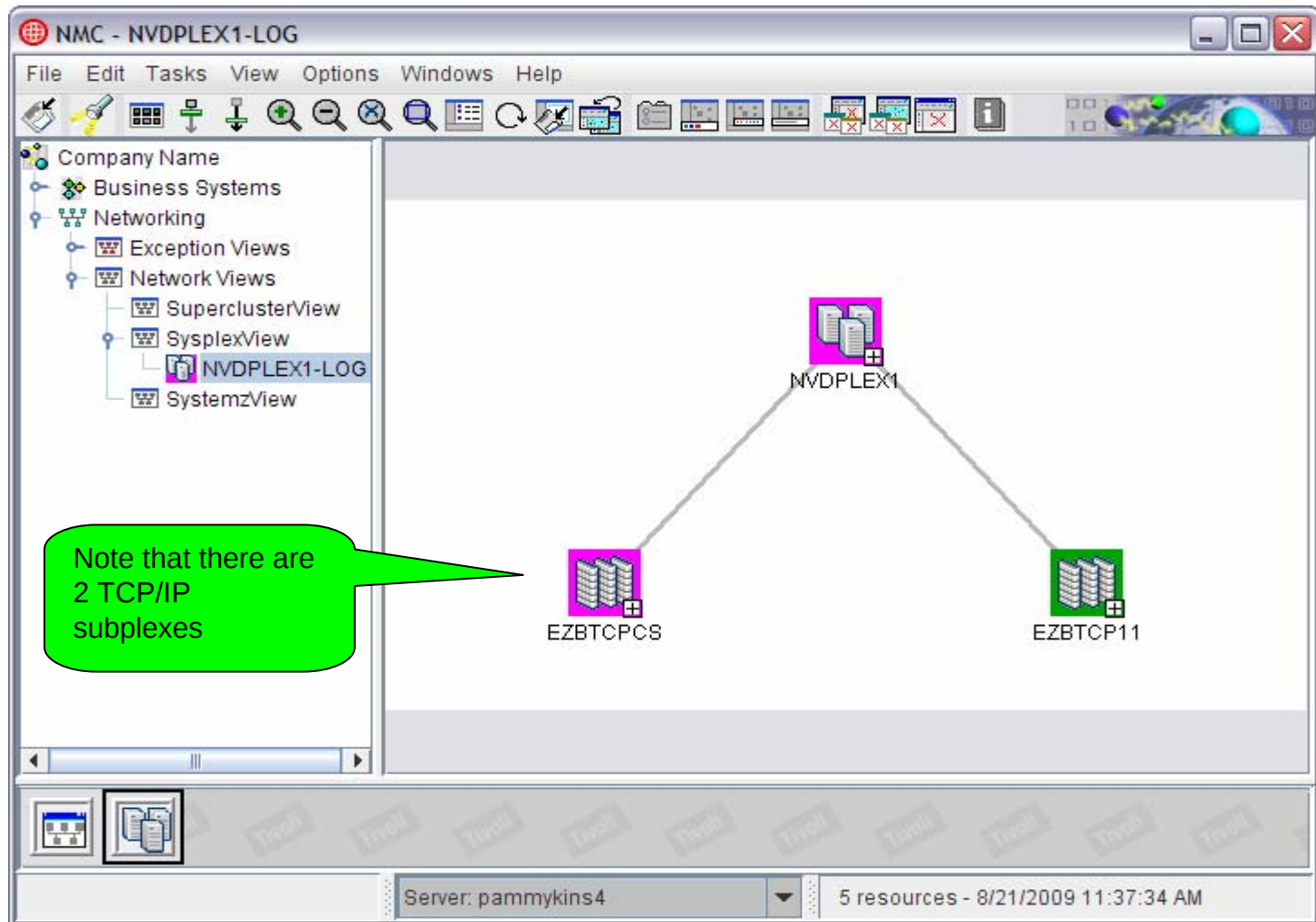


Scenario: Subplex - Socket Connection Failed

- NetView socket application program is written to communicate to all stacks in the sysplex
- Connection fails from NMPIPL12 stack TCPIP to NMPIPL10 stack TCPIPB
- Using NMC, system programmer determines that the stacks are in a different subplex and therefore cannot communicate
- Note that the subplex name for the TCP/IP stack is also provided in the Stack Configuration and Status 3270 command output and TEP workspace



Scenario: Subplex – Configuration Logical



Scenario: Subplex – More Detailed Logical

NMC - EZBTCPCS-MDL

File Edit Tasks View Options Windows Help

Company Name

- Business Systems
- Networking
 - Exception Views
 - Network Views
 - SuperclusterView
 - SysplexView
 - NVDPLEX1-LOG
 - EZBTCPCS-MDL**

- SystemzView

NMPIPL12.TCPIP

NMPIPL30.TCPIP

NMPIPL10.TCPIP

NMPI190.TCPIP

Stack TCPIP on NMPIPL12 is in subplex EZBTCPCS

Server: pammykins4 4 resources - 8/16/2009 02:50:48 PM

NMC - EZBTCP11-MDL

File Edit Tasks View Options Windows Help

Business Systems

- Networking
 - Exception Views
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 - SuperclusterView
 - SysplexView
 - NVDPLEX1-LOG
 - EZBTCP11-MDL**
- SystemzView

NMPIPL12.TCPIPB

NMPIPL30.TCPIPB

Stack TCPIPB on NMPIPL30 is in subplex EZBTCP11

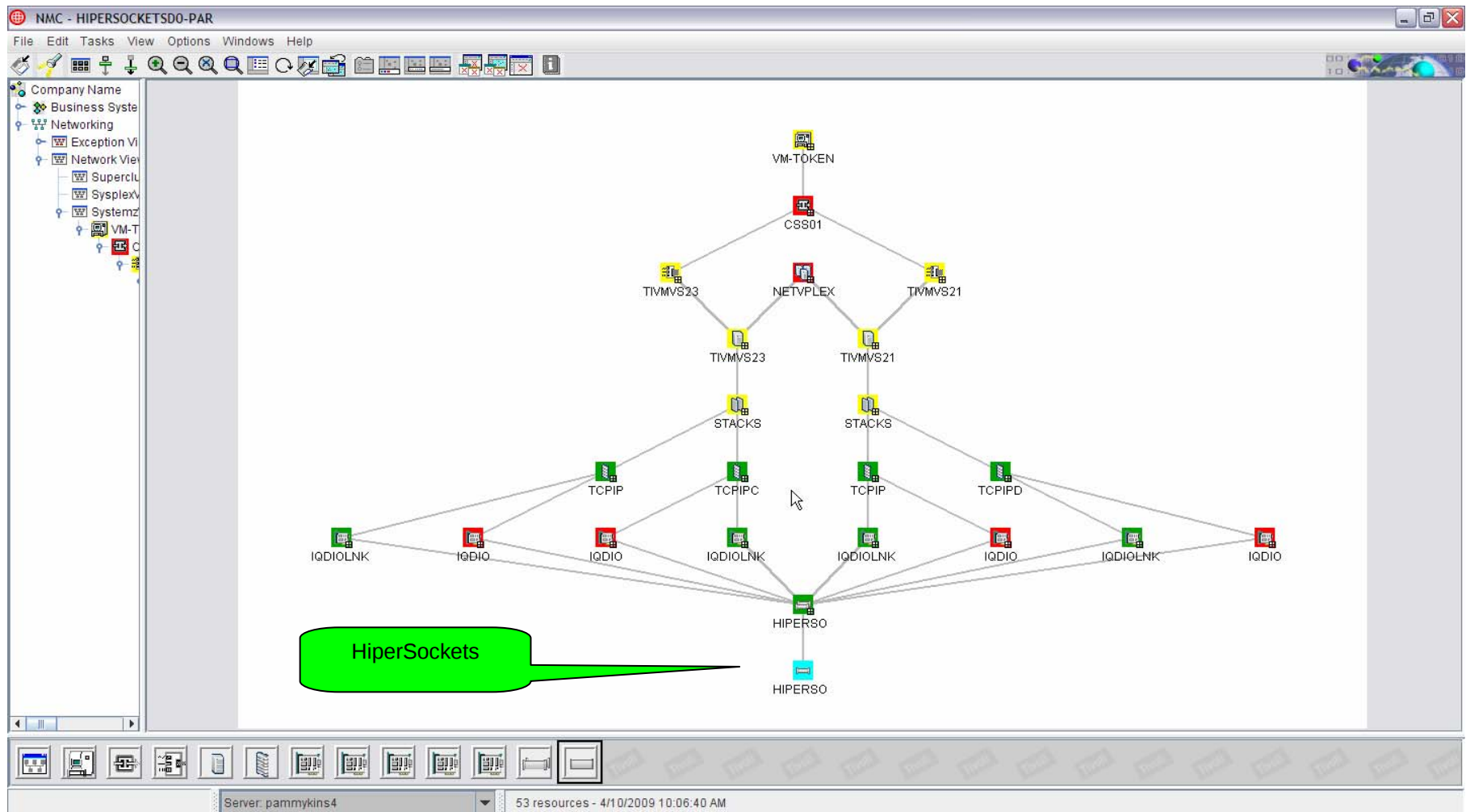
Server: pammykins4 2 resources - 8/16/2009 02:47:28 PM

Scenario: Diagnosing HiperSockets Interface Problem

- An operator reports that NMC topology is showing interfaces named IQDIO as being inactive after a system outage due to maintenance. The interfaces are connected to the HiperSockets node
- System programmer asks the operator to see if there are other interfaces that are connected to the HiperSockets node
- The operator reports that there are interfaces named IQDIOLNK
- System programmer concludes that the static HiperSockets interfaces are not active and activates them



Scenario: HiperSockets Interfaces

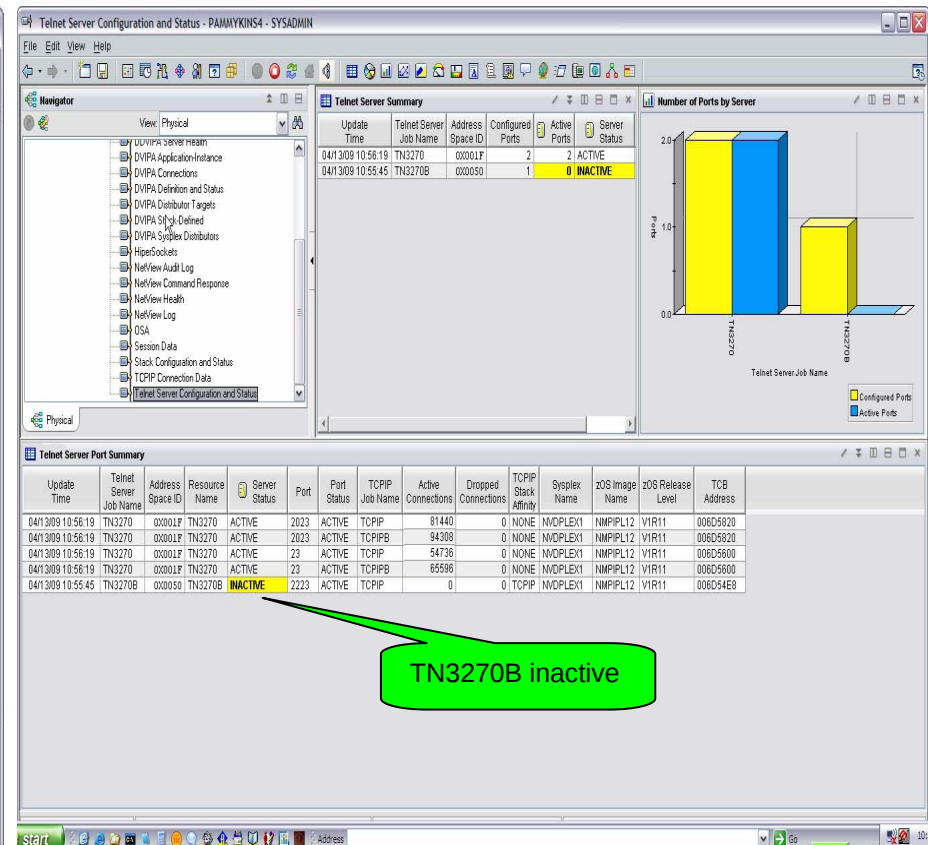
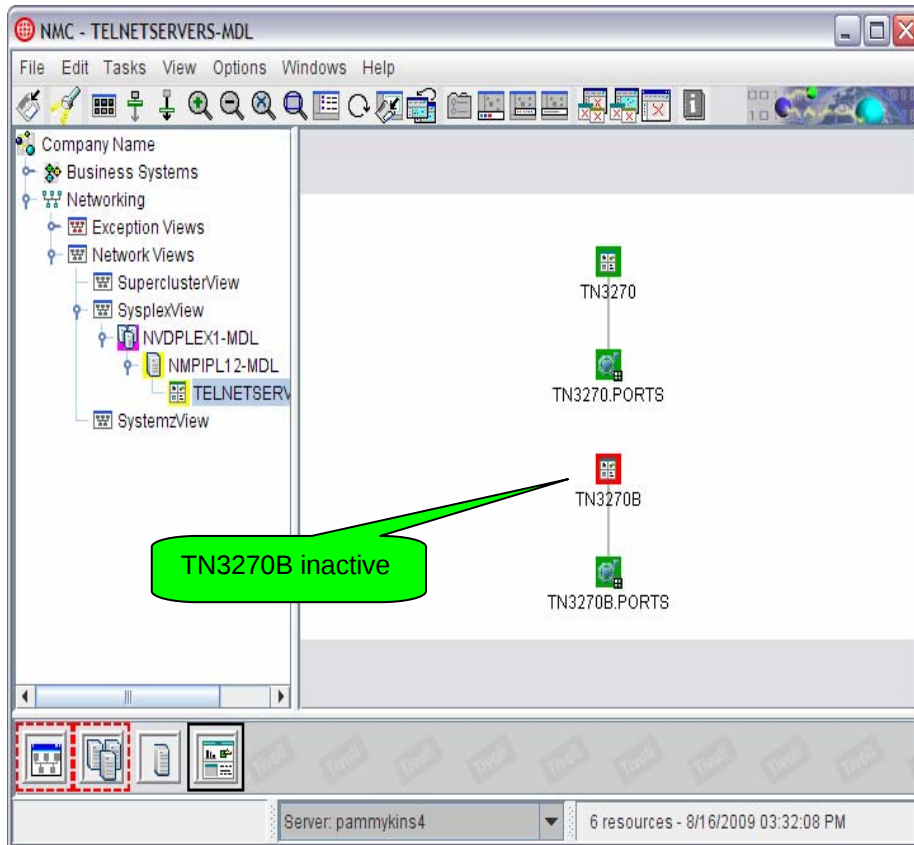


Scenario: Diagnosing Telnet Server Outage

- A user reports that they can no longer establish Telnet connections to Telnet server TN3270B
- The operator looks at the Telnet Server Configuration and Status workspace and notices that TN3270B is inactive
- The operator restarts the server and monitors that connections are once again being established



Scenario: Telnet Server Inactive



CNMKIND OUTPUT FROM CNMSTNST

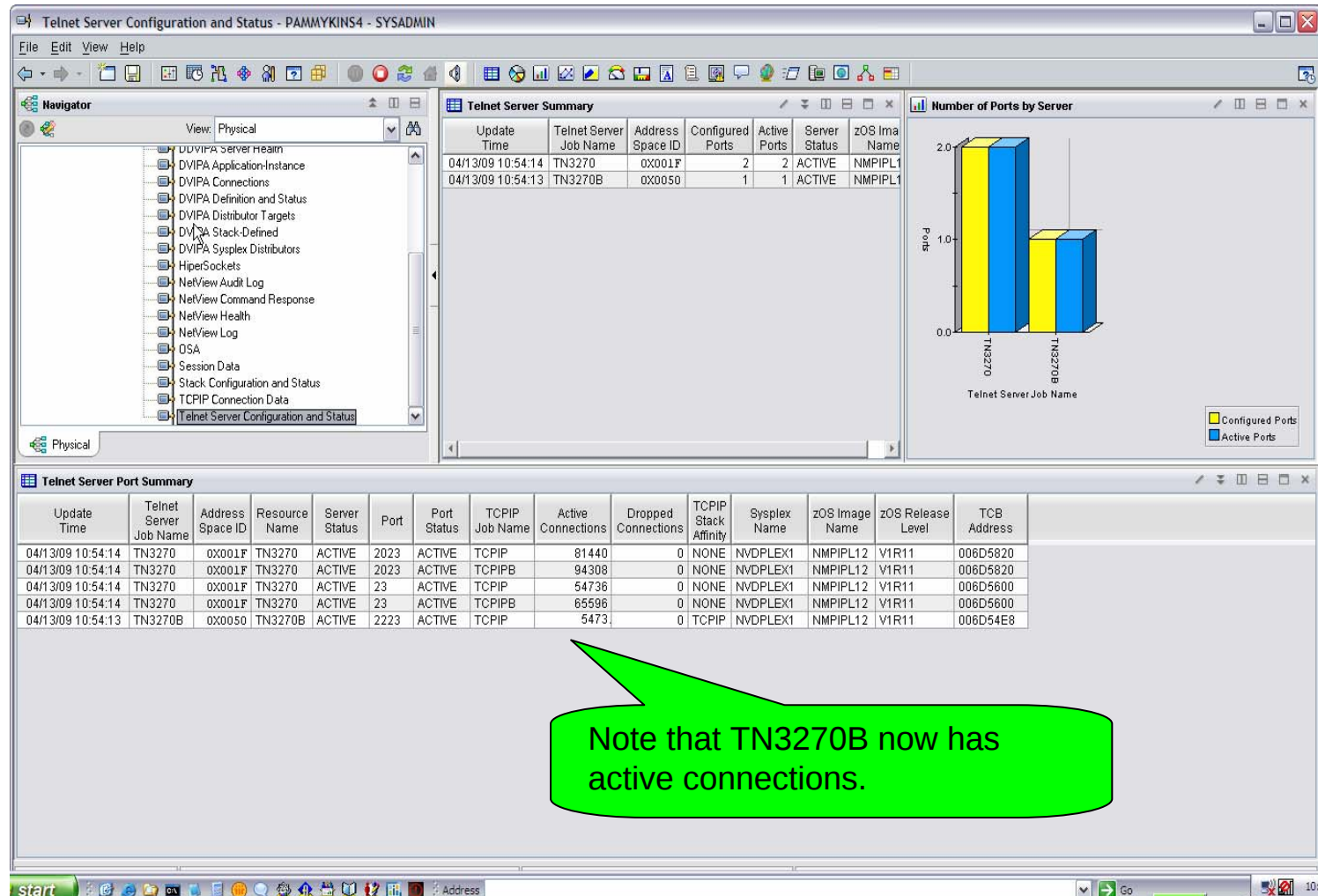
LINE 0 OF 3

TN3270B not present when inactive

```

Top of Data -----*
# 14961 NUMBER OF TELNET SERVERS: 1
# Telnet Server ASID Status Config-ports Active-ports System-name
1 TN3270 001E ACTIVE 2 2 NMPIPL12
*-----*
Bottom of Data -----*
  
```

Scenario: Telnet server now active



DVIPA Discovery, Events, and DDVIPA Statistics



DVIPA Discovery

- Enhanced commands and workspaces to provide better problem determination
- Provided additional functionality:
 - ▶ DVIPAs by type (Application instance, stack-defined, DDVIPA)
 - ▶ DVIPA summary information by TCP/IP stack
 - ▶ VIPA Routes
 - ▶ Distributed DVIPA connection routing
- Improved performance
- Data collected using a combination of events and sampling
- Provided manual rediscovery capability
- Information forwarded to a master NetView

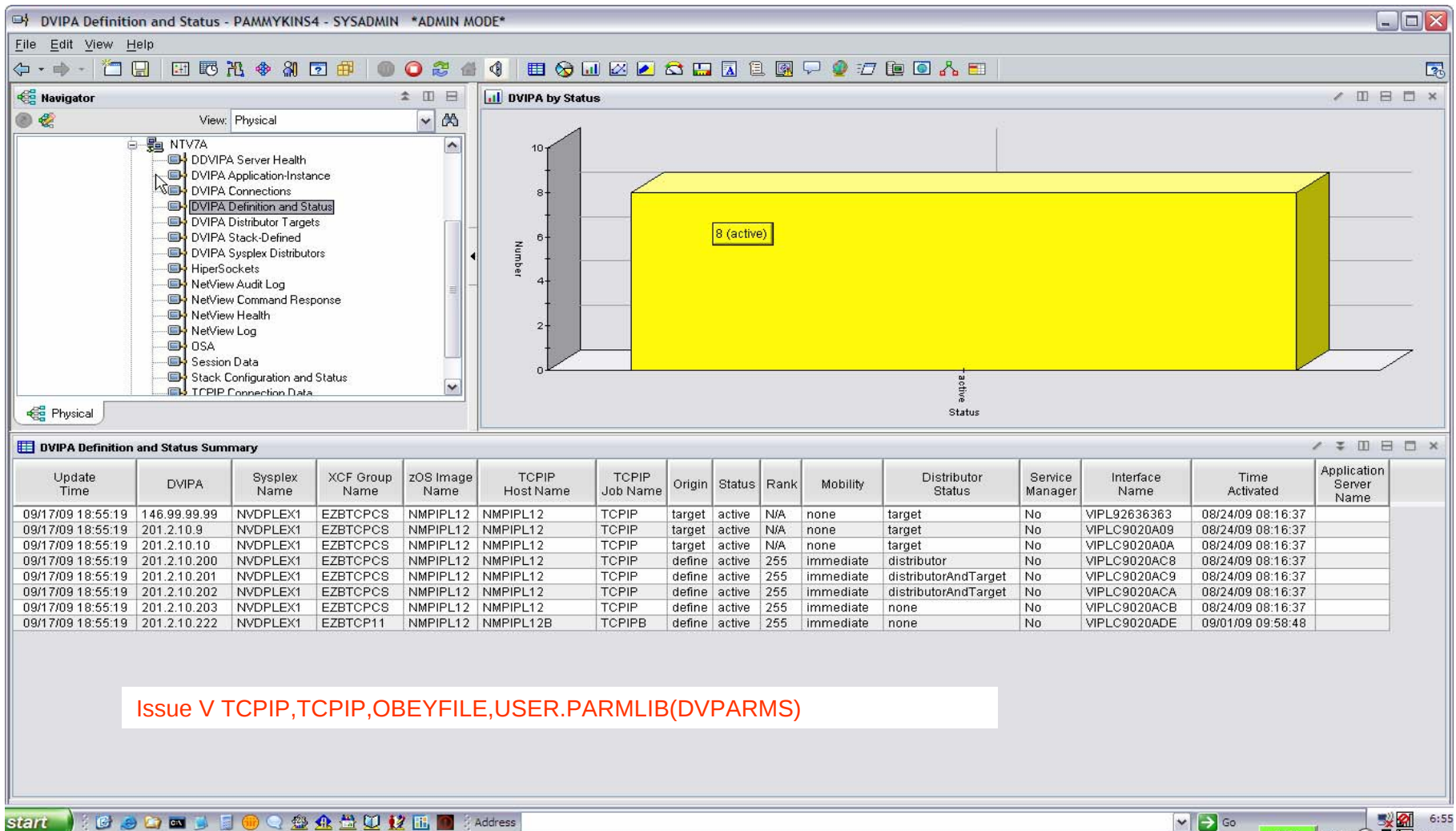


DVIPA Events

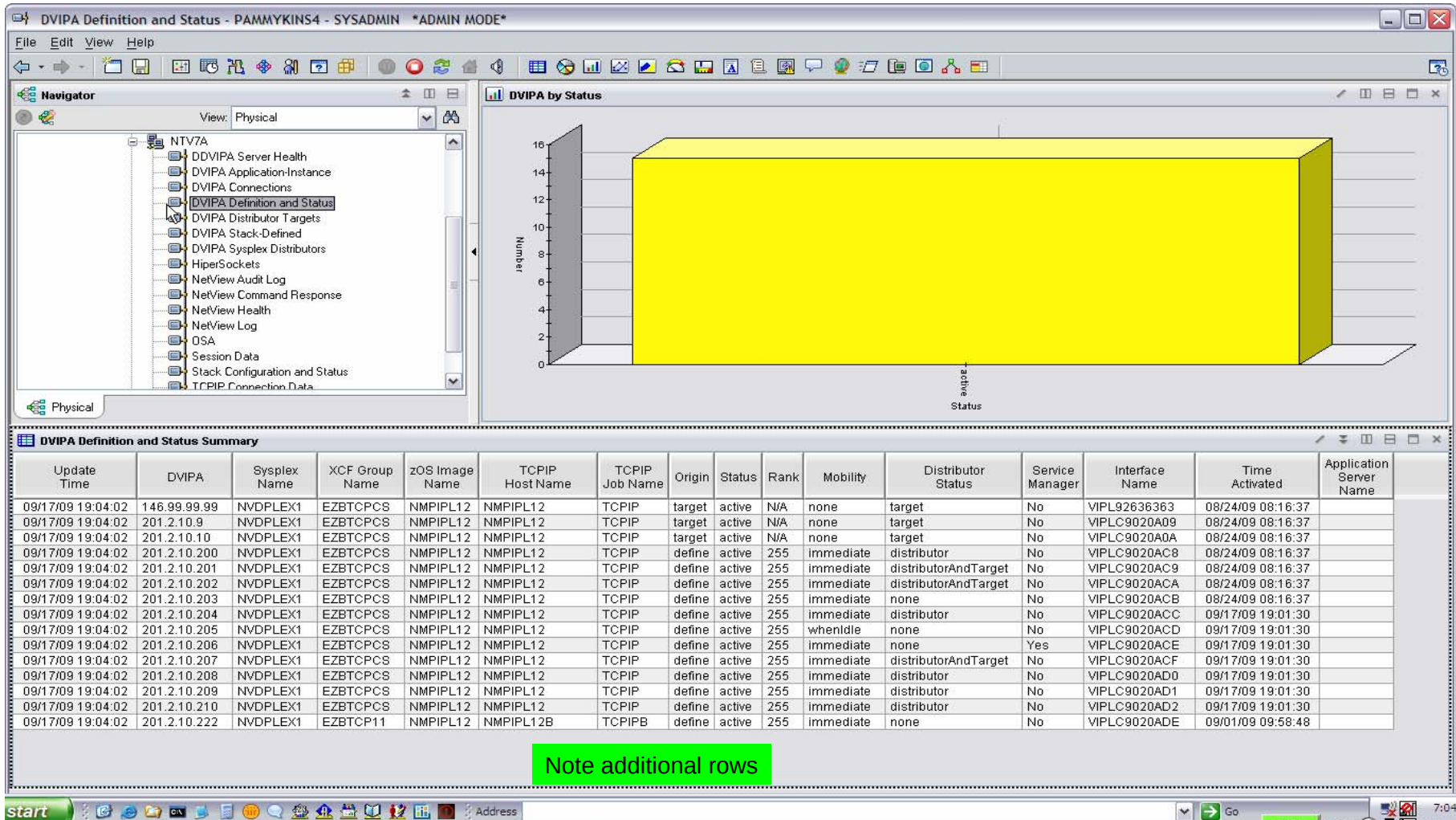
- DVIPA Events can be used to provide a better “real time” view of DVIPA information. NetView is providing automation for three types of DVIPA Events:
 - ▶ DVIPA SNMP Traps
 - Uses NetView SNMP trap DST
 - ▶ DVIPA Configuration Changes
 - Requires z/OS V1R11 Communications Server
 - ▶ Sysplex Autonomics messages
- When a DVIPA event is received:
 - ▶ NetView will bundle the events using configurable delays
 - ▶ Notify the master that this system needs rediscovering
 - The master NetView also has a delay to bundle the event messages
 - ▶ Send rediscovery commands to all systems in the sysplex impacted by the event



Scenario: DVIPA Events Before OBEYFILE



Scenario: DVIPA Events After OBEYFILE



Distributed DVIPA Statistics

- Provides the capability to collect workload distribution for each distributed DVIPA target
 - ▶ Used for problem determination
 - ▶ Used for historical data
- Collects data after each DDVIPA discovery is done
- Starts during NetView initialization or using DVIPALOG command
- Writes data to a sequential data set
 - ▶ Primary and secondary data sets allocated
 - ▶ Messages indicate data set switching
- Sample CNMSDVST shows data in both data set on NetView 3270 console
- Forwards data to master NetView, if configured to do so
- Reports (not provided by NetView) can be written against the data
 - ▶ Historical DDVIPA data can still be gathered using ITM



DDVIPA Statistics Information Provided

- STCK
- Date
- Time
- System
- TCP Job Name
- DDVIPA
- DDVIPA Port
- Target System
- Target TCP Job Name
- Distribution Method
- Total Connections
- Delta Connections
- WLM Weight
- SD Percentage TCP Connections
- Percentage WLM Weight



Scenario: Diagnosing DDVIPA Workload

- You think you have a sysplex distributor workload balancing problem for FTP port 21
- To do a complete analysis, you'll want to verify:
 - ▶ DVIPA Configuration
 - Distributors
 - Targets
 - ▶ Distribution metrics which includes the health of the server
 - ▶ DDVIPA statistics output



Scenario: Stack Configuration and Status

1. From TEP Navigator, Select Stack Configuration and Status Summary workspace.

Stack Configuration and Status Summary

	Update Time	TCPIP Job Name	TCPIP Host Name	Status	Sysplex Name	XCF Group Name	VTAM XCF Group Name	zOS Image Name	Primary Interface	IP Address	IPv6 Enabled	IPSec Enabled	AT-TLS Enabled	Source VIPA Enabled	TCP Stack Source VIPA Enabled	Segmentation Offload Enabled	z/OS IP Security Enabled	Sysplex WLM Polling Interval	
	04/12/09 17:03:16	TCPIPB	NMPIPL12B	ACTIVE	NVDPLEX1	EZBTCPCS	ISTXCF	NMPIPL12	TCPIPLINK	9.42.40.79	Yes	No	No	No	No	No	No	0	
	04/12/09 17:03:14	TCPIP	NMPIPL12	ACTIVE	NVDPLEX1	EZBTCPCS	ISTXCF	NMPIPL12	TCPIPLINK	9.42.45.12	Yes	No	No	No	No	No	No	0	
	04/12/09 10:10:41	TCPIP	NMPIPL30	ACTIVE	NVDPLEX1	EZBTCPCS	ISTXCF	NMPIPL30	TCPIPLINK	9.42.45.30	Yes	No	No	No	No	No	No	0	
	04/12/09 10:10:35	TCPIP	NMPI190	ACTIVE	NVDPLEX1	EZBTCPCS	ISTXCF	NMPI190	TCPIPLINK	9.42.45.190	Yes	No	No	No	No	No	No	0	
	04/12/09 10:10:05	TCPIP	NMPIPL10	ACTIVE	NVDPLEX1	EZBTCPCS	ISTXCF	NMPIPL10	TCPIPLINK	9.42.45.10	Yes	No	No	No	No	No	No	0	

2. Select the link for DVIPA Stack Summary for stack TCPIP on NMPIPL12

Scenario: DVIPA Stack Summary

1. Verify that the specified Sysplex Distributor is Active.
2. Note that the local system (NMPIPL12) has 1 connection.

DVIPA Defined for TCPIP Job Name TCPIP and z/OS Image ...

Update Time	DVIPA	Time Activated	Origin	Status
04/10/09 15:52:40	201.2.10.203	04/09/09 13:26:35	define	active
04/10/09 15:52:40	2000:201:2:10::200	04/09/09 13:26:35	define	active

Sysplex Distributors Defined for TCPIP Job Nam...

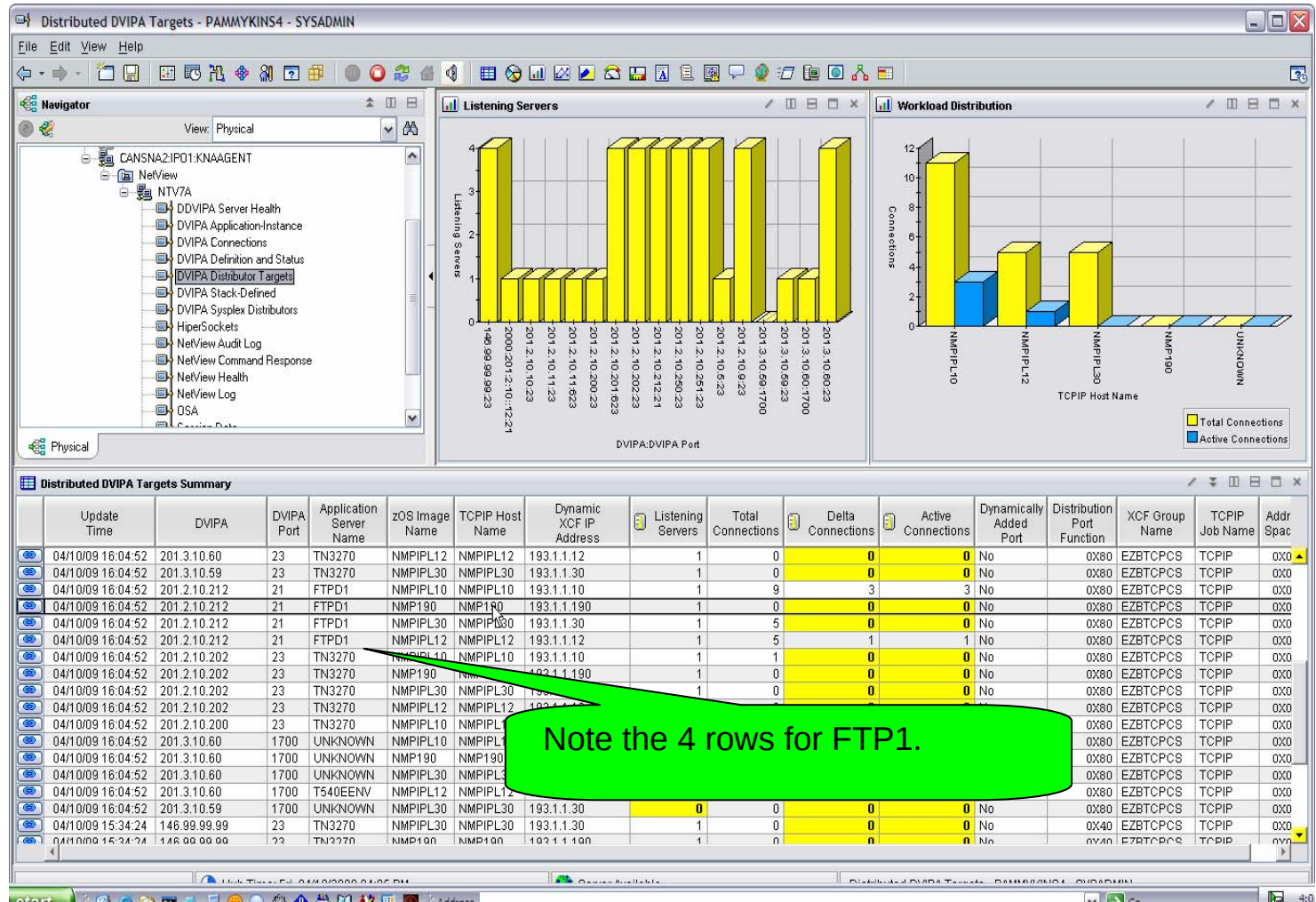
Update Time	DVIPA	DVIPA Port	Status	Distribution Method	Cc
04/10/09 16:04:52	201.2.10.201	623	active	baseWlm	N
04/10/09 16:04:52	201.3.10.60	23	active	baseWlm	N
04/10/09 16:04:52	201.3.10.59	23	active	baseWlm	1
04/10/09 16:04:52	201.2.10.212	21	active	baseWlm	N
04/10/09 16:04:52	201.2.10.202	23	active	baseWlm	N
04/10/09 16:04:52	201.2.10.200	23	active	baseWlm	1
04/10/09 16:04:52	201.3.10.60	1700	active	baseWlm	N
04/10/09 16:04:52	201.3.10.59	1700	active	baseWlm	1

Local Distributed Targets Defined for TCPIP Job Name TCPIP and z/OS Image Name NMPIPL12

Update Time	DVIPA	DVIPA Port	Dynamic XCF IP Address	Listening Servers	Total Connections	Active Connections	Distribution Port Function
04/10/09 16:05:58	201.2.10.10	23	193.1.1.12	1	0	0	0x80
04/10/09 16:05:58	201.2.10.9	23	193.1.1.12	1	0	0	0x80
04/10/09 16:04:52	201.2.10.201	623	193.1.1.12	1	0	0	0x80
04/10/09 16:04:52	201.3.10.60	23	193.1.1.12	1	0	0	0x80
04/10/09 16:04:52	201.2.10.212	21	193.1.1.12	1	5	1	0x80
04/10/09 16:04:52	201.2.10.202	23	193.1.1.12	1	0	0	0x80
04/10/09 16:04:52	201.3.10.60	1700	193.1.1.12	1	0	0	0x80
04/10/09 15:34:24	146.99.99.99	23	193.1.1.12	1	0	0	0x40
04/10/09 16:03:23	201.2.10.251	23	193.1.1.12	1	0	0	0x80
04/10/09 16:03:23	201.2.10.250	23	193.1.1.12	1	0	0	0x80

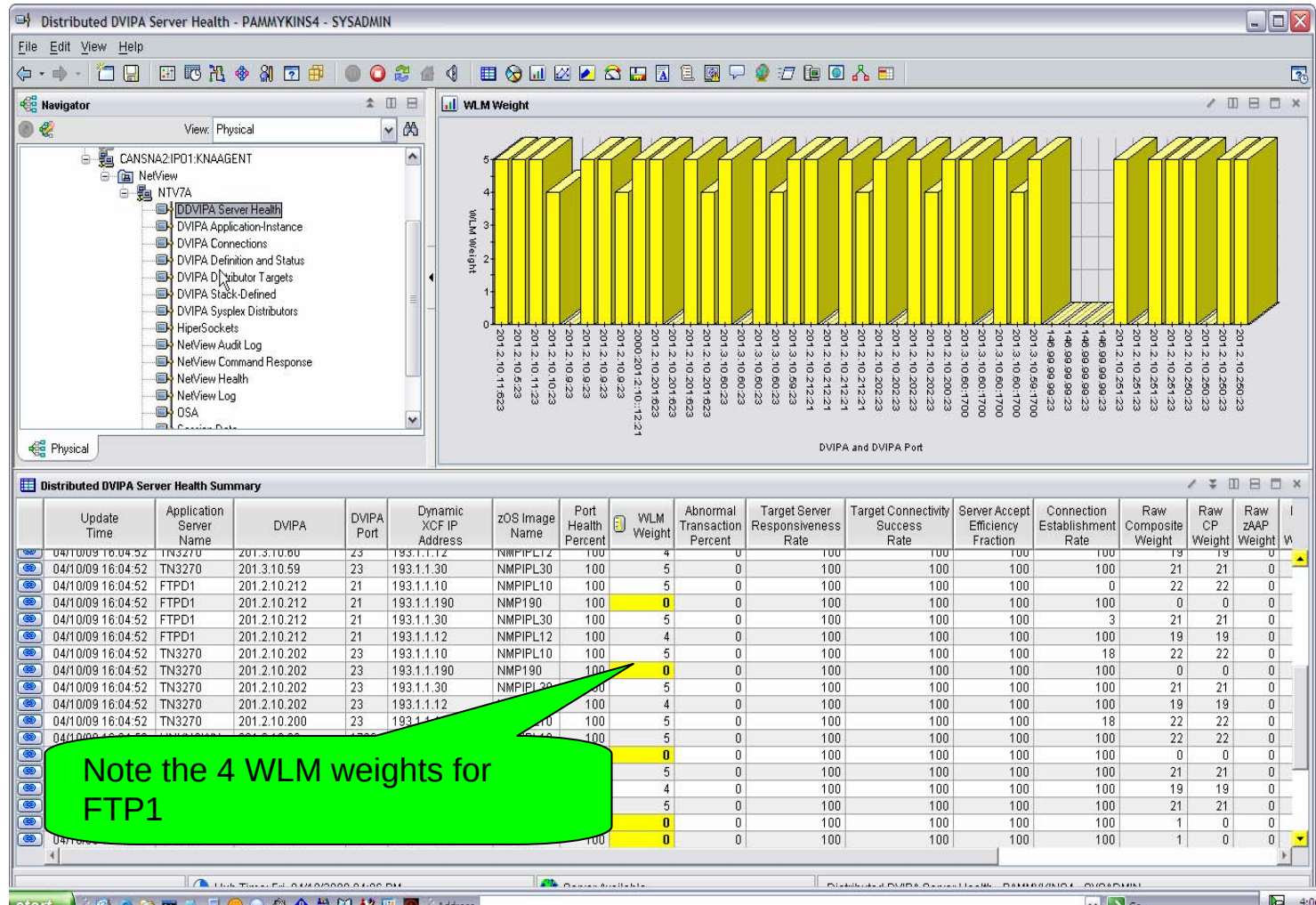
Scenario: DDVIPA Targets

Connections were only distributed to two systems



Scenario: DDVIPA Server Health

WLM weights indicate connections should be distributed almost evenly across 3 of the 4 systems



Scenario: DDVIPA Statistics

Session E - [24 x 80]

File Edit View Communication Actions Window Help

CNMKWD OUTPUT FROM CNMSDVST LINE 570 OF 583

BNH867I NUMBER OF DISTRIBUTED DVIPA STATISTICAL RECORDS: 581

#	Date	Time	LocalSys	LclStack	DDVIPA	Port	TargSys	TargSak	DistribMethod	TotalConns	DeltaConns	WLMweight	SD%	WLM%
568	04/10/09	16:04:52	NMPIPL12	TCPIP	201.2.10.212	21	NMPIPL10	TCPIP	BaseWLM	9	3	5	75	36
569	04/10/09	16:04:52	NMPIPL12	TCPIP	201.2.10.212	21	NMP190	TCPIP	BaseWLM	0	0	0	0	0
570	04/10/09	16:04:52	NMPIPL12	TCPIP	201.2.10.212	21	NMPIPL30	TCPIP	BaseWLM	5	0	5	0	36
571	04/10/09	16:04:52	NMPIPL12	TCPIP	201.2.10.212	21	NMPIPL12	TCPIP	BaseWLM	5	1	4	25	29
572	04/10/09	16:04:52	NMPIPL12	TCPIP	201.2.10.202	23	NMPIPL10	TCPIP	BaseWLM	1	0	5	0	36
573	04/10/09	16:04:52	NMPIPL12	TCPIP	201.2.10.202	23	NMP190	TCPIP	BaseWLM	0	0	0	0	0
574	04/10/09	16:04:52	NMPIPL12	TCPIP	201.2.10.202	23	NMPIPL30	TCPIP	BaseWLM	0	0	5	0	36
575	04/10/09	16:04:52	NMPIPL12	TCPIP	201.2.10.202	23	NMPIPL12	TCPIP	BaseWLM	0	0	4	0	29
576	04/10/09	16:04:52	NMPIPL12	TCPIP	201.2.10.200	23	NMPIPL10	TCPIP	BaseWLM	1	0	5	0	100
577	04/10/09	16:04:52	NMPIPL12	TCPIP	201.3.10.60	1700	NMPIPL10	TCPIP	BaseWLM	0	0	5	0	36
578	04/10/09	16:04:52	NMPIPL12	TCPIP	201.3.10.60	1700	NMP190	TCPIP	BaseWLM	0	0	0	0	0
579	04/10/09	16:04:52	NMPIPL12	TCPIP	201.3.10.60	1700	NMPIPL30	TCPIP	BaseWLM	0	0	5	0	36
580	04/10/09	16:04:52	NMPIPL12	TCPIP	201.3.10.60	1700	NMPIPL12	TCPIP	BaseWLM	0	0	4	0	29
581	04/10/09	16:04:52	NMPIPL12	TCPIP	201.3.10.59	1700	NMPIPL30	TCPIP	BaseWLM	0	0	5	0	100

----- Bottom of Data -----

TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'

CMD==>

Connected to remote server/host ralmr.raleigh.ibm.com using port 23

Canon MP830 Series Printer on USB001

raleigh.ibm.com using port 23

Canon MP830 Series Printer on USB001

Note the discrepancy between SD% and WLM%. This indicates a problem.

For More Information



For More Information

- NetView Home Page

<http://www.ibm.com/software/tivoli/products/netview-zos/>

- Downloads (NMC, MSM agents, tools)
- Release comparison
- Link to Announcement letter
- Links to other online information sources
- More

- NetView Documentation

<http://publib.boulder.ibm.com/infocenter/tivihelp/v3r1/index.jsp?toc=/com.ibm.itnetviewf/orzos.doc/toc.xml>

- NetView Customer Forum

<http://groups.yahoo.com/group/NetView/>



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Course listing sorted by training type

Product | Solution | Training type

Select title to view description and link to enrollment/worldwide schedule information.

If you are unable to locate a course at the time and location you desire, including training for prior product releases, please feel free to contact your delivery management team:

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 Asia Pacific: tivtrainingap@au1.ibm.com
 EMEA: tived@uk.ibm.com

Training

- Classroom
- Differences
- Document
- Foundation Skills
- How-to
- Self-paced
- Web seminar

Classroom	
Title	Duration
→ AF/OPERATOR and OMEGACENTER Gateway Basics	5 Days
→ CIMS Server 4.3 Implementation and Administration	3 Days
→ Comprehensive Technical Training for IBM Tivoli	15 Days
→ Configuring WebSphere MQ using IBM Tivoli OMEGAMON XE for WebSphere MQ	As needed
→ Creating an ETL for Tivoli Data Warehouse 1.2	4 Days
→ Deploying an Integrated IBM Tivoli Security Solution	3 Days
→ Disaster Preparation and Recovery for IBM Tivoli Storage Manager 5.3	2 Days
→ Extending IBM Tivoli Identity Manager 4.6	4 Days
→ IBM OMEGAMON z/OS Management Console 1.1.0	As needed
→ IBM Tivoli Access Manager for Business Integration 5.1 System Administration	3 Days
→ IBM Tivoli Access Manager for e-business 6.0 Customization	4 Days

Related links

- Warranty info
- Business Partners
- Tivoli Developer Domain
- Resource Center
- Industry Solutions
- Licensing
- Contact Tivoli
- IBM Tivoli Open
- Process Automation

1. Click **Product** tab
2. Select **N** for NetView for z/OS

Web site contains links to *product training roadmaps*, including prerequisite and supplemental training.

http://www.ibm.com/software/tivoli/education/edu_type.html

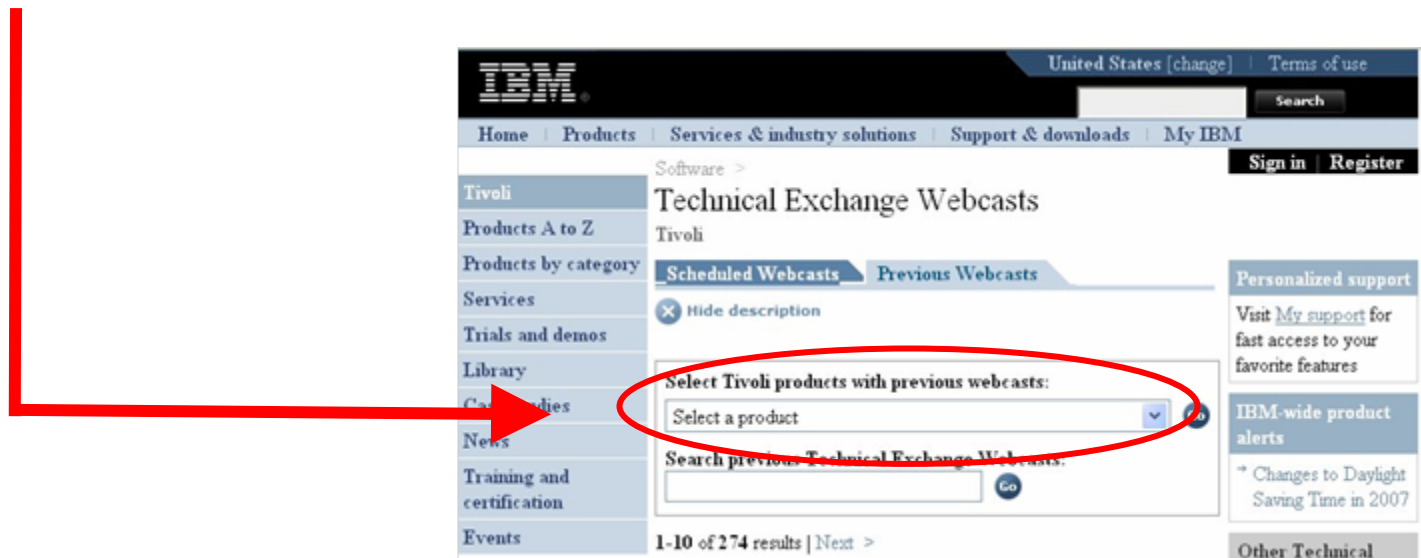
Classes

- New / updated classes

- ▶ NetView for z/OS 5.3 Technical Update
 - October 20-1, Berlin
 - [http://www.ibm.com/services/learning/de/ta-iris.nsf/\(ExtCourseNr\)/TM78D0DE](http://www.ibm.com/services/learning/de/ta-iris.nsf/(ExtCourseNr)/TM78D0DE)
- ▶ NetView for z/OS 5.3 Workshop: Fundamentals, Automation, REXX and PIPEs
 - September 28 – October 2, Paris,
 - October 5-9, London
 - October 13-17, Pittsburgh
 - November 2-6, San Francisco
 - May 17-21, Berlin
 - <http://www.ibm.com/software/tivoli/education/U188790N96197Y71.html>
- ▶ NetView for z/OS 5.3 Workshop: Fundamentals
- ▶ NetView for z/OS 5.3 Workshop: Automation Techniques
- ▶ NetView for z/OS 5.3 Workshop: REXX Programming
- ▶ NetView for z/OS 5.3 Workshop: NetView PIPEs

Where to find Web Seminars

- Recordings of all Web Seminars are available at the STE Web page:
 - ▶ http://www.ibm.com/software/sysmgmt/products/support/supp_tech_exch.html
- Search *Previous Webcasts*
 - ▶ NetView for z/OS



Webinars

- Descriptions and Recordings
 - ▶ http://www.ibm.com/software/tivoli/education/edu_prd.html#N
- Examples
 - ▶ NetView for z/OS 5.3 Enterprise Management Agent (EMA)
 - ▶ TCP/IP Management – Part 1
 - ▶ TCP/IP Management – Part 2
 - ▶ Automation
 - ▶ Time to Value, Ease of Use, and Migration Considerations



IBM System z Advisor

- A monthly e-newsletter to provide IBM System z practitioners with a mechanism to broaden System z knowledge and keep up to date with technical developments and futures.
- Launched August 2009
- Replaces CCR2
- System z Advisor home page

▶ <http://www-01.ibm.com/software/tivoli/systemz-advisor/>



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Backup



System Definition (XCF.RANK)

- XCF.RANK determines position in sysplex
 - ▶ Value a number from 0-250
 - 0 cannot be a master
 - 1-249 is master capable. Highest ranked NetView is first to take over as master, if needed.
 - -1 indicates that NetView will not participate in an XCF group
 - ▶ NetView domain name used as tie breaker when NetViews have the same rank
 - ▶ Default rank is 1



System Definition – Other XCF Statements

- XCF.GROUPNUM = 01
 - ▶ Two character suffix defining the DSIPLXxx group which this NetView can join
- XCF.TAKEOVER.DURATION = 5
 - ▶ Specifies how long (in minutes) a master will hang onto role before allowing anyone else to become master (used to avoid thrashing)
- XCF.TAKEOVER.CLIST = *NONE*
 - ▶ Specifies a user-written command list to run when NetView takes over as group master.
- XCF.TAKEOVER.INITWAIT = 10
 - ▶ Specifies how long (in minutes) a backup will wait when it comes up before taking over as master if there is none in the sysplex. (The wait period gives the master a chance to come up.)



System Definition – Other XCF Statements cont.

- XCF.TAKEOVER.DELAY = 0
 - ▶ Specifies how long to wait (in seconds) before attempting data discovery when NetView takes over as master. Valid values are 0 (the default) to 3600.
- XCF.TAKEOVER.NETCONVS = YES
 - ▶ Specifies whether a NetView taking over as master is to attempt to establish NETCONV connections/sessions that were active at a previous master. Values are YES or NO. The default is YES.
- XCF.TAKEOVER.CONVIP1
 - ▶ Specifies one or more NMC servers to whom NetView should attempt to establish NETCONV connections when taking over as master.



Discovery Manager Summary

Data Discovered	Tower (or subtower)	Event or Sampled	Sampling Interval (seconds)	User Interfaces
Sysplex	DISCOVERY	Event		NMC
Coupling Facility	DISCOVERY	Event		NMC
z/OS Image	DISCOVERY	Event		NMC, TEP
NetView Application	DISCOVERY	Event and Sampled	300	3270, NMC, TEP
TCP/IP Stack	DISCOVERY	Event		3270, NMC, TEP
TCP/IP Subplex	DISCOVERY	Event		3270, NMC
TCP/IP Interface	DISCOVERY.INTERFACES	Sampled	3600	3270, NMC
Telnet Server and Port	DISCOVERY.TELNET	Event and Sampled	3600	3270, NMC, TEP

Discovery Manager Summary cont.

Data Discovered	Tower (or subtower)	Event or Sampled	Sampling Interval (seconds)	User Interfaces
OSA	DISCOVERY.INTERFACES.OSA	Sampled	3600	3270, NMC, TEP
HiperSockets	DISCOVERY.INTERFACES.HIPER CKETS	Sampled	3600	3270, NMC, TEP

Discovery Manager Commands and Samples

- NVSTAT (CNMSNVST)
 - ▶ Displays NetView application configuration and status information
- STACSTAT (CNMSSTAC)
 - ▶ Displays TCP/IP stack configuration and status information
- IFSTAT (CNMSIFST)
 - ▶ Displays IP interface information
- TELNSTAT (CNMSTNST)
 - ▶ Displays Telnet server information
- TNPTSTAT (CNMSTPST)
 - ▶ Displays Telnet server port information



Discovery Manager Commands and Samples cont.

- OSAPORT (CNMSOSAP)
 - ▶ Displays OSA channel and port information
 - ▶ IOBSNMP must be running to collect OSA information
- HIPERSOC (CNMSHIPR)
 - ▶ Display HiperSockets status and configuration information

Note: OSA and HiperSockets information requires RODM to be active, but GRAPHICS tower is not required



DVIPA Discovery Summary

Data Discovered	Tower (or subtower)	Event or Sampled	Sampling Interval (seconds)	User Interfaces
DVIPA Definition and Status	DVIPA	Sampled and Event	3600	3270, TEP
Distributed DVIPA	DVIPA.DVTAD	Sampled and Event	3600	3270, TEP
* DVIPA Connections	DVIPA.DVCONN	Sampled	3600	3270, TEP
VIPA Routes	DVIPA.DVROUT	Sampled and Event	3600	3270, TEP
* DDVIPA Connection Routing	DVIPA.DVROUT	Sampled	3600	3270, TEP

*** Data is not forwarded to master NetView due to potential large volumes**



DVIPA Commands and Samples

- DVIPSTAT (CNMSDVIP)
 - ▶ Displays DVIPA definition and status information
- DVIPPLEX (CNMSPLEX)
 - ▶ Displays Distributed DVIPA (DDVIPA) information
- DVIPTARG (CNMSTARG)
 - ▶ Displays Distributed DVIPA targets information
- DVIPHLTH (CNMSDVPH)
 - ▶ Displays DDVIPA server health information
- DVIPCONN (CNMSDVPC)
 - ▶ Displays DVIPA connections
- VIPAROUT (CNMSVPRT)
 - ▶ Displays VIPA route information
- DVIPDDCR (CNMSDDCR)
 - ▶ Displays distributed DVIPA connection routing informations



Questions?



Thank You!

