



TPF Operations Server V1.2

TPF Users Group - Spring 2009

Title: IBM Tivoli Monitoring for z/TPF

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Venue: Operations and Coverage

AIM Enterprise Platform Software
IBM z/Transaction Processing Facility Enterprise Edition 1.1.0

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CDC Client Directions

- **Future CDC Client to be an agent for IBM Tivoli Monitoring and the Tivoli Enterprise Portal.**
 - IBM Tivoli Monitoring Agent for z/TPF V 1.10
 - Planned availability May 2009
 - IBM Tivoli Monitoring V 6.2.1 required.
 - No extra cost for the TPF agent
 - Utilizes TPF Continuous Data Collection (CDC)

IBM Tivoli Monitoring benefits

- **Customizable views**
- **Situations/Alerts**
- **Common Enterprise Monitoring Solution**
 - Use of Tivoli Enterprise Portal derived from Omegamon product.
- **Tivoli Data Warehousing Available**

z/TPF CDC Enhancements

- **Requires z/TPF APAR PJ32921**
- **Historical Logging**
 - Support added for MySQL local or remote.
 - Complex name added to DB2 tables and included in MySQL tables.
 - Collection time added to DB2 tables and included in MySQL tables.
- **User Data Enhanced Including New User Exit**
 - Front end changes no longer required with new User Data
 - Sample collection code provided.
- **z/TPF CDC Fixes Included**











IBM Tivoli Monitoring for TPF 4.1

- **Agent for z/TPF Supports TPF 4.1**
- **Requires TPF 4.1 APAR PJ32919**
- **DB2 Table Changes**
 - Complex name
 - Collection time
- **TPF CDC Fixes Included**

IBM Tivoli Monitoring

Manage Tivoli Enterprise Monitoring Services - TEMS Mode - [Local Computer]

Actions Options View Windows Help

Service/Application	Task/SubSystem	Configured	Status	Startup	Account	Desktop	HotStdby	Version	Host	Port
 Eclipse Help Server	HELPSVR	Yes	Started	Manual	LocalSystem	No	No	06.21.00.00		
 Tivoli Enterprise Portal	Browser	Yes		N/A	N/A	N/A	N/A	06.21.00.00	localhost	
 Tivoli Enterprise Portal	Desktop	Yes		N/A	N/A	N/A	N/A	06.21.00.00	DEK1	
 Tivoli Enterprise Portal Server	KFWSRV	Yes (TEMS)	Started	Manual	LocalSystem	No	No	06.21.00.00		
 Warehouse Summarization and Pru...	Primary	No						06.21.00.00		
 Monitoring Agent for zTPF	TPFP3	Yes (TEMS)	Started	Auto	LocalSystem	No	No	01.10.00.00		
 Monitoring Agent for zTPF	TPFP1	Yes (TEMS)	Started	Manual	LocalSystem	No	No	01.10.00.00		
 Monitoring Agent for zTPF	Template							01.10.00.00		
 Warehouse Proxy	Primary	Yes (TEMS)	Stopped	Manual	LocalSystem	No	No	06.21.00.00		
 Tivoli Enterprise Monitoring Server	TEMS1	Yes	Started	Manual	LocalSystem	No	No	06.21.00.00		

IBM Tivoli Monitoring for z/TPF – Agent Configuration

Agent Configuration

Real-Time Provider
 JDBC Provider Java
 JDBC Provider
 zTPFDF Provider

Real-Time Provider Connection Settings

Instance Name	TPFP1
MQ Manager	TPFGM1
MQ Channel	CDCSVRCHL
MQ Queue	CDCRTQB
TCP IP Address	10.10.10.206

Back New Home OK Cancel

Agent Configuration

Real-Time Provider
 JDBC Provider Java
 JDBC Provider
 zTPFDF Provider

JDBC Provider Connection Settings New

Instance Settings Delete

JDBC Subnode Name	J1
Processor ID	B
Complex Name	5X0001
Server Name	itralg.pol.ibm.com
Database Name	CDCTM
User Name	itralg
Port Number	50000
Password	*****
Confirm Password	*****

Back New Home OK Cancel



IBM Tivoli Monitoring – real time TPF data

z/TPF Summaries:PP - DEK1 - SYSADMIN

File Edit View Help

Navigator View: Physical

- Enterprise
 - Windows Systems
 - DEK1
 - Warehouse Proxy
 - z/TPF
 - TPFP1:PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - Preddefined User Data
 - Pools
 - System
 - Tape
 - VFA
 - z/TPF JDBC Historical Data
 - TPFP3:PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - Preddefined User Data
 - Pools
 - System
 - Tape
 - VFA

Processor Totals

Node	Timestamp	Messages per Sec	DASD IO per Sec	Processor Utilization
TPFP3:DEK1:PP	04/15/09 14:39:49	0.13	42.72	0.50
TPFP1:DEK1:PP	04/15/09 14:39:30	0.06	64.54	1.10

WebSphere MQ Summary of All Subsystems

Node	Attribute	Value
TPFP3:DEK1:PP	Queues	02.00
TPFP3:DEK1:PP	Local Queues	37.00
TPFP3:DEK1:PP	Transmit Queues	57.00
TPFP3:DEK1:PP	Remote Queues	8.00
TPFP3:DEK1:PP	Queue Open per Sec	0.23
TPFP3:DEK1:PP	Queue Close per Sec	0.23
TPFP3:DEK1:PP	Queue Sweep per Sec	0.00
TPFP3:DEK1:PP	Q Persistent per Sec	0.00
TPFP3:DEK1:PP	Q Non-Persistent per Sec	0.19
TPFP3:DEK1:PP	Channels	5.00
TPFP3:DEK1:PP	Receiver Channels	1.00
TPFP3:DEK1:PP	Sender Channels	1.00
TPFP3:DEK1:PP	Server Channels	3.00
TPFP3:DEK1:PP	Chl Handled Msgs per Sec	0.59
TPFP1:DEK1:PP	Queues	02.00
TPFP1:DEK1:PP	Local Queues	37.00
TPFP1:DEK1:PP	Transmit Queues	57.00
TPFP1:DEK1:PP	Remote Queues	8.00
TPFP1:DEK1:PP	Queue Open per Sec	0.24
TPFP1:DEK1:PP	Queue Close per Sec	0.20
TPFP1:DEK1:PP	Queue Sweep per Sec	0.00
TPFP1:DEK1:PP	Q Persistent per Sec	0.00
TPFP1:DEK1:PP	Q Non-Persistent per Sec	0.20
TPFP1:DEK1:PP	Channels	16.00
TPFP1:DEK1:PP	Receiver Channels	55.00

VFA Summary of All Subsystems

Node	Attribute	Value
TPFP3:DEK1:PP	Data Reads per Sec	0.00
TPFP3:DEK1:PP	Finds (w/O) per Sec	0.00
TPFP3:DEK1:PP	File Immediate per Sec	0.00
TPFP3:DEK1:PP	Candidate Files per Sec	8.00
TPFP3:DEK1:PP	Non-Cand Files per Sec	11.70
TPFP3:DEK1:PP	Force Files per Sec	0.00
TPFP1:DEK1:PP	Data Reads per Sec	0.00
TPFP1:DEK1:PP	Finds (w/O) per Sec	0.00
TPFP1:DEK1:PP	File Immediate per Sec	0.00
TPFP1:DEK1:PP	Candidate Files per Sec	8.01
TPFP1:DEK1:PP	Non-Cand Files per Sec	66.27
TPFP1:DEK1:PP	Force Files per Sec	0.00

Pools Summary All Subsystems

Node	Type	Dispensed	Dispensed per Sec	Returned	Returned per Sec
TPFP3:DEK1:PP	SLT	0	0.00	0	0.0
TPFP3:DEK1:PP	SST	0	0.13	0	1.3
TPFP3:DEK1:PP	SDP	0	0.00	0	0.0
TPFP3:DEK1:PP	LLT	0	0.00	0	0.0
TPFP3:DEK1:PP	LST	0	0.00	0	0.0
TPFP3:DEK1:PP	LDP	0	0.00	0	0.0
TPFP3:DEK1:PP	4LT	0	0.00	0	0.0
TPFP3:DEK1:PP	4ST	0	0.00	0	0.0
TPFP3:DEK1:PP	4DP	0	0.00	0	0.0
TPFP3:DEK1:PP	4D6	0	0.00	0	0.0
TPFP1:DEK1:PP	SLT	0	0.00	0	0.0
TPFP1:DEK1:PP	SST	0	0.06	0	0.6
TPFP1:DEK1:PP	SDP	0	0.00	0	0.0
TPFP1:DEK1:PP	LLT	0	0.00	0	0.0
TPFP1:DEK1:PP	LST	0	0.00	0	0.0
TPFP1:DEK1:PP	LDP	0	0.00	0	0.0
TPFP1:DEK1:PP	4LT	0	0.00	0	0.0
TPFP1:DEK1:PP	4ST	0	0.00	0	0.0
TPFP1:DEK1:PP	4DP	0	0.00	0	0.0

Physical

Hub Time: Wed, 04/15/2009 02:40 PM Server Available z/TPF Summaries:PP - DEK1 - SYSADMIN

IBM Tivoli Monitoring – real time TPF data - DASD

The screenshot displays the IBM Tivoli Monitoring interface for DASD - DEK1 - SYSADMIN. The interface is divided into several panes:

- Navigator:** Shows a tree view of the system hierarchy, including Enterprise, Windows Systems, DEK1, Warehouse Proxy, z/TPF, CDC Session Info, Channel Utilization, Communications, DASD, LPAR Utilization, Predefined User Data, Pools, System, Tape, VFA, and z/TPF JDBC Historical Data.
- DASD I/O Table:**

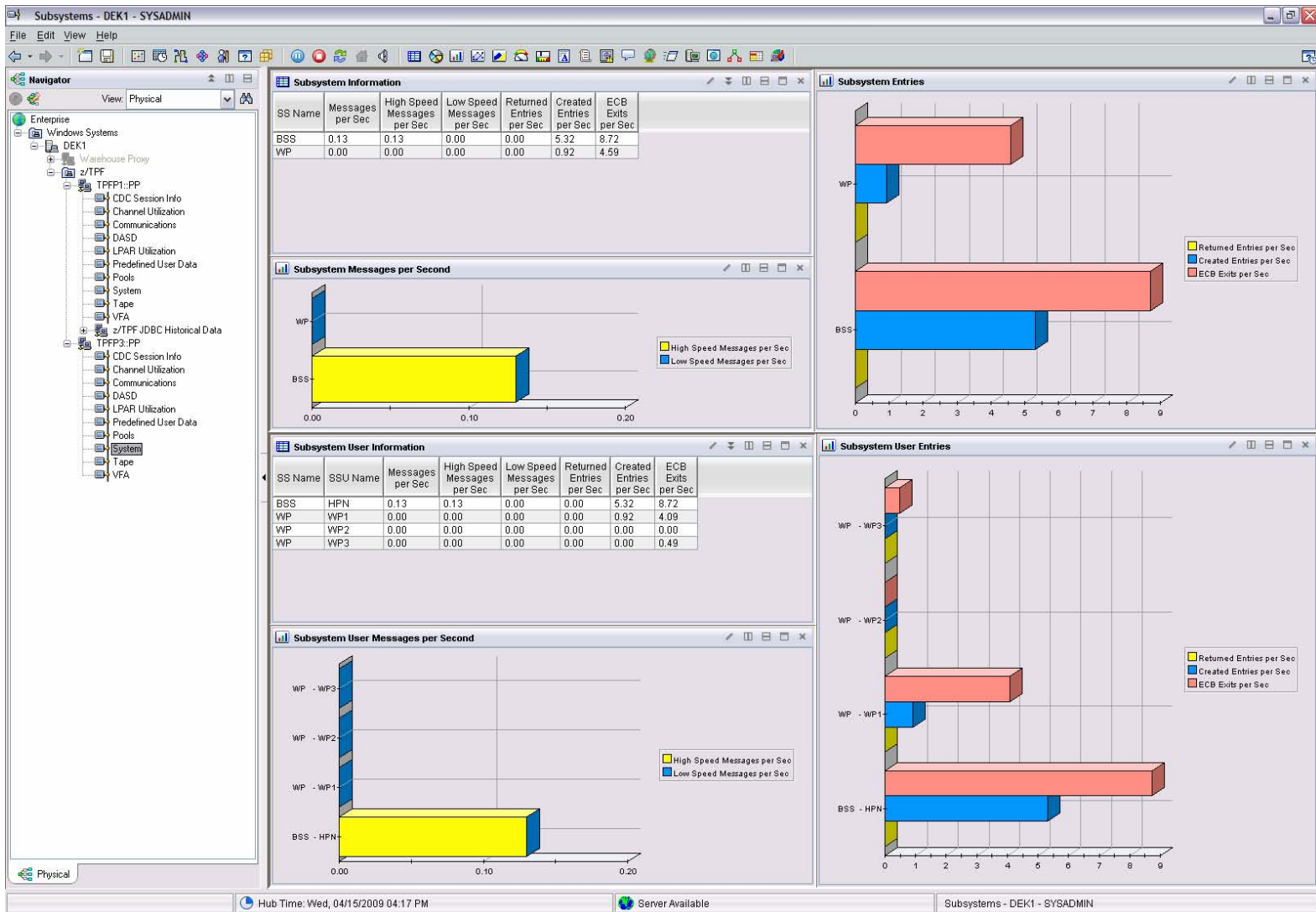
SS Name	Device	IO per Sec	Reads per Sec	Writes per Sec	Queue Length
BSS	DEVA	5.06	4.60	0.46	0.0
BSS	DEVB	15.73	5.53	10.20	0.0
WP	WPPXX	1.58	0.66	0.92	0.0
WP	DEVB	3.47	2.68	0.79	0.0
- DASD Read Writes per Second:** A 3D bar chart showing Read per Sec (yellow) and Writes per Sec (blue) for four device configurations: WP - DEVB, WP - WPPXX, BSS - DEVB, and BSS - DEVA. The x-axis ranges from 0 to 16. BSS - DEVB shows the highest activity with approximately 15.73 reads and 10.20 writes per second.
- DASD Queues Table:**

Address	Module	Queue	SS Name
4124	8F	1	BSS
FD3F	3C	1	WP
4134	26	1	WP
FD1B	7D	1	BSS
4180	48	1	BSS
- DASD Service Time Table:**

SS ID	Lowest SDA	Service Time
1044	4100	1.843
1046	4180	1.925
107C	FC81	0.980
107E	FD01	0.984

At the bottom of the interface, the status bar shows: Hub Time: Wed, 04/15/2009 02:06 PM, Server Available, and DASD - DEK1 - SYSADMIN.

IBM Tivoli Monitoring – real time TPF data - Subsystem



IBM Tivoli Monitoring – Situation at Enterprise Level

Enterprise Status - DEK1 - SYSADMIN

File Edit View Help

Navigator View: Physical

- Enterprise
 - Windows Systems
 - DEK1
 - Warehouse Proxy
 - z/TPF
 - TPFP1:PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - CRITICAL
 - KPP_DST_High TPFP1:DEK1:PP 04/16/09 16:09:58
 - KPWITM101 Select workspace link button to view situation event results.
 - LDU Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - Predefined User Data

Situation Event Console (Active) Total Events: 2 Item Filter: Enterprise

Severity	Status	Owner	Situation Name	Display Item	Source	Impact	Opened	Age	Local Timestamp
Critical	Open		KPP_DST_High		TPFP1:DEK1:PP	DASD	04/16/09 16:09:58	1 Minute	04/16/09 16:09:58
Critical	Acknowledged	SYSADMIN	KPP_DST_High		TPFP3:DEK1:PP	DASD	04/16/09 16:09:58	1 Minute	04/16/09 16:11:30

Open Situation Counts - Last 24 Hours

My Acknowledged Events

Severity	Status	Owner	Name	Display Item	Source	Impact	Opened	Local Timestamp	Type	UUID	Node	Reference ID
Acknowledged			KPP_DST_High		TPFP3:DEK1:PP		04/16/09 16:11:30	04/16/09 16:11:30	Sampled		HUB_DEK1	KPP_DST_H
Open			KPP_DST_High		TPFP1:DEK1:PP		04/16/09 16:09:58	04/16/09 16:09:58	Sampled		HUB_DEK1	KPP_DST_H
Open			KPP_DST_High		TPFP3:DEK1:PP		04/16/09 16:09:58	04/16/09 16:09:58	Sampled		HUB_DEK1	KPP_DST_H
Stopped			KPP_LPAR_Util_High_Sample				04/16/09 16:07:45	04/16/09 16:07:45	Sampled		HUB_DEK1	KPP_LPAR

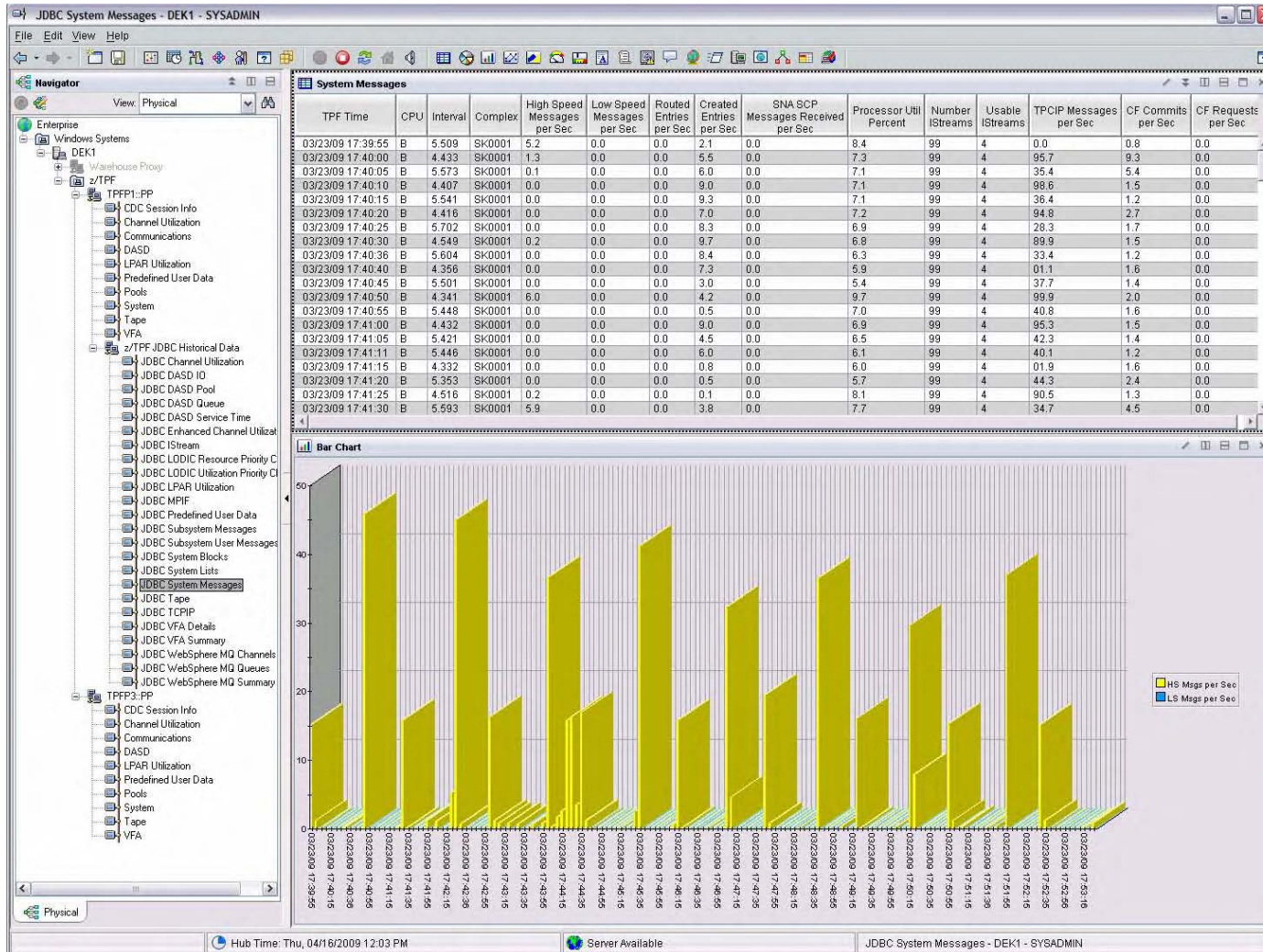
Message Log

Status	Name	Display Item	Origin Node	Global Timestamp	Local Timestamp	Node	Type
Acknowledged	KPP_DST_High		TPFP3:DEK1:PP	04/16/09 16:11:30	04/16/09 16:11:30	HUB_DEK1	Sampled
Open	KPP_DST_High		TPFP1:DEK1:PP	04/16/09 16:09:58	04/16/09 16:09:58	HUB_DEK1	Sampled
Open	KPP_DST_High		TPFP3:DEK1:PP	04/16/09 16:09:58	04/16/09 16:09:58	HUB_DEK1	Sampled
Stopped	KPP_LPAR_Util_High_Sample			04/16/09 16:07:45	04/16/09 16:07:45	HUB_DEK1	Sampled

Hub Time: Thu, 04/16/2009 04:12 PM Server Available Enterprise Status - DEK1 - SYSADMIN



IBM Tivoli Monitoring – Historical Data



IBM Tivoli Monitoring – Browser view

The screenshot shows the IBM Tivoli Monitoring browser interface. The main content area is divided into several panels:

- DASD I/O:** A table showing I/O statistics for different Storage Subsystems (SS) and devices.
- DASD Read Writes per Second:** A 3D bar chart comparing Reads per Second (yellow) and Writes per Second (blue) for various SS and device combinations.
- DASD Queues:** A table showing the status of DASD queues, including address, module, queue number, and SS name.
- DASD Service Time:** A table showing service times for different SS IDs and their lowest Storage Data Areas (SDA).

DASD I/O Table:

SS Name	Device	IO per Sec	Reads per Sec	Writes per Sec	Queue Length
BSS	DEVA	13.89	13.10	0.79	0.0
BSS	DEVB	45.91	35.38	10.53	0.0
WP	WPXX	5.35	4.43	0.92	0.0
WP	DEVB	30.37	29.58	0.79	0.0

DASD Queues Table:

Address	Module	Queue	SS Name
4138	2E	1	WP
41B6	2B	1	WP
4136	2A	1	WP

DASD Service Time Table:

SS ID	Lowest SDA	Service Time
1044	4100	1.024
1046	4180	1.133
107C	FC81	0.676

The interface also includes a Navigator pane on the left showing the system hierarchy, a status bar at the bottom with system time and availability, and a status message: "Applet CMWApplet started".



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