



z/TPF V1.1

TPF Users Group - Fall 2009

Title: IBM Tivoli Monitoring Agent for z/TPF and Continuous Data Collection

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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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Preamble

- **The Monitoring Agent for z/TPF enables TPF customers to utilize IBM Tivoli Monitoring by providing an interface between continuous data collection data on TPF and the IBM Tivoli Monitoring environment**

Agenda

- **IBM Tivoli Monitoring Agent for z/TPF Availability and General Information**
- **High Level Diagrams**
- **Benefits of IBM Tivoli Monitoring**
- **Required APARs**
 - z/TPF APAR PJ32921
 - TPF4.1 APAR PJ32919
- **Tivoli Monitoring Screen Shots and Discussion**

IBM Tivoli Monitoring Agent for z/TPF Availability and General Information

- **General Availability occurred in May 2009**
- **Used to Display Continuous Data Collection Data on TPF**
 - Replacement for CDC client
- **Supports z/TPF and TPF4.1 with Required APARs**
- **Agent is Free Download for Licensed TPF Users**
 - <http://www.ibm.com/tpf/maint/toolsztpf.html>
 - Requires IBM Tivoli Monitoring 6.2.1 or later and associated licenses
 - IBM Tivoli Monitoring derived from OMEGAMON
- **Documentation in TPF Product Information Center**
 - <http://www.ibm.com/software/http/tpf/pubs/tpfpubs.htm>

IBM Tivoli Monitoring Agent for z/TPF Availability and General Information (continued)

- **Supports CDC Real-Time and Historical Data**
 - Historical data saved by CDC collector: TPFDF, DB2, MySQL (z/TPF)
- **Supports IBM Tivoli Monitoring Data Warehouse**
 - Historical data saved by IBM Tivoli Monitoring environment
 - Allows users to offload saving of CDC historical data
 - IBM Tivoli Monitoring historical data analysis
- **Supports User Data without Agent Modifications**
- **Agent Runs on Microsoft Windows**
- **Online Education**
 - *Available soon: Agent how-to videos

IBM Tivoli Monitoring Links

Tivoli Monitoring:

<http://www.ibm.com/software/tivoli/products/monitor/>

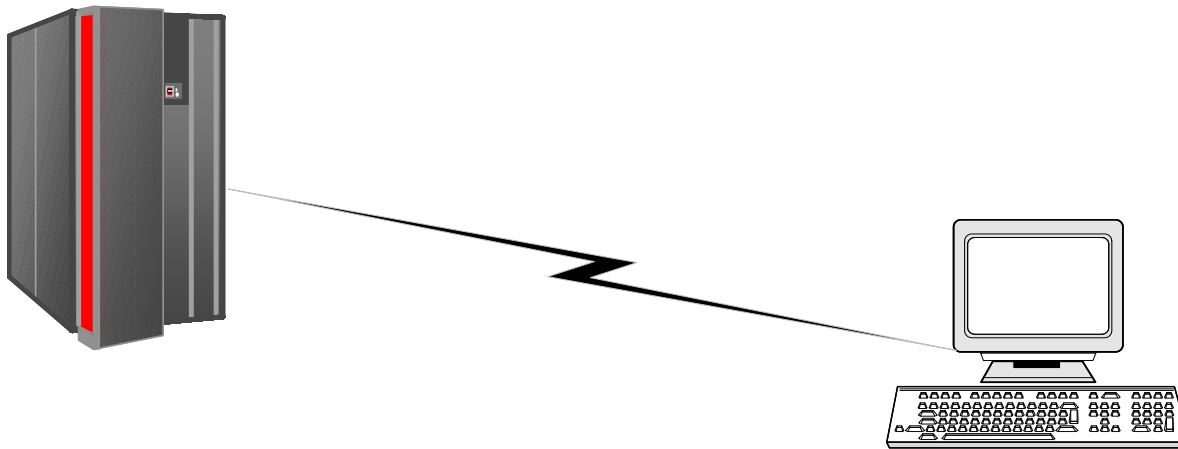
Tivoli Wiki Central:

<http://www.ibm.com/developerworks/wikis/display/tivoli/Home>

Tivoli Monitoring Forum:

<http://www.ibm.com/developerworks/forums/forum.jspa?forumID=796>

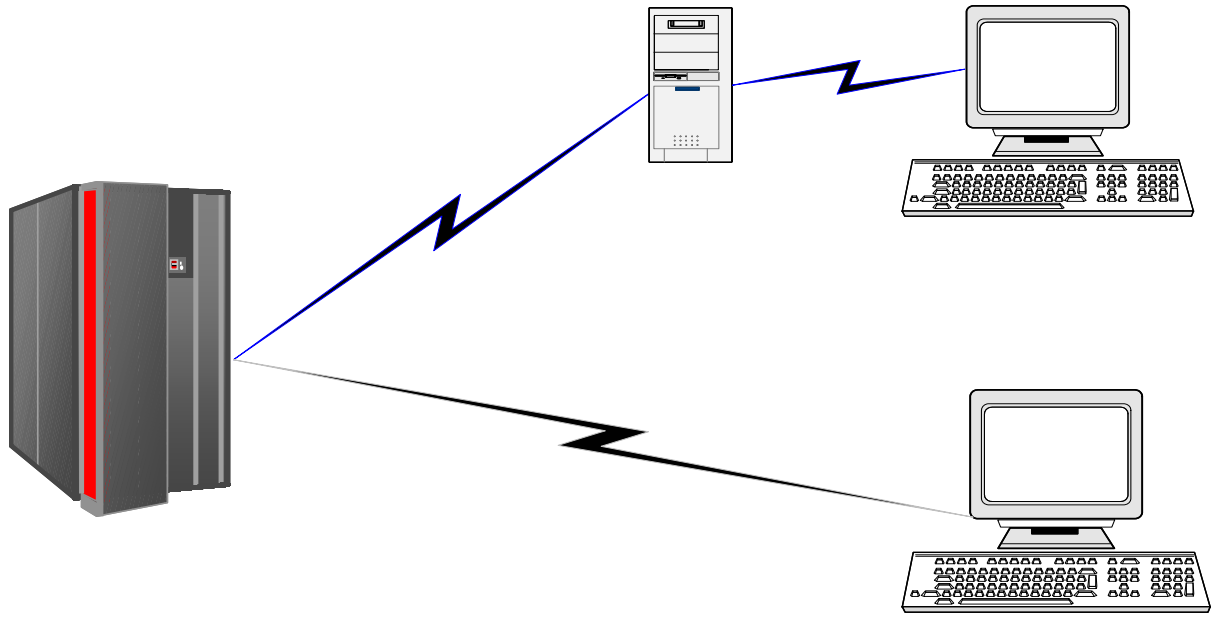
Continuous Data Collection - How It Was



* CDC historical data options not shown



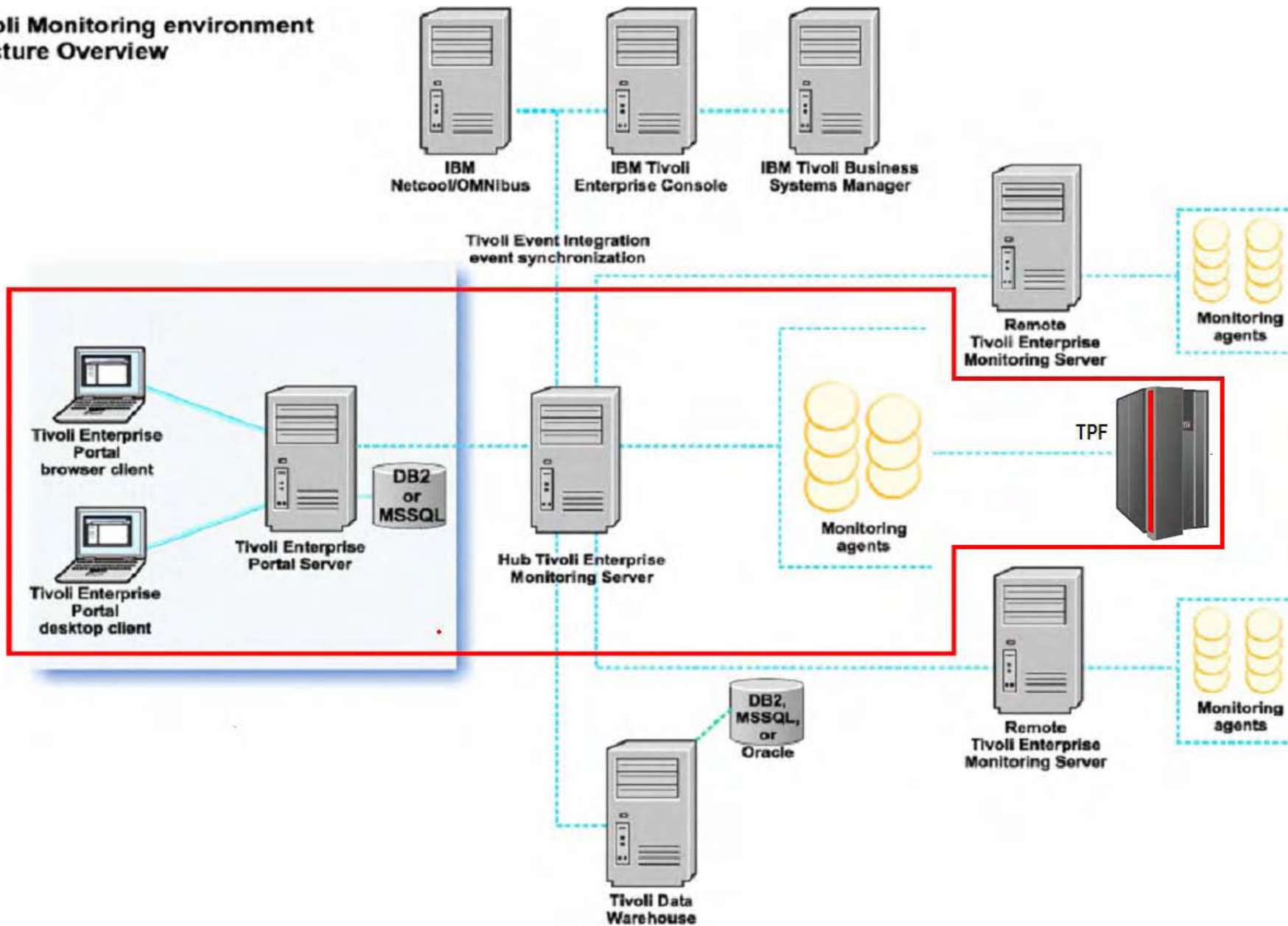
Continuous Data Collection - How It Is



IBM

* CDC historical data options not shown

IBM Tivoli Monitoring environment Architecture Overview



Benefits of IBM Tivoli Monitoring

Enterprise Monitoring:

- TPF systems can be monitored in the same environment as other systems such as z/OS
- Mature monitoring environment with continued enhancements

Customizable Displays:

- A selection of customizable charting, graphing and table options
- Create, save and share your own data views (workspaces)
- Visual Aids: Thresholds, Filters, Alerts
- Monitor any combination of CDC metrics in a single workspace
- Monitor multiple TPF processors in a single view

Benefits of IBM Tivoli Monitoring (continued)

Situations/Alerts:

- Alerts based on user defined situations (samples included)
- Alerts generate Tivoli Events
- Alerts can run an application. For example:
 - An application for sending email notifications
 - An application for sending a text message to a mobile phone
 - A TPF Operations Server API application for sending commands into your TPF system

Tivoli Provided Examples:

<http://www-01.ibm.com/software/brandcatalog/portal/opal/details?catalog.label=1TW10TM3C>

<http://www-01.ibm.com/software/brandcatalog/portal/opal/details?catalog.label=1TW10TM37>

<http://www-01.ibm.com/software/brandcatalog/portal/opal/details?catalog.label=1TW10TM36>

Centralized Management:

- Agent is installed into IBM Tivoli Monitoring environment and managed from Tivoli Services Management window. Typically handled by systems support personnel.
- No need to install software on users machines

z/TPF APAR PJ32921

- **Requirement to use Monitoring Agent with z/TPF**
- **Historical Logging**
 - Support added for MySQL local or remote.
 - Complex name & collection interval added to DB2 tables and included in MySQL tables.
- **Improved User Data**
 - New user exit: cdcc.c (sample code provided)
 - Designed to handle one or more user data structures.
 - User data is saved to all CDC historical data repositories.
- **z/TPF CDC Fixes Included**
 - See PJ32921 APEDIT

TPF4.1 APAR PJ32919

- **Requirement to use Monitoring Agent with TPF4.1**
- **DB2 Table Changes**
 - Complex name added to DB2 tables
 - Collection interval added to DB2 tables
- **TPF CDC Fixes Included**
 - See PJ32919 APEDIT

IBM Tivoli Monitoring Agent for z/TPF Management Agent is Multi-Instance – One Instance per TPF Processor

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	Auto	LocalSystem	No	No	06.21.00.00		
Tivoli Enterprise Portal	Browser	Yes		N/A	N/A	N/A	N/A	06.21.00.03	localhost	
Tivoli Enterprise Portal	Desktop	Yes		N/A	N/A	N/A	N/A	06.21.00.03	STRAITG	
Tivoli Enterprise Portal Server	KFWSRV	Yes (TEMS)	Started	Manual	LocalSystem	No	No	06.21.00.03		
Monitoring Agent for zTPF	TPFP2	Yes (TEMS)	Started	Manual	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	GSTRAIT	Yes (TEMS)	Started	Manual	LocalSystem	No	No	01.10.00.00		
Monitoring Agent for zTPF	Template							01.10.00.00		
Tivoli Enterprise Monitoring Server	TEMS1	Yes	Started	Manual	LocalSystem	No	No	06.21.00.03		



Tivoli Enterprise Portal Desktop Client Example

z/TPF Summaries::PP - STRAITG - SYSADMIN

File Edit View Help

Navigator View: Physical

- Enterprise
 - Windows Systems
 - STRAITG
 - z/TPF
 - GSTRAIT::PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - Predefined User Data
 - Pools
 - System
 - Tape
 - VFA
 - z/TPF JDBC Historical Data
 - TPFP1::PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - Predefined User Data
 - Pools
 - System
 - Tape
 - VFA
 - TPFP2::PP

Processor Totals

Node	Timestamp	Messages per Sec	DASD IO per Sec	Processor Utilization
GSTRAIT:STRAITG:PP	09/18/09 11:48:10	0.00	13.40	0.70
TPFP1:STRAITG:PP	09/18/09 11:48:10	0.00	25.77	71.60
TPFP2:STRAITG:PP	09/18/09 11:48:10	14.35	6087.83	16.90

WebSphere MQ Summary of All Subsystems

Node	Attribute	Value
GSTRAIT:STRAITG:PP	Chl Handled Msgs per Sec	0.61
GSTRAIT:STRAITG:PP	Server Channels	2.00
GSTRAIT:STRAITG:PP	Sender Channels	0.00
GSTRAIT:STRAITG:PP	Receiver Channels	0.00
GSTRAIT:STRAITG:PP	Channels	2.00
GSTRAIT:STRAITG:PP	Q Non-Persistent per Sec	0.20
GSTRAIT:STRAITG:PP	Q Persistent per Sec	0.00
GSTRAIT:STRAITG:PP	Queue Sweep per Sec	0.00
GSTRAIT:STRAITG:PP	Queue Close per Sec	0.23
GSTRAIT:STRAITG:PP	Queue Open per Sec	0.23
GSTRAIT:STRAITG:PP	Remote Queues	0.00
GSTRAIT:STRAITG:PP	Transmit Queues	0.00
GSTRAIT:STRAITG:PP	Local Queues	13.00
GSTRAIT:STRAITG:PP	Queues	13.00
TPFP1:STRAITG:PP	Queues	272.00
TPFP1:STRAITG:PP	Local Queues	247.00
TPFP1:STRAITG:PP	Transmit Queues	12.00
TPFP1:STRAITG:PP	Remote Queues	13.00
TPFP1:STRAITG:PP	Queue Open per Sec	0.23
TPFP1:STRAITG:PP	Queue Close per Sec	0.23
TPFP1:STRAITG:PP	Queue Sweep per Sec	0.00

VFA Summary of All Subsystems

Node	Attribute	Value
GSTRAIT:STRAITG:PP	Data Reads per Sec	0.00
GSTRAIT:STRAITG:PP	Find (w/O) per Sec	0.00
GSTRAIT:STRAITG:PP	File Immediate per Sec	0.00
GSTRAIT:STRAITG:PP	Candidate Files per Sec	4.42
GSTRAIT:STRAITG:PP	Non-Cand Files per Sec	5.13
GSTRAIT:STRAITG:PP	Force Files per Sec	0.00
TPFP1:STRAITG:PP	Force Files per Sec	0.00
TPFP1:STRAITG:PP	Non-Cand Files per Sec	5.65
TPFP1:STRAITG:PP	Candidate Files per Sec	4.00
TPFP1:STRAITG:PP	File Immediate per Sec	0.00
TPFP1:STRAITG:PP	Find (w/O) per Sec	0.00
TPFP1:STRAITG:PP	Data Reads per Sec	0.00
TPFP2:STRAITG:PP	Force Files per Sec	0.00
TPFP2:STRAITG:PP	Non-Cand Files per Sec	794.50
TPFP2:STRAITG:PP	Candidate Files per Sec	1024.97
TPFP2:STRAITG:PP	File Immediate per Sec	908.65
TPFP2:STRAITG:PP	Find (w/O) per Sec	0.00
TPFP2:STRAITG:PP	Data Reads per Sec	909.87

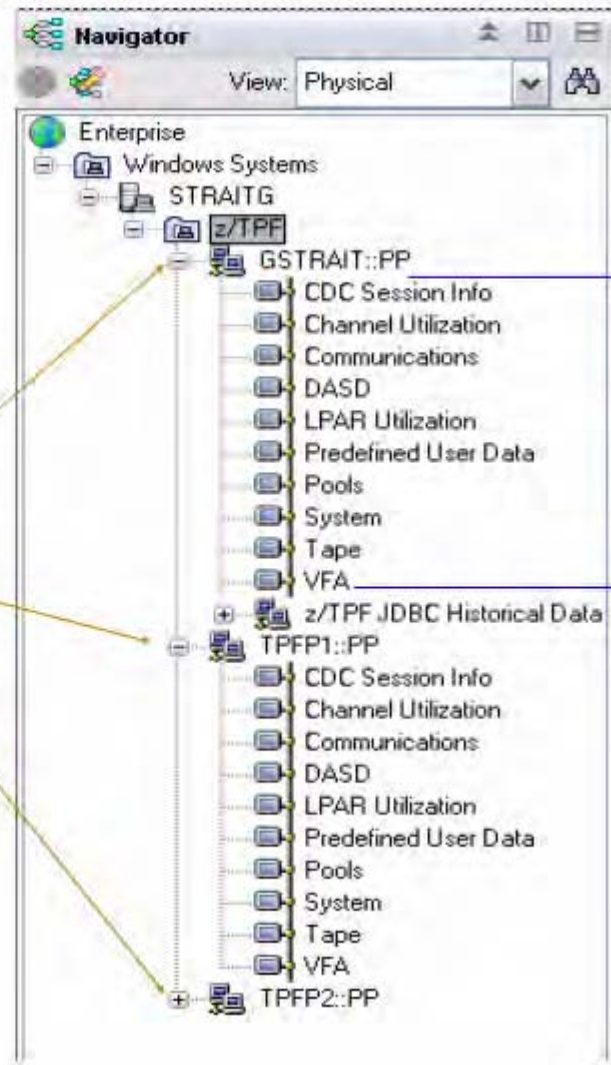
Pools Summary All Subsystems

Node	Type	Dispensed	Dispensed per Sec	Returned	Returned per Sec
GSTRAIT:STRAITG:PP	4D6	0	0.00	0	0.0
GSTRAIT:STRAITG:PP	4DP	0	0.00	0	0.0
GSTRAIT:STRAITG:PP	4ST	0	0.00	0	0.0
GSTRAIT:STRAITG:PP	4LT	0	0.00	0	0.0
GSTRAIT:STRAITG:PP	LDP	0	0.00	0	0.0
GSTRAIT:STRAITG:PP	LST	0	0.00	0	0.0
GSTRAIT:STRAITG:PP	LLT	0	0.00	0	0.0
GSTRAIT:STRAITG:PP	SDP	0	0.00	0	0.0
GSTRAIT:STRAITG:PP	SST	0	0.00	0	0.0
GSTRAIT:STRAITG:PP	SLT	0	0.00	0	0.0
TPFP1:STRAITG:PP	SLT	0	0.00	0	0.0
TPFP1:STRAITG:PP	SST	0	0.00	0	0.0
TPFP1:STRAITG:PP	SDP	0	0.00	0	0.0
TPFP1:STRAITG:PP	LLT	0	0.00	0	0.0
TPFP1:STRAITG:PP	LST	0	0.00	0	0.0
TPFP1:STRAITG:PP	LDP	0	0.00	0	0.0

Hub Time: Fri, 09/18/2009 11:48 AM Server Available z/TPF Summaries::PP - STRAITG - SYSADMIN

Monitoring Agents for z/TPF in the Tivoli Portal Navigator

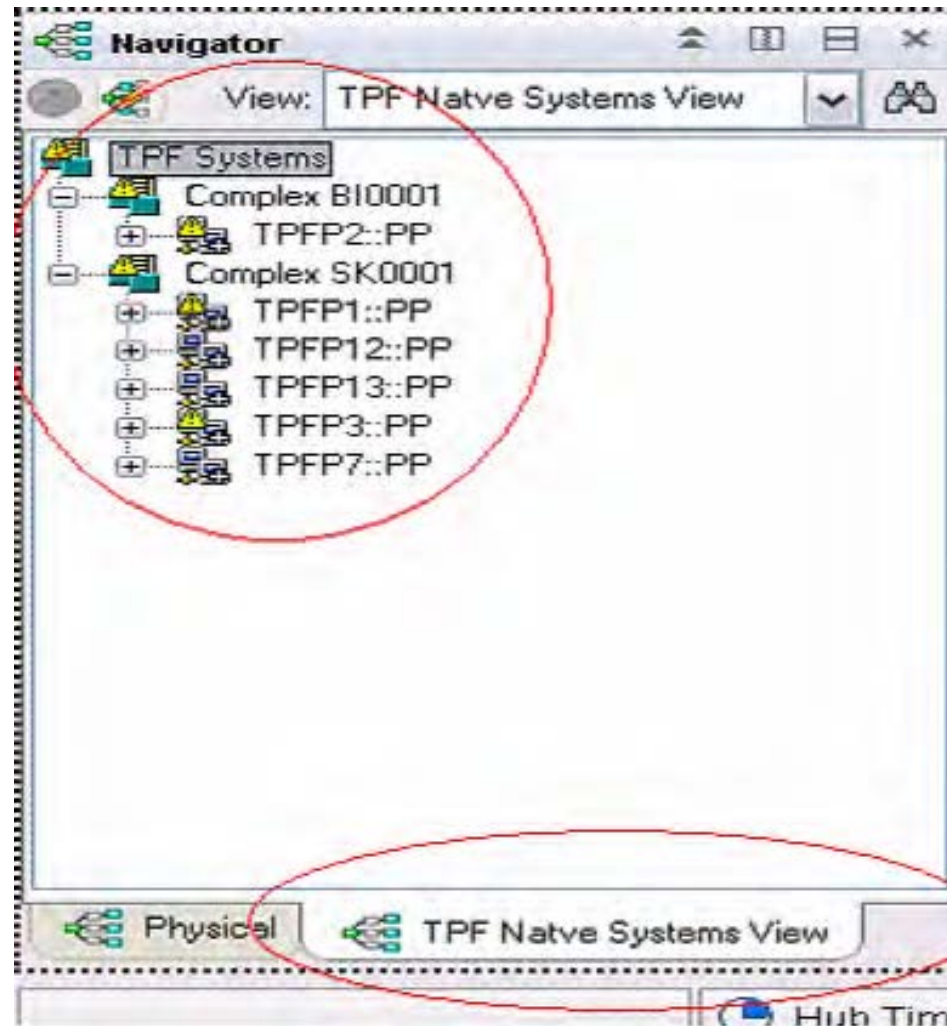
Processors



Real-Time Data

Historical Data
(optional)

Customizing Your Navigator to View Only Your TPF Systems



Tivoli Enterprise Portal Browser Client Example

Messages, Blocks, Lists - Windows Internet Explorer

http://localhost:1920///cnp/kdh/lb/cnp.html?~1021A=REPORT&-5001=MOPHYSICAL&-12006=SYSA

Tivoli Enterprise Portal Welcome SYSADMIN Log out IBM

File Edit View Help

Navigator View: Physical

- Enterprise
 - Windows Systems
 - STRAITG
 - z/TPF
 - GSTRAIT::PP
 - TPFP1::PP
 - TPFP2::PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - Predefined User Data
 - Pools
 - System**
 - Tape
 - VFA

System Messages

Type	Value	Session Min Value	Session Value	Session Max Value
Messages per Sec	10.52	6.74	14.69	28.09
Created ECBs per Sec	96.17	67.52	109.08	304.84
CF Commits per Sec	2.47	1.78	9.52	116.10
CF Requests per Sec	0.00	0.00	0.00	0.00
SNA Input Msgs per Sec	0.00	0.00	0.00	0.00
TCPIP Input Msgs per Sec	1.61	0.77	1.61	4.70
Active ECBs	575.00	556.00	584.00	635.00

System Blocks

Block Type	Allocated	In Use Percent	Min Session In Use Percent	Session In Use Percent
IO Control	8192	0.4	0.0	0.4
ECB	2400	24.6	23.1	24.3
System Work	30720	7.7	7.5	7.6
Common	500	1.8	0.8	1.0
Frame	12000	4.2	3.7	4.2
Frame 1M	1600	29.6	29.2	29.4

Blocks In Use Percen...

System Lists

List Type	Value	Session Min Value	Session Value	Sessi
Cross	0	0	0	7
Ready	0	0	0	3
Input	0	0	0	0
Deferred	0	0	0	0
Suspended	0	0	0	0
VCT	0	0	0	0
Shared Ready	0	0	0	0
Shared Input	0	0	0	0
Shared Deferred	0	0	0	0

System List Chart

Physical

Hub Time: Fri, 09/18/2009 12:06 PM Server Available Messages, Lists - localhost - SYSADMIN

Monitoring Multiple Processors In One Screen

Navigator
View: Physical

Enterprise

- Windows Systems
 - STRAITG
 - z/TPF
 - GSTRAIT::PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - Predefined User Data
 - Pools
 - System
 - Tape
 - VFA
 - z/TPF JFCBC Historical Data
 - TPFP1::PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - Predefined User Data
 - Pools
 - System
 - Tape
 - VFA
 - TPFP2::PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - Predefined User Data
 - Pools
 - System
 - Tape
 - VFA

Processor Totals

Node	Timestamp	Messages per Sec	DASD IO per Sec	Processor Utilization
GSTRAIT:STRAITG:PP	09/18/09 11:56:14	0.00	13.25	0.70
TPFP1:STRAITG:PP	09/18/09 11:56:15	0.00	25.61	75.30
TPFP2:STRAITG:PP	09/18/09 11:56:14	12.64	6026.83	16.60

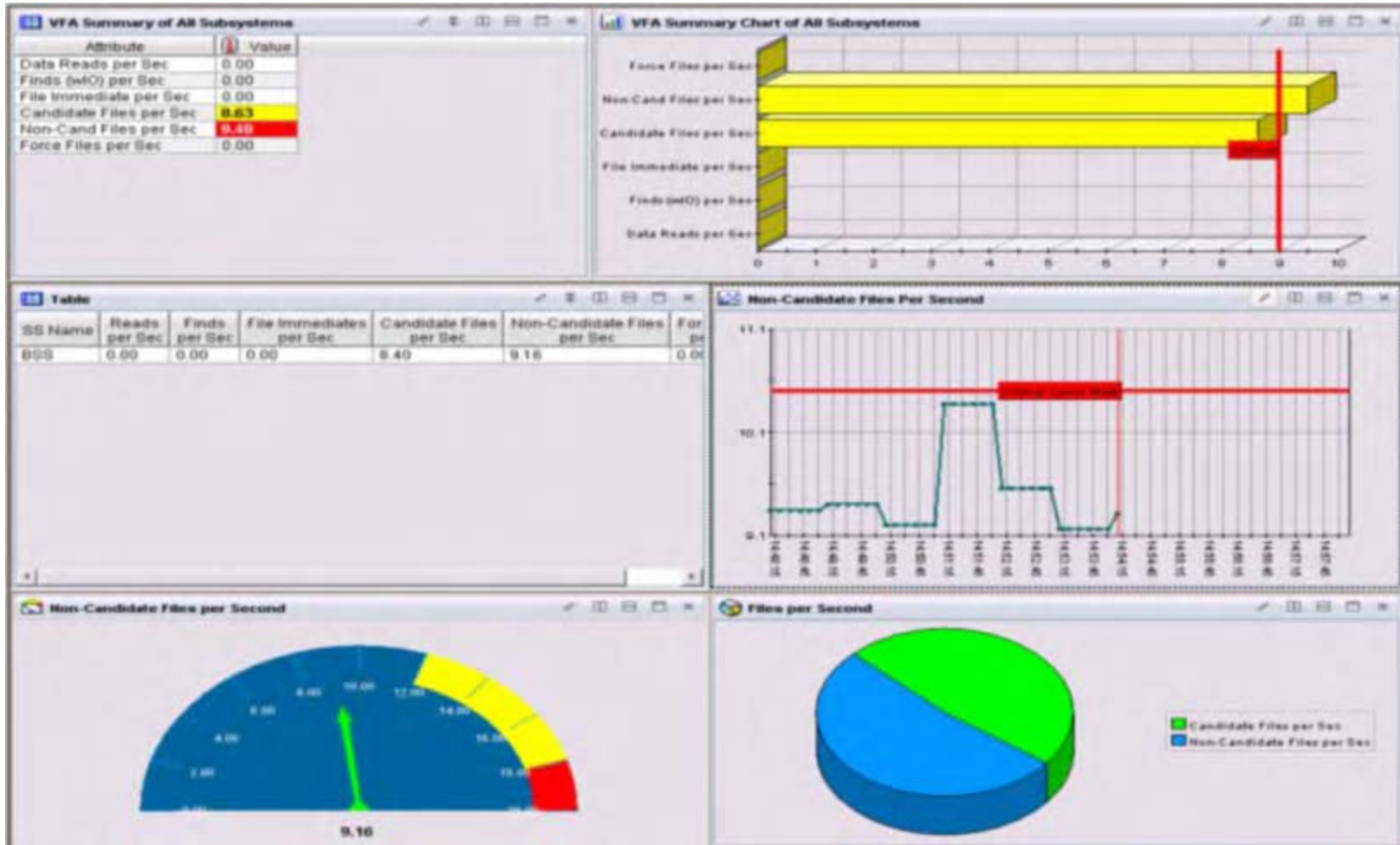
WebSphere MQ Summary of All Subsystems

Node	Attribute	Value
GSTRAIT:STRAITG:PP	ChI Handled Msgs per Sec	0.59
GSTRAIT:STRAITG:PP	Server Channels	2.00
GSTRAIT:STRAITG:PP	Sender Channels	0.00
GSTRAIT:STRAITG:PP	Receiver Channels	0.00
GSTRAIT:STRAITG:PP	Channels	2.00
GSTRAIT:STRAITG:PP	Q Non-Persistent per Sec	0.19
GSTRAIT:STRAITG:PP	Q Persistent per Sec	0.00
GSTRAIT:STRAITG:PP	Queue Sweep per Sec	0.00
GSTRAIT:STRAITG:PP	Queue Close per Sec	0.23
GSTRAIT:STRAITG:PP	Queue Open per Sec	0.23
GSTRAIT:STRAITG:PP	Remote Queues	0.00
GSTRAIT:STRAITG:PP	Transmit Queues	0.00
GSTRAIT:STRAITG:PP	Local Queues	13.00
GSTRAIT:STRAITG:PP	Queues	13.00
TPFP1:STRAITG:PP	Queues	272.00
TPFP1:STRAITG:PP	Local Queues	247.00
TPFP1:STRAITG:PP	Transmit Queues	12.00
TPFP1:STRAITG:PP	Remote Queues	13.00
TPFP1:STRAITG:PP	Queue Open per Sec	0.23
TPFP1:STRAITG:PP	Queue Close per Sec	0.23
TPFP1:STRAITG:PP	Queue Sweep per Sec	0.00

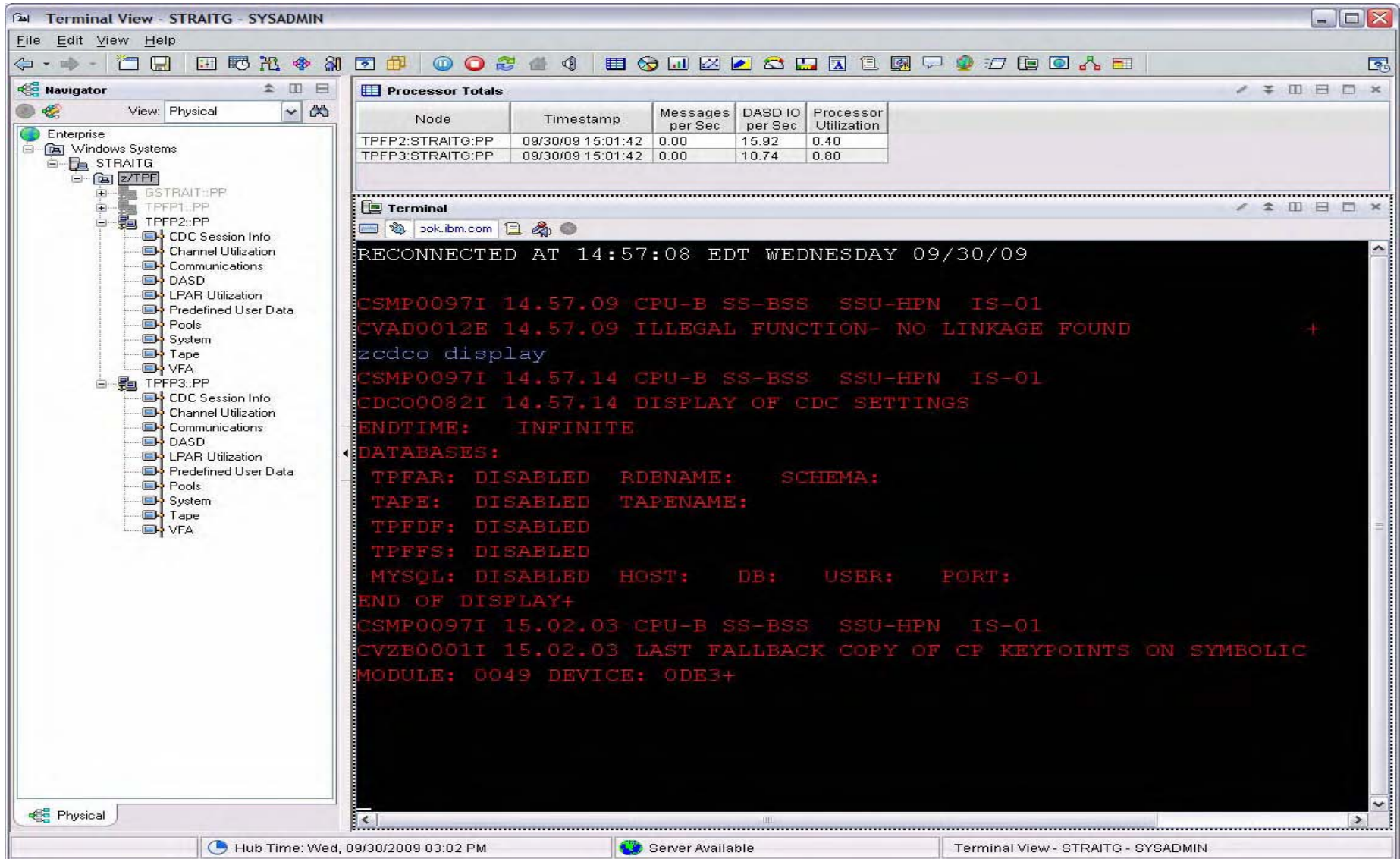
Pools Summary All Subsystems

Node	Type	Dispensed	Dispensed per Sec	Returned	Returned per Sec
GSTRAIT:STRAITG:PP	4D6	0	0.00	0	0.0

Workspace Customizations : Table, Bar Graph, Line Graph, Gauge (more...)



3270 Terminal to TPF



The screenshot displays the 'Terminal View - STRAITG - SYSADMIN' window. On the left is a 'Navigator' pane showing a tree view of system components under 'Enterprise' and 'STRAITG'. The main area is a terminal window titled 'Terminal' showing a 3270 session. The terminal output includes a reconnection message, a display of CDC settings, and a list of databases.

Processor Totals

Node	Timestamp	Messages per Sec	DASD IO per Sec	Processor Utilization
TPFP2:STRAITG:PP	09/30/09 15:01:42	0.00	15.92	0.40
TPFP3:STRAITG:PP	09/30/09 15:01:42	0.00	10.74	0.80

```

RECONNECTED AT 14:57:08 EDT WEDNESDAY 09/30/09

CSMP0097I 14.57.09 CPU-B SS-BSS SSU-HPN IS-01
CVAD0012E 14.57.09 ILLEGAL FUNCTION- NO LINKAGE FOUND
zcdco display
CSMP0097I 14.57.14 CPU-B SS-BSS SSU-HPN IS-01
CDCO0082I 14.57.14 DISPLAY OF CDC SETTINGS
ENDTIME: INFINITE
DATABASES:
  TPFAR: DISABLED RDBNAME: SCHEMA:
  TAPE:  DISABLED TAPENAME:
  TPFDF: DISABLED
  TPFPS: DISABLED
  MYSQL: DISABLED HOST: DB: USER: PORT:
END OF DISPLAY+
CSMP0097I 15.02.03 CPU-B SS-BSS SSU-HPN IS-01
CVZB0001I 15.02.03 LAST FALLBACK COPY OF CP KEYPOINTS ON SYMBOLIC
MODULE: 0049 DEVICE: 0DE3+
  
```

Hub Time: Wed, 09/30/2009 03:02 PM | Server Available | Terminal View - STRAITG - SYSADMIN



Historical Data in DB2: Default Workspace

JDBC System Blocks - STRAITG - SYSADMIN

File Edit View Help

Navigator View: Physical

- Enterprise
 - Windows Systems
 - STRAITG
 - z/TPF
 - GSTRAIT:PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - Predefined User Data
 - Pools
 - System
 - Tape
 - VFA
 - TPFP1:PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - Predefined User Data
 - Pools
 - System
 - Tape
 - VFA
- z/TPF JDBC Historical Data
 - JDBC Channel Utiliza
 - JDBC DASD IO
 - JDBC DASD Pool
 - JDBC DASD Queue
 - JDBC DASD Service
 - JDBC Enhanced Cha
 - JDBC IStream
 - JDBC LODIC Resourc
 - JDBC LODIC Utilizat
 - JDBC LPAR Utilizatio
 - JDBC MPIF
 - JDBC Predefined Use
 - JDBC Subsystem Me
 - JDBC Subsystem Use
 - JDBC System Blocks**
 - JDBC System Lists
 - JDBC System Messag
 - JDBC Tape
 - JDBC TCPIP
 - JDBC VFA Details
 - JDBC VFA Summary

System Blocks

TPF Time	CPU	Interval	Complex	IOCB Alloc	IOCB In Use Percent	ECB Alloc	ECB In Use Percent	SWB Alloc	SWB In Use Percent	CMN Alloc	Common In Use Percent	FRM Alloc	Frame In Use Percent	FRM1M Alloc	1M Frame In Use Percent
03/23/09 17:39:55	B	5.509	SK0001	7504	0.1	2400	2.2	30000	0.9	500	6.2	12000	3.1	1600	16.1
03/23/09 17:40:00	B	4.433	SK0001	7504	0.1	2400	2.3	30000	1.2	500	6.2	12000	3.1	1600	16.2
03/23/09 17:40:05	B	5.573	SK0001	7504	0.1	2400	2.4	30000	1.4	500	6.6	12000	3.2	1600	16.3
03/23/09 17:40:10	B	4.407	SK0001	7504	0.1	2400	2.2	30000	1.6	500	5.4	12000	3.1	1600	16.1
03/23/09 17:40:15	B	5.541	SK0001	7504	0.1	2400	2.1	30000	1.6	500	5.4	12000	2.9	1600	15.9
03/23/09 17:40:20	B	4.416	SK0001	7504	0.1	2400	2.2	30000	1.6	500	5.4	12000	3.0	1600	16.1
03/23/09 17:40:25	B	5.702	SK0001	7504	0.1	2400	2.3	30000	1.6	500	5.4	12000	3.2	1600	16.1
03/23/09 17:40:30	B	4.549	SK0001	7504	0.1	2400	2.1	30000	1.6	500	5.4	12000	3.0	1600	15.4
03/23/09 17:40:36	B	5.604	SK0001	7504	0.4	2400	3.2	30000	1.6	500	5.4	12000	3.8	1600	15.6
03/23/09 17:40:40	B	4.356	SK0001	7504	0.1	2400	2.2	30000	1.6	500	5.4	12000	3.1	1600	15.6
03/23/09 17:40:45	B	5.501	SK0001	7504	0.0	2400	2.1	30000	1.6	500	5.4	12000	3.0	1600	15.6
03/23/09 17:40:50	B	4.341	SK0001	7504	0.1	2400	2.3	30000	1.6	500	6.2	12000	3.1	1600	15.8
03/23/09 17:40:55	B	5.448	SK0001	7504	0.1	2400	2.3	30000	1.6	500	6.2	12000	3.1	1600	15.8
03/23/09 17:41:00	B	4.432	SK0001	7504	0.2	2400	2.4	30000	1.6	500	5.4	12000	3.2	1600	16.3
03/23/09 17:41:05	B	5.421	SK0001	7504	0.1	2400	2.2	30000	1.6	500	5.4	12000	3.1	1600	15.8
03/23/09 17:41:11	B	5.446	SK0001	7504	0.5	2400	3.2	30000	1.6	500	5.4	12000	3.8	1600	15.8
03/23/09 17:41:15	B	4.332	SK0001	7504	0.1	2400	2.2	30000	1.6	500	5.4	12000	3.0	1600	15.7
03/23/09 17:41:20	B	5.353	SK0001	7504	0.1	2400	2.3	30000	1.6	500	5.4	12000	3.0	1600	15.7
03/23/09 17:41:25	B	4.516	SK0001	7504	0.3	2400	2.8	30000	1.6	500	5.6	12000	3.3	1600	16.4
03/23/09 17:41:30	B	5.593	SK0001	7504	0.1	2400	2.3	30000	1.6	500	5.4	12000	3.2	1600	16.1
03/23/09 17:41:35	B	4.488	SK0001	7504	0.1	2400	2.3	30000	1.6	500	5.4	12000	3.2	1600	15.4

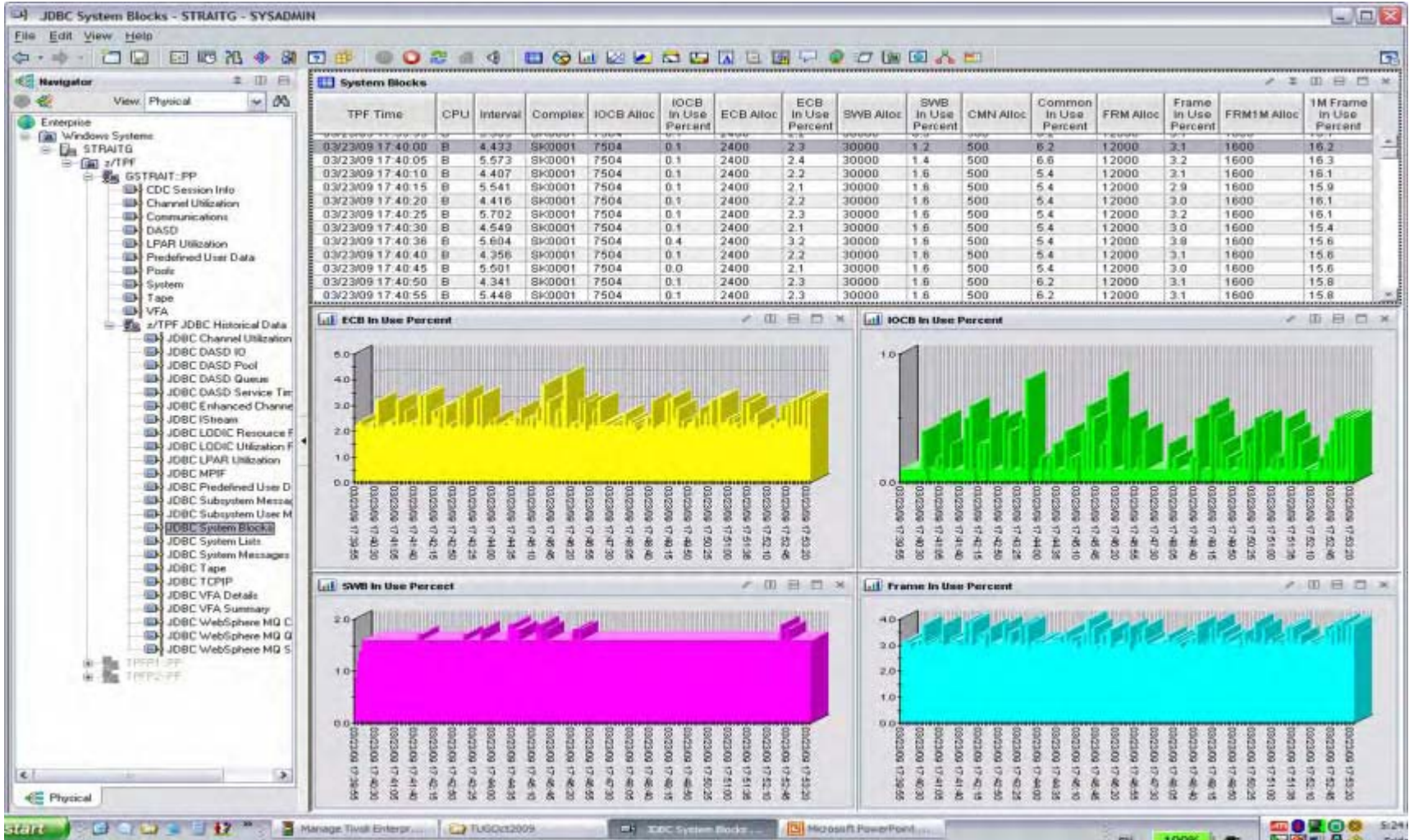
Bar Chart

Hub Time: Tue, 05/05/2009 02:29 PM

Server Available

JDBC System Blocks - STRAITG - SYSADMIN

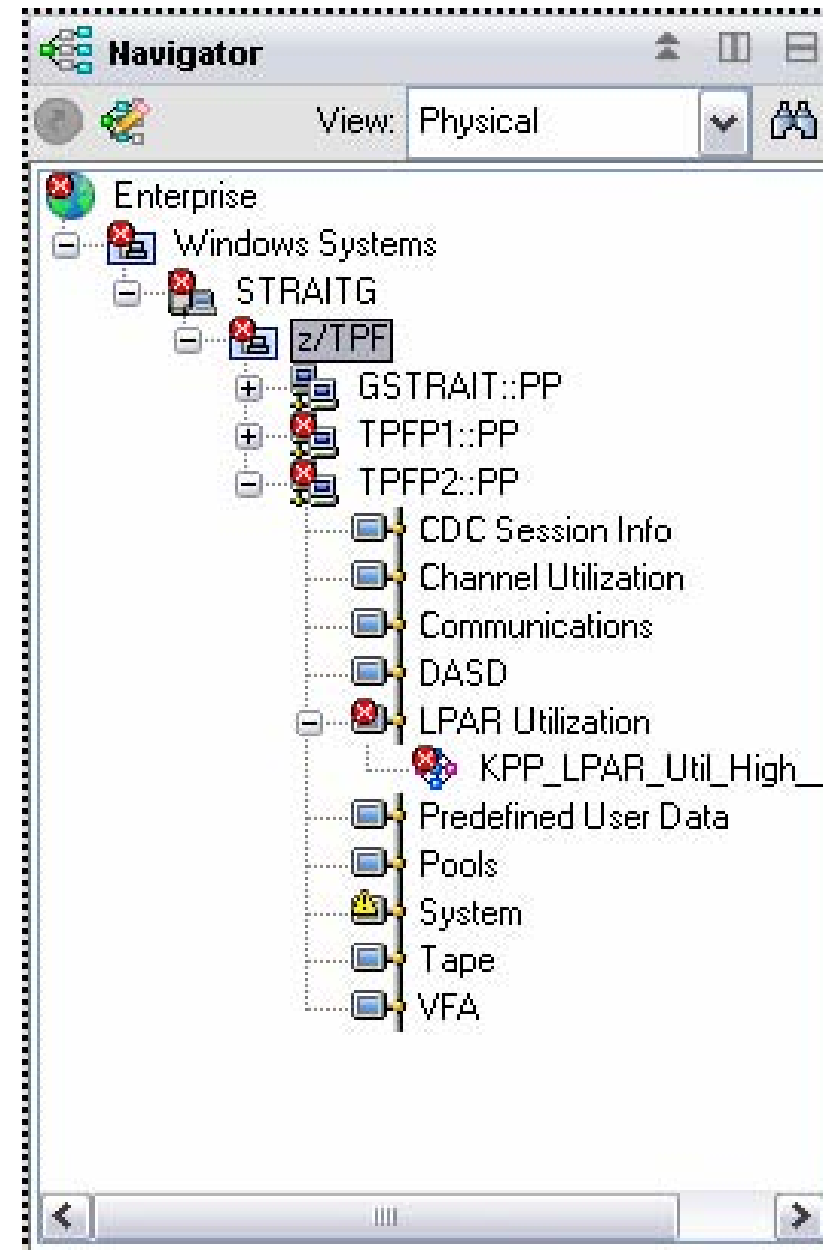
Historical Data in DB2: Customized Workspace





Alerts

- Alerts appear at highest level in the navigator tree and cascade to alert source
- Expand navigator to find the alert source and view details
- Alerts also generate Events for Tivoli Event Console





Alert Setup

Situation Editor

Situations for - LPAR Utilization

Formula Distribution Expert Advice Action Until

Name: KPP_LPAR_Util_High_Sample

Description: This situation is provided by IBM as a sample. Do not edit.

Formula

	Util Percent
1	> 95.00
2	
3	

- Value of expression
- Minimum in group
- Maximum in group
- Count of group members
- Sum of group
- Average of group
- Change in value
- Percent change in value

Util Percent The utilization percentage during the 30 second Tivoli Enterprise Portal refresh period (average if the collection frequency on the z/TPF system is less than 30)

Situation Formula Capacity 4%

Sampling interval: 0 / 0 : 0 : 30 (ddd hh mm ss)

Sound: Enable critical.wav

State: **Critical**

Run at startup

OK Cancel Apply Group... Help



Alert Setup

Combined Situations

Can combine within metric and with other metrics

Situations for - LPAR Utilization

LPAR Utilization
z/TPF
KPP_LPAR_Util_High_Sample

Name: KPP_LPAR_Util_High_Sample

Description: This situation is provided by IBM as a sample. Do not edit.

Formula

	Util Percent	CEC Util Percent	KPP_DASD_Queue_High_Sample
1	> 95.00	>= 80.00	== True
2			
3			

CEC Util Percent The central electronic complex (CEC) utilization percentage during the Tivoli Enterprise Portal refresh period (average if the collection frequency on the

Situation Formula Capacity 14%

Sampling interval: 0 / 0 : 0 : 30 (ddd hh mm ss)

Sound: Enable critical.wav

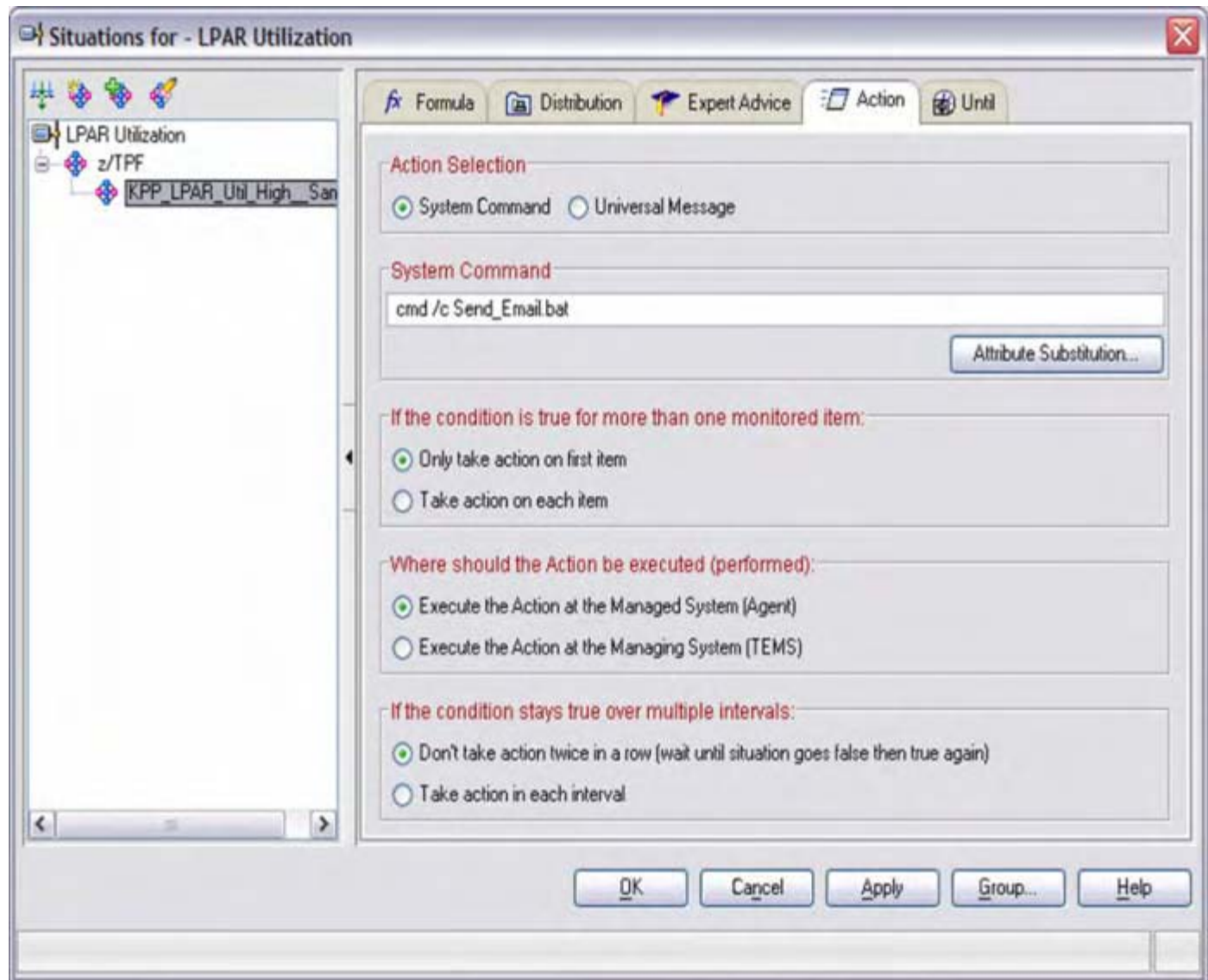
State: **Critical**

Run at startup:

Buttons: OK, Cancel, Apply, Group..., Help

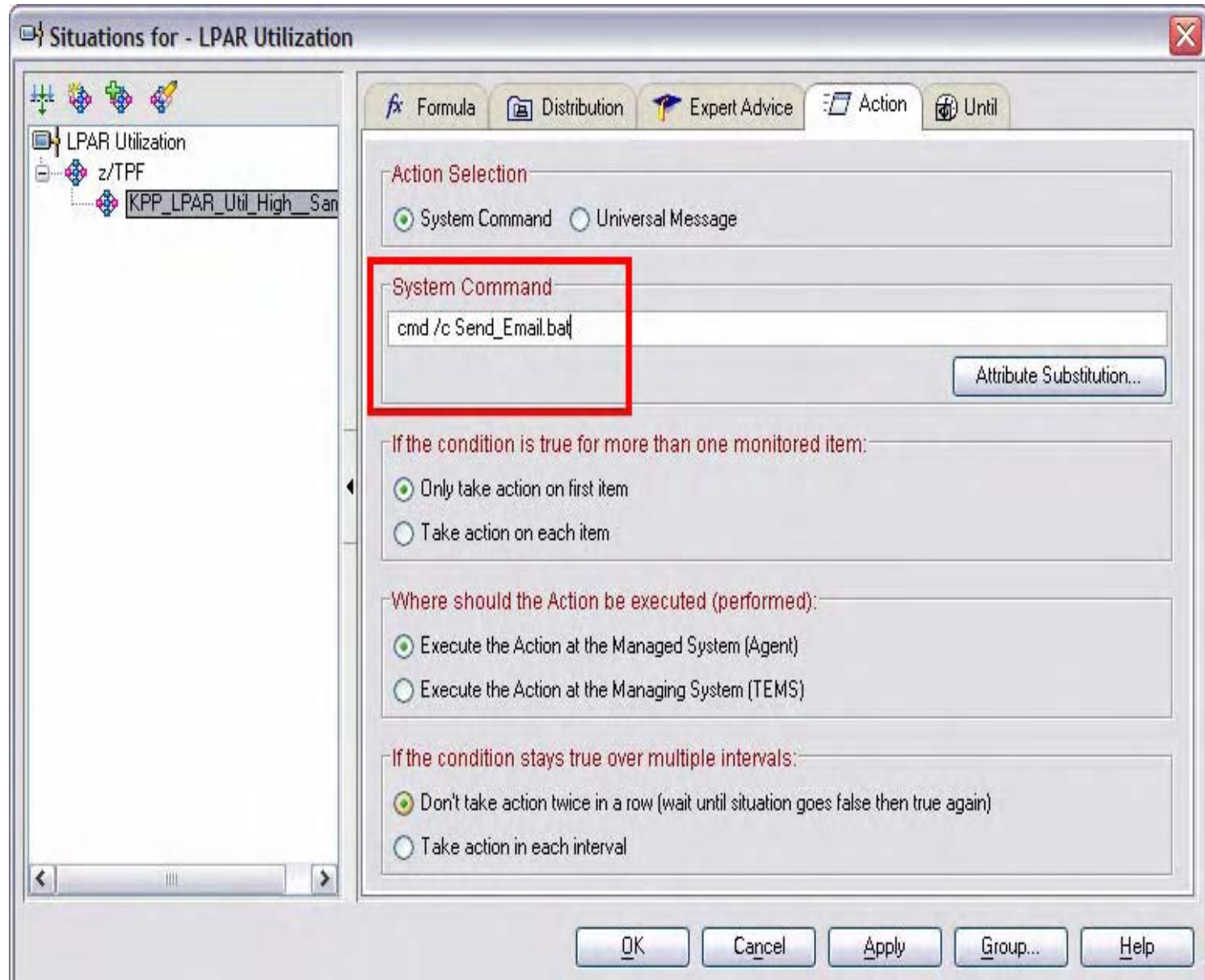
Alert Setup

Additional Controls



Alert Setup

Calling a Program



Alerts at Data Level

Navigator
View: Physical

- Enterprise
 - Windows Systems
 - STRAITG
 - z/TPF
 - GSTRAIT::PP
 - TPFP1::PP
 - TPFP2::PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - KPP_LPAR_Util_High_Sample**
 - Profiled User Data
 - Pools
 - System
 - Tape
 - VFA

Initial Situation Values

Util Percent	Node	Timestamp	Name	Num	CPUs	Capped Util Percent	CEC Util Percent
99.99	TPFP2:STRAITG:PP	09/22/09 11:16:35	CF2	2	1	0.00	3.56

Current Situation Values

Util Percent	Node	Timestamp	Name	Num	CPUs	Capped Util Percent	CEC Util Percent
99.97	TPFP2:STRAITG:PP	09/22/09 12:08:35	CF2	2	1	0.00	3.56
99.97	TPFP2:STRAITG:PP	09/22/09 12:08:35	TPFP7	8	4	0.00	14.27

Alerts at TPF Systems Level

The screenshot displays the IBM TPF Enterprise Edition interface. On the left is the Navigator pane showing a tree view of system components. The 'z/TPF' node is circled in red. The main area is divided into two sections: 'Processor Totals' and 'Situation Event Console'.

Processor Totals Table:

Node	Timestamp	Messages per Sec	DASD IO per Sec	Processor Utilization
TPFP2:STRAITG:PP	09/22/09 12:06:48	0.00	15.92	0.40
TPFP1:STRAITG:PP	09/22/09 12:06:48	0.16	66.05	13.20
G8TRAIT:STRAITG:PP	09/22/09 12:06:48	0.00	22.24	0.70

Situation Event Console Table:

Severity	Status	Owner	Situation Name	Display Item	Source	Impact
Warning	Open		KPP_ECB_Use_Warning_Sample		TPFP1:STRAITG:PP	System
Critical	Open		KPP_LPAR_Util_High_Sample		TPFP1:STRAITG:PP	LPAR Utilizat
Warning	Open		KPP_ECB_Use_Warning_Sample		TPFP2:STRAITG:PP	System
Critical	Open		KPP_LPAR_Util_High_Sample		TPFP2:STRAITG:PP	LPAR Utilizat

Alerts at Enterprise Level

Navigator

View: Physical

- Enterprise
- Windows Systems
 - STRAITG
 - z/TPF
 - GSTRAIT::PP
 - TPFP1::PP
 - TPFP2::PP
 - CDC Session Info
 - Channel Utilization
 - Communications
 - DASD
 - LPAR Utilization
 - KPP_LPAR_Util_High_Sample
 - Predefined User Data
 - Pools
 - System
 - Tape
 - VFA

Situation Event Console

(Active) Total Events: 4 Item Filter: Enterprise

Severity	Status	Owner	Situation Name	Display Item	Source
Warning	Open		KPP_ECB_Use_Warning_Sample		TPFP1:STRAITG:PP
Critical	Open		KPP_LPAR_Util_High_Sample		TPFP1:STRAITG:PP
Warning	Open		KPP_ECB_Use_Warning_Sample		TPFP2:STRAITG:PP
Critical	Open		KPP_LPAR_Util_High_Sample		TPFP2:STRAITG:PP

Open Situation Counts - Last 24 H...

Count

Last 24 Hours.

My Acknowledged Events

Severity	Status	Owner	Name	Display Item	Source
Critical	Closed	SYSADMIN	KPP_LPAR_Util_High_Sample		TPFP2:STRAITG:PP

Message Log

Status	Name	Display Item	Origin Node	Global Timestamp	Local
Open	KPP_ECB_Use_Warning_Sample		TPFP1:STRAITG:PP	09/22/09 11:58:39	09/22
Open	KPP_LPAR_Util_High_Sample		TPFP1:STRAITG:PP	09/22/09 11:58:39	09/22
Open	KPP_ECB_Use_Warning_Sample		TPFP2:STRAITG:PP	09/22/09 11:38:40	09/22
Open	KPP_LPAR_Util_High_Sample		TPFP2:STRAITG:PP	09/22/09 11:16:39	09/22

Predefined User Data User Exit on z/TPF – cdcc.c

- **Uses a “predefined” format data structure.**

```
typedef struct _PredefinedUserData {  
    char        group[CDC_PDU_GROUP_NAME_LEN];  
    char        value_description[CDC_PDU_VAL_DESC_LEN];  
    unsigned int value;  
} PredefinedUserData;
```

- `group` - can be used to classify data values
- `value_description` - used to describe data value
- `value` - used to hold integer and decimal values
- **Users populate one PredefinedUserData structure per data value and add to collection data.**
- **Can utilize Tivoli Enterprise Portal customizations and alerts on User Data.**

Predefined User Data (z/TPF only)

Collected in cdcc.c user exit on z/TPF

The screenshot shows the IBM TPF Administration console window titled "Predefined User Data - STRAITG - SYSADMIN". The interface includes a menu bar (File, Edit, View, Help), a toolbar, and a Navigator tree on the left. The Navigator tree shows a hierarchy of system components, with "Predefined User Data" selected under the "TPFP1::PP" node. The main area is divided into two panes: a "Helper" pane and a "Predefined User Data" pane.

Helper

To include data in the Predefined User Data view:

- 1) Update the cdcc.c user exit on z/TPF. Example code is provided.
- 2) Modify the frequency setting on z/TPF: ZCDCO MODIFY FREQUENCY-x
DATA-CDC_PREDEFINED_USER_DATA

Tip1: The Group column can be used to filter data. This might be a name which represents a data structure to monitor. The Description column can be used for the name of the elements within the data structure.

Tip2: This view can be used to display whole numbers and decimal values.

Predefined User Data

Group	Description	Value
sample	integer value	6.0
sample	decimal value	3.5
another	thing1	55.0
another	thing2	4.0

Hub Time: Tue, 09/22/2009 01:34 PM Server Available Predefined User Data - STRAITG - SYSADMIN

Summary

- **IBM Tivoli Monitoring features have significantly expanded continuous data collection capabilities**
- **Recommend existing CDC users take advantage of IBM Tivoli Monitoring Agent for z/TPF**
- **Recommend all customers take a look at new capabilities provided by continuous data collection and the IBM Tivoli Monitoring Agent for z/TPF**
- **Remote Demonstrations Available**
 - Contact your IBM Customer Service Representative



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