

z/OS Performance Monitoring Shootout ASG, BMC, CA and IBM

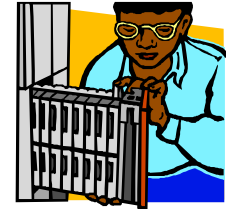
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ASG- Allen Systems Group Inc.**



**5 August 2010
Session Number : 7537**



SHARE in Boston



Installation and Maintenance

Installation and Maintenance

- 3480 Tape
- ASGPOP Package – ASG-TMON product software installation package
 - All ASG-TMON products are available to install in a single ASGPOP package using SMP/E via electronic delivery or CD
 - Follow the process to upload to z/OS and run SMP/E
 - Use our Product Installation Customizer (3270) for product setup and configuration

Installation and Maintenance

- MOM – Made to Order Maintenance
 - Run SMP/E GIMXTRX against your SMP/E CSI
 - Transmit output to ASG Support
 - Automated process compares output to Master TMON SMP/E CSI
 - Missing PTFs are identified, packaged in a ZIP file, and emailed to you
- Get email notifications of product announcements and HIPER's by signing up on www.asg.com/support



Systems Programmer Utilities

ASG-TMON for z/OS - Systems Programmer Utilities

- Using TMON for z/OS systems programmer utilities, perform many tasks dynamically with a minimum of effort. Some examples include:
 - Storage displays
 - Display and alter storage; map common system control blocks; view storage in four formats: hexadecimal, extended, disassembled, and short
 - DASD and tape services
 - Display the amount of free space on a volume, identify users of a volume, display the characteristics of a dataset, SMS environments
 - Job-related services
 - Terminate a job, change the service class, change CPU Time Limit

Utilities

The System Services utilities provides these functions...

- Maintain APF and LNKST libraries
- Load, replace, or delete LPA modules
- List and clear dump datasets
- Display messages from console and issue commands



Menu Options

- | | |
|-------------------------|----------------------------------|
| 1 APF UTILITY | 6 PROGRAM PROPERTIES DISPLAY |
| 2 LPA/NUCLEUS UTILITY | 7 MVS SUBSYSTEMS DISPLAY |
| 3 LNKST UTILITY | 8 SYSTEM INFORMATION |
| 4 DUMP DATA SET UTILITY | 9 ENF LISTENER DETAIL |
| 5 SVC TABLE UTILITY | 10 SOFTWARE ERROR RECORD DISPLAY |

Health Checker Monitor

The Health Checker Monitor enables you to perform these tasks:

- Monitor IBM Health Checker exceptions
- Display IBM Health Checker check status
- Display IBM Health Checker exception history
- Monitor IBM Health Checker on remote systems
- Check Detail
- Check Message Detail

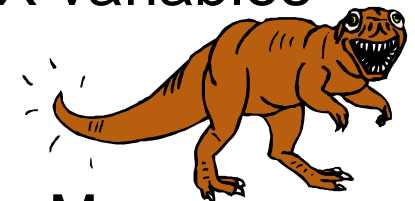


NaviData REXX function – Real-time

- **NAVIDATA REXX function** supports extraction of real-time data from z/OS TMON products into REXX variables

- **Benefits...**

- Create custom 3270 screen using ISPF Dialogue Manager
- Export data to a file or database for use by other 3rd party applications
 - Reporting
 - Queries and Performance Analysis
 - Spreadsheets



NaviData REXX function – Real-time

- **How does it work?**

- ASG-TMON products produce 170+ “aggregates” of data to be externalized
- Select data using SQL like language (TQL – TMON Query Language)
- After retrieving a response from a *TQL_string request*, the NAVIDATA function populates REXX variables.
- Example...

```
[ SET SOURCE source-identifier [, .....] ; ]  
SELECT select-expression [AS alias] [, .....]  
FROM product.aggregate  
[ WHERE search-condition]  
[ GROUP BY group-expression [, .....]]  
[ ORDER BY order-expression [, .....]]
```


Sample 3270 ISPF Dialogue provided

CPU Busy /Paging/ CICS Response Time panel

```

Selections
.
. _____ TMON NaviData: CPU Busy - Actual Values / CICS Response Time _____
. COMMAND ==> SCROLL ==>
.
.
. TIME      SYSNAME CPU BUSY TOT PAGING CICS TOT TRAN CICS AVG RESP (WORST)
. 17:48:57 SYSC      55      13          36          0.138320
. 17:48:34 SYSC      63       0          23          0.197604
. 17:48:21 SYSC      63       0          23          0.197604
. 17:47:48 SYSC     100       0           3          0.016512
. 17:47:36 SYSC      56     255           3          0.016512
.
.
. CPU BUSY 10 20 30 40 50 60 70 80 90
. 17:48:57          55
. 17:48:34          63
. 17:48:21          63
. 17:47:48          100
. 17:47:36          56
.
.
. XCF Group for CICS = JERRYXCF
.
. -->To DELTA Values (cursor select here)

```

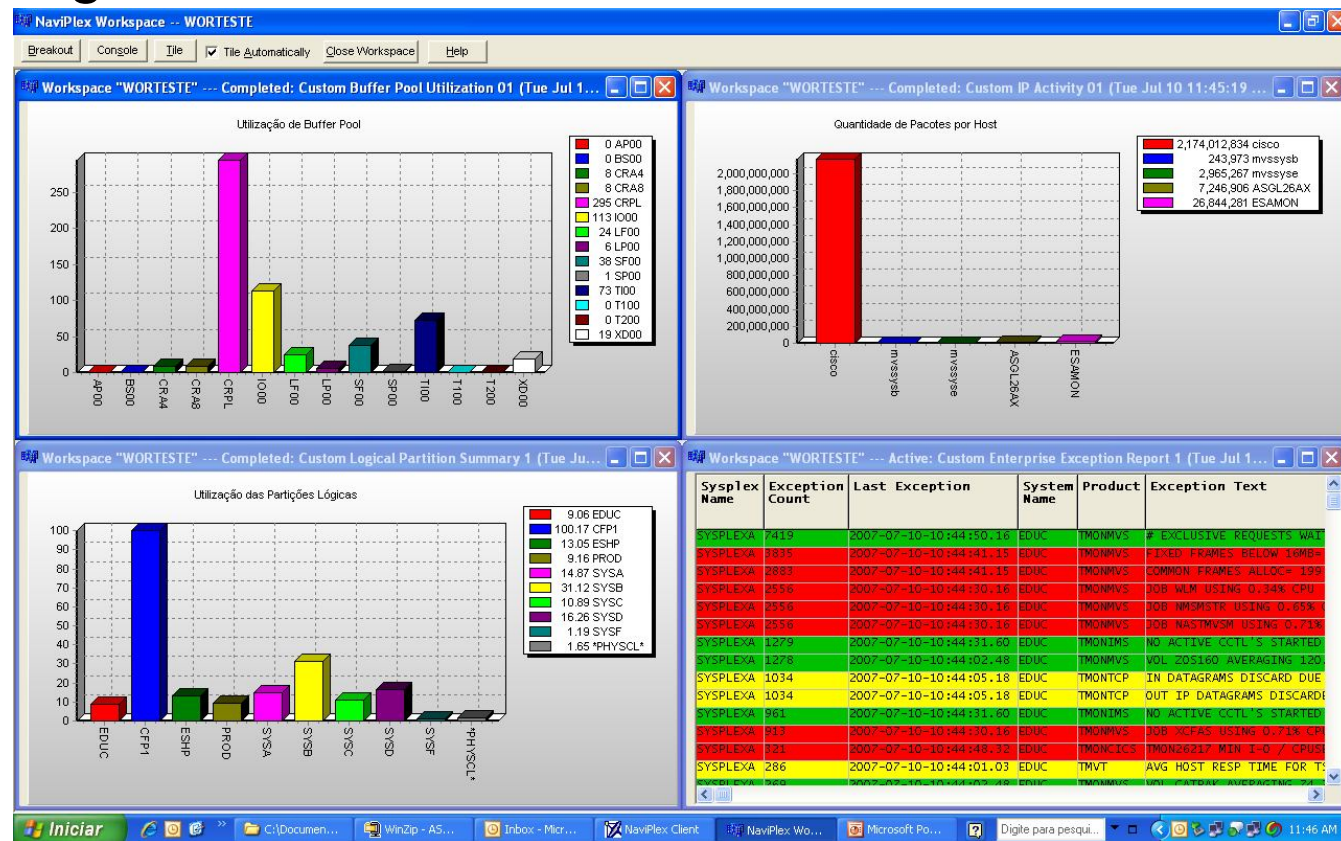
Data Extract Utility – Historical

- **Data Extract** allows you to select data elements **from the TMON log records** and output them to a file in a generalized format (flat file or .CSV)
- Data can be imported to another software package (e.g., ASG-Safari reporting tool, 3rd party reporting tools, databases, spreadsheets...)
- This batch service permits the selection, sorting, and filtering of LFS data to create data in normalized form, without the *repeating segments of LFS data*. The normalized data structure is referred to as an *aggregate*.



ASG-NaviPlex Data Graphing/Export/Action features

ASG-NaviPlex provides an Enterprise View of all TMON product alerts and real-time data metrics for graphical and tabular reporting



ASG-NaviPlex Data Graphing/Export/Action features



Completed: Job Activity Summary (Thu Jul 01 12:52:52 2010)

Report Views: ☒ Table ☐ Graph
 Define/Modify Graph...
☐ Show Times in GMT

Update Pause Search... Console Print... Fullscreen
 Customize... Close Export... Font...
 Save settings... Help Status...

Report Refresh Interval: 00:00:00
 hh:mm:ss

TMONPlex	JOB NAME	STEP NAME	SYSTEM NAME	STATUS	TASK TYPE	PRIORITY	CPU PCT	IO RATE	PAGE RATE	SWAP RATE	TOTAL CPU	ELAPSED TIME	WORKLOAD	SERVICE CLASS	PGM
SYSPLXEXA	BBOS001S	BBOS001S	EDUC	IN		E8	0.96	199.86	0	0	1:12.83	27:14.47	STC	STC	0
SYSPLXEXA	NASTMVSM	NASTMVSM	EDUC	N/S		F4	0.41	0.35	0	0	0:19:17.90	2-15:27:05.52	STC	STC	0
											40:18.81	2-15:27:05.35	STC	STC	0

Customize Job Activity Summary

Content Colors Actions Summary

Select an action to modify or a blank line to create a new one.

Expression	Actions

Delete

Specify actions when condition is true

PC Workstation
☐ Audio/Visual ☐ Email ☐ Export
☐ Local Exception ☐ Page

MVS Host
☐ Broadcast Exception
☐ Netview Alert ☐ SNMP Trap
☐ Trouble Ticket ☐ WTO

Parameters...

Specify the condition that causes these actions to be triggered

Rate Governor
 Take actions every
 1 occurrences.
 Stop after
 1 occurrences each update (0=unlimited)
 100 total occurrences (0=unlimited)

Compose Expression ...

OK Cancel Apply Hide Help

Export Report Data

Specify format(s) to export and destinations:

To a File

Table Format
☐ CSV (comma separated variables)
☐ HTML
☐ XML
☐ Delimited text, delimiter

Export Mode
☐ On Every Refresh ☐ Append to File

Graph
☐ JPG
☐ BMP

Directory: D:\My Documents\ASG\NaviPlex\

File name: Job Activity Summary Browse...

To the Clipboard

Table Format
☐ CSV (comma separated values)
☐ HTML
☐ XML
☐ Delimited text, delimiter
☒ None

Graph
☐ BMP

As E-Mail Attachment
☐ Table as HTML ☐ Graph as JPG Parameters...

Export Close Help

1 of 1 sysplexes have reported; 0 failed to respond, 0 could not be reached or encountered errors.

Benefits ☺

- **Export data** to a file or database for use by other 3rd party applications
 - Reporting – batch and web reporting tools
 - Queries for Performance Analysis
 - Spreadsheets
 - Custom 3270 displays using ISPF dialogue manager
- **Capture Exceptions** and send an email, WTO, SNMP trap
 - Include graphics in the email
 - Notify consoles: Tivoli, HP OpenView, NetView...
 - Open Service Desk Tickets automatically
 - Post charts to a web page so you have a historical representation of exceptions viewable via a web browser
- So when your boss calls, you can say ...
“I knew that, I’m working on it”



ASG-TMON Web HTTP Interface

- Not a screen scraper
- Has all the functionality available in TMON 3270 displays
- Available as a drill down from ASG-NaviPlex windows client and ASG-BSP Performance Management Dashboards

TMONforz/OS
Version 4.2
NVPTMVA

PRIMARY MENU
07/01/10 13:15:13

NVPTMVA
SYSA
DEVL52

Command: (type and press ENTER)

Programmed Commands
* Pull down and CLICK* ▼

SELECT A MENU OPTION

<u>1</u> ACTIVITY MONITOR <u>2</u> EXCEPTION MONITOR <u>3</u> GRAPHIC MONITOR <u>4</u> COLLECTION ANALYSIS <u>9</u> SYSTEM STATUS <u>0</u> COMMON SERVICES <u>A</u> ADVANCED FUNCTIONS <u>Q</u> QUICK ACCESS MENUS	<u>5</u> SUPERTRACE <u>6</u> UTILITIES <u>7</u> DELAY MONITOR <u>8</u> SYSPLEX ANALYZER <u>S</u> SYSTEM ADMINISTRATION <u>U</u> USER OPTIONS
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Applid: NVPTMVA
Jobname: NVPTMVA

ASG-TMON Web HTTP Interface

Includes Graphic displays and cursor-selectable hyperlinks

TMONforz/OS
Version 4.2
NVPTMVA

GRAPHIC MONITOR
[07/01/10](#) [13:25:54](#)

NVPTMVA
SYSA
DEVL52

Command: (type and press ENTER)

Programmed Commands
* Pull down and CLICK * ▼

Back
Refresh

Cycle:0000

1 of 1 TMVS18404I - INITIALIZATION IN PROGRESS, PLEASE WAIT..

PAGING STATS: UIC=65535 TPR= 0 AFQ= 820143 SIO= 136.3

SYSTEM RESOURCE UTILIZATION

[CPU BUSY](#)

[DISPATCH%](#)

[SSCH RATE](#)

[4 HOUR MSU](#)

[AVAIL TAPE](#)

PAGE INFORMATION INTERVAL:

[COMMON](#)

[PRIVATE](#)

[BLK \(IN\)](#)

[ASMQ LEN](#)

[2 LOC SLOT%](#)

JOBN(*)	TYPE	SYSTEM	ELAPSED	CP-TIME	CP-TIME	---CP%(U)---	
ALL						4.35	8.04
RMFGAT	STC	SYSA		2:42:36	08:02	1.28	<div style="width: 20px; height: 10px; background-color: green; vertical-align: middle;"></div> 2.36
XCFAS	STC	SYSA		2:43:46	09:07	1.11	<div style="width: 20px; height: 10px; background-color: green; vertical-align: middle;"></div> 2.05
WLM	STC	SYSA		2:43:46	02:33	0.40	<div style="width: 20px; height: 10px; background-color: green; vertical-align: middle;"></div> 0.74
GRS	STC	SYSA		2:43:47	02:16	0.24	<div style="width: 20px; height: 10px; background-color: green; vertical-align: middle;"></div> 0.44
NVPMSTA	STC	SYSA		2:36:33	02:53	0.14	<div style="width: 20px; height: 10px; background-color: green; vertical-align: middle;"></div> 0.25
NET	STC	SYSA		2:43:46	00:39	0.11	<div style="width: 20px; height: 10px; background-color: green; vertical-align: middle;"></div> 0.20
JSY43MSA	STC	SYSA		1:10:32	00:53	0.10	<div style="width: 20px; height: 10px; background-color: green; vertical-align: middle;"></div> 0.18
TCP/IP	STC	SYSA		2:42:36	00:48	0.09	<div style="width: 20px; height: 10px; background-color: green; vertical-align: middle;"></div> 0.16
DAJ43AMR	STC	SYSA		06:49	00:10	0.09	<div style="width: 20px; height: 10px; background-color: green; vertical-align: middle;"></div> 0.16

Applid: NVPTMVA
Jobname: NVPTMVA

ASG-TMON Statement of Direction zIIP Support

- zIIPs are cost-effective specialty processors that have no associated license costs
- What we currently do:
 - We currently monitor zIIP's and zAAP's (ASG-TMON for z/OS)
 - We currently monitor DB2 zIIP utilization (ASG-TMON for DB2)
- What we are planning to do:
 - ASG-TMON for z/OS V4.3 (GA December 2010) modified to exploit zIIP processors
 - Our internal messaging service (QMS) used by ASG-TMON products on z/OS has been enabled to exploit zIIP processors
 - Future releases of ASG-TMON products will exploit zIIP processors where we determine there is a benefit