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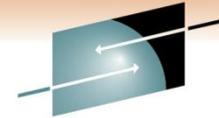
z/OS

Performance Monitoring Tools Shoot-Out: ASG, BMC, CA, Rocket

Gary Henderson
ASG (Allen Systems Group)

1 March 2011, 9:30 AM-10:30 AM
Session Number 8695





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Installation and Maintenance

Installation and Maintenance

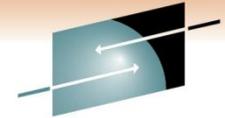
- 3480 Tape
- ASGPOP Package – ASG-TMON product software installation package
 - All ASG-TMON products are available to install in a single ASGPOP package using SMP/E via electronic delivery or CD
 - Follow the process to upload to z/OS and run SMP/E
 - Use our Product Installation Customizer (3270)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

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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





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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

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Utilities

The System Services utilities provides these functions...

- Maintain APF and LNKLST 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 LNKLST 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



zIIP Specialty Processors

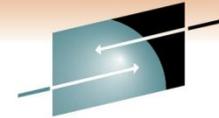


- **What we do**

- Monitor zIIP's and zAAP's (ASG-TMON for z/OS)
 - includes information about zIIP usage by individual jobs/tasks/subsystems (information found in the Job Execution Monitor) and activity of the zIIP processors themselves (information found in "Logical Partition Summary" and "LPAR Detail" screens).
- Monitor DB2 zIIP utilization (ASG-TMON for DB2)
- ASG-TMON for z/OS V4.3, GA December 2010, moved TMON z/OS product eligible workloads to zIIP processors
- We have also zIIP enabled our common messaging services, (QMS), that all the ASG-TMON products on z/OS use

- **What we are doing – zIIP enablement**

- Future releases of ASG-TMON products will adopt exploitation of zIIP processors. These are to be scheduled along with other product requirements.



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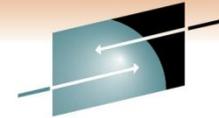
zIIP Controls in ASG-TMON for z/OS

Set which TMON z/OS zIIP eligible components you want to be zIIP enabled

```
JOBNAME:                SYSTEM COLLECTION OPTIONS                DATE:
SYSID  :                 TIME:
COMMAND:

GLOBAL  ENTIRE SYSPLEX                CHANGE SCOPE _G _C _I
                                           CHANGE NAME  _C _I
_ REFRESH OPTIONS IN MSTR  UPDATED ON: 2010.152  AT: 18:09 BY: TMONMVS
_ REFRESH MULTIPLE INSTANCES
Line: 25 of 46                               More: - +
REC(S)  FILE  DESCRIPTION  LOG  EXC  REC(S)  FILE  DESCRIPTION  LOG  EXC
----- OTHER OPTIONS -----
CY      01  CRYPTOGRAPHIC Y   Y   EL      01  EXCEPTION      Y   N/A
HS/HC   01  HEALTH CHECKR Y   Y   JR      01  JES RESOURCE   Y   Y
SYSTEM STATUS INTERVAL 01 MINUTES
```

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Monitoring zIIP Activity

TMON for z/OS zIIP Activity

Customers can immediately determine how much TMON z/OS processing is on the CP and zIIP processors

```
JOBNAME:          TMON for z/OS zIIP Activity          DATE:
SYSID  :
COMMAND:          SRM STATS: CPU=  2.81  UIC=65535  TPR=   0  SIO= 263.7    TIME:
CYCLE: MMSS
Start: 2010/05/25-13:19:45  Duration:    0.00  Type: DELTA  Ratio:  4.21
TMON for z/OS: DRP43MST  Run time: 03:07:29
Update System Collection Options
```

1

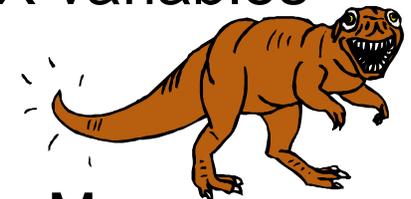
Displays central processor (CP) and Integrated Information Processor (zIIP) execution times for the TMON for z/OS components running in the TMVSMSTR (TMON z/OS) address space. Displays are real-time, we also record historical data (JD record), for all JOBS using zIIPs.

Customer feedback on zIIP exploitation

- “After installing the latest release of TMON for z/OS, it is now the biggest users of our zIIP processor. Please pass it on that we are so pleased with this usage. “
- “With the latest ptf's installed, we've seen a really big decrease in GP usage, we are now at level we had before installing TMON for z/OS 4.3.”
- “I've discussed with the Capacity Manager and he is really happy with the new figures, he even said that we've gained 2 mips for the GPs.”

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

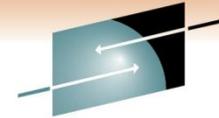


NaviData REXX function – Real-time

- **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

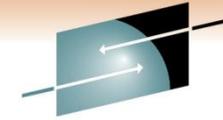
CPU Busy /Paging/ CICS Response Time panel

```
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 TMON LOG data (LFS) to create data in normalized form, without the *repeating segments of LFS data*. The normalized data structure is referred to as an *aggregate*.

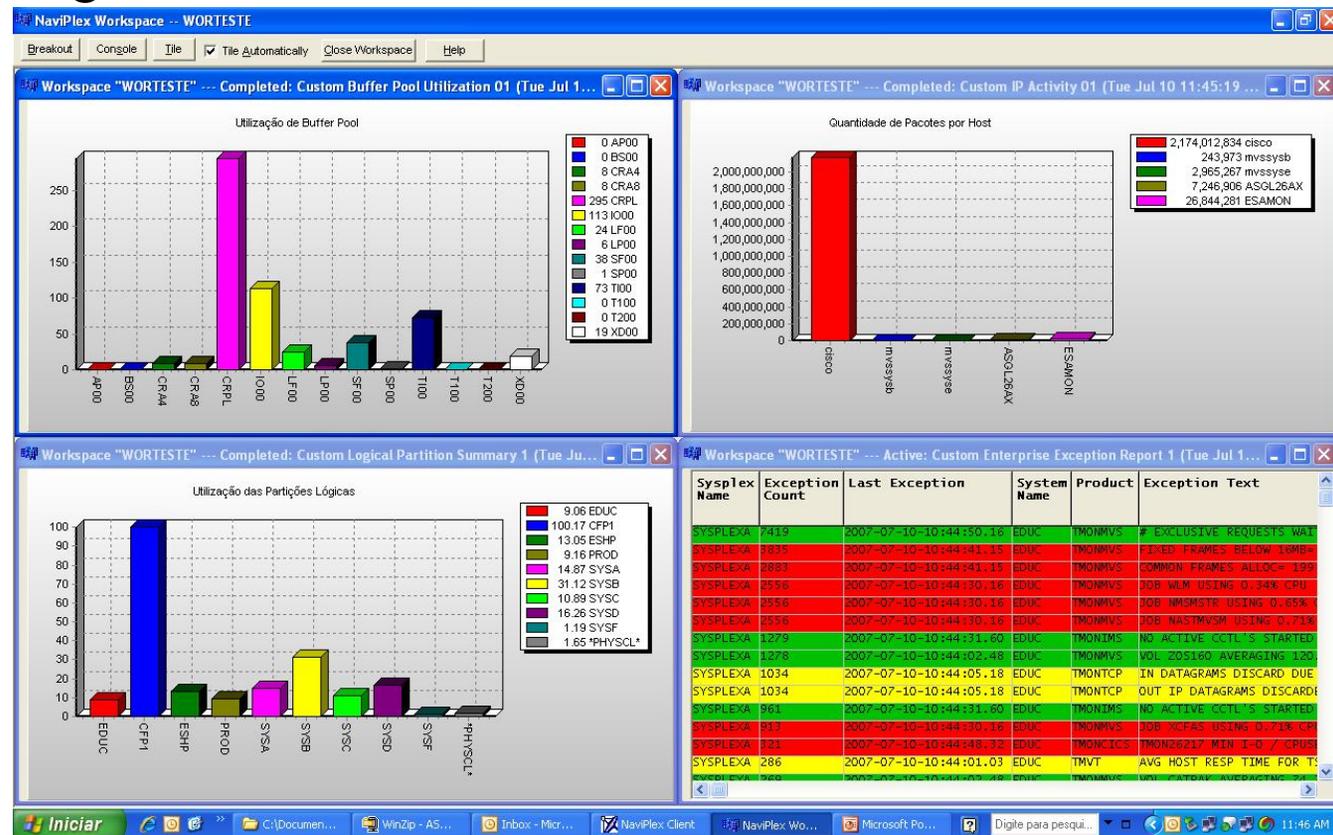




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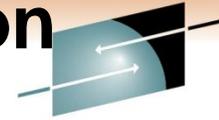
ASG-NaviPlex Data Graphing/Export/Action features

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



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ASG-NaviPlex Data Graphing/Export/Action features



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The screenshot displays the 'Customize Health Checker Checks with exceptions' dialog box, which is used to configure actions for specific health checks. The dialog has tabs for 'Content', 'Colors', 'Actions', and 'Summary'. The 'Actions' tab is active, showing a table of action triggers and a list of actions to be performed when the condition is true.

The 'Action Parameters' dialog box is also open, showing the configuration for the 'Export' action. It includes options for the export format (CSV, HTML, XML, Delimited text), output options (Column Headers, Row Timestamps), and the directory and file name for the export.

The background window shows a table of system health checks with columns for 'NAME', 'LEFT', 'INTERVAL', and 'RESULT'. The table contains several rows of data, including 'SYSPLER' and 'SYSPLERX' entries.

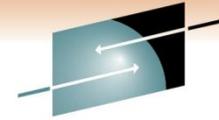
NAME	LEFT	INTERVAL	RESULT
SYSPLER	20:59.42	24:00:00.00	
SYSPLER	20:59.41	24:00:00.00	
SYSPLER	00:00.00	00:00:00.00	
SYSPLER	00:00.00	00:00:00.00	
SYSPLER	20:44.35	24:00:00.00	
SYSPLER	20:44.35	24:00:00.00	
SYSPLER	20:44.36	24:00:00.00	

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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”

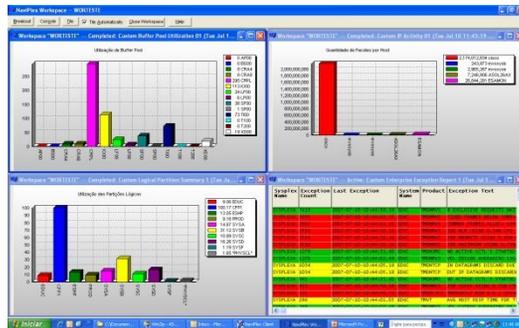




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ASG-TMON Web HTTP Interface

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



TMON for z/OS
Version 4.2
NVPTMVA

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

NVPTMVA
SYSA
DEV152

Command: (type and press ENTER)

Programmed Commands
* Pull down and CLICK * [Back] [Refresh]

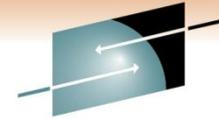
SELECT A MENU OPTION

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

Applid: NVPTMVA Jobname: NVPTMVA

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Manual: ASG-NaviPlex Client User's Guide.



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ASG-TMON Web HTTP Interface

Includes Graphic displays and cursor-selectable hyperlinks

TMON for z/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 *

1 of 1 **TMVS18404I - INITIALIZATION IN PROGRESS, PLEASE WAIT..** Cycle:0000

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

SYSTEM RESOURCE UTILIZATION PAGE INFORMATION INTERVAL:

CPU BUSY COMMON
DISPATCH% PRIVATE
SSCH RATE BLK (IN)
4 HOUR MSU ASMQ LEN
AVAIL TAPE 2 LOC SLOT%

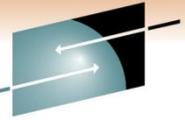
JOBN(*)	TYPE	SYSTEM	ELAPSED	CP-TIME	CP-TIME	---CP%(U)---	
ALL						4.35	8.04
<u>RMFGAT</u>	STC	SYSA	2:42:36	08:02	1.28		2.36
<u>XCFAS</u>	STC	SYSA	2:43:46	09:07	1.11		2.05
<u>WLM</u>	STC	SYSA	2:43:46	02:33	0.40		0.74
<u>GRS</u>	STC	SYSA	2:43:47	02:16	0.24		0.44
<u>NVPMSTA</u>	STC	SYSA	2:36:33	02:53	0.14		0.25
<u>NET</u>	STC	SYSA	2:43:46	00:39	0.11		0.20
<u>JSY43MSA</u>	STC	SYSA	1:10:32	00:53	0.10		0.18
<u>TCPIP</u>	STC	SYSA	2:42:36	00:48	0.09		0.16
<u>DAJ43AMR</u>	STC	SYSA	06:49	00:10	0.09		0.16

Applid: NVPTMVA Jobname: NVPTMVA

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ASG Performance Management Dashboards

– Tie IT together



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Integrate ASG and Third Party or custom data sources into a dashboard view

Drill down to ASG or third party products or any URL

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