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Cheryl's Hot Flashes #18

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Watson & Walker, Inc.
www.watsonwalker.com

home of **Cheryl Watson's TUNING Letter, CPU Chart, BoxScore, and GoalTender**

Agenda

- Survey Questions
- Important Fixes
- New Function Maintenance
- Hardware Problems
- Useful Tools
- Publications
- Last SHARE

Cheryl sends her regrets

Sorry, but being a grandmother has responsibilities too. I'll see you all in Orlando!

Survey Questions
Hardware

- Current Server Type (now or within next 12 months)
  - z800, z900, z890 (*75% at last SHARE*)?
  - z990 (*40%*)?
  - z9-EC (*60%*)?
  - z9-BC (*40%*)?
  - Older Hardware (*1%*)?
- Using zAAP Processors (*30*)?
- Using zIIP Processors (*25*)?
- Activated IRD CPU Management (*12*)?
- Have Used On/Off Capacity on Demand (*12*)?
- Using Variable WLC Pricing *(20)?*
- Doing Heavy Cryptographic Work (*10*)?

Survey Questions
Software

- Operating System
  - z/OS.e *(8)*?
  - z/OS 1.4 or 1.5 (*20%*)?
  - z/OS 1.6 (*15%*)?
  - z/OS 1.7 (*85%*)?
  - z/OS 1.8 (*16*)?
  - *Note: End of Service for z/OS 1.6 is September 2007*
- Using WebSphere on z/OS (*60%*)?
- Using VSAM RLS for CICS (*12*)?
- Using Transactional VSAM (*0*)?
- Have used zPCR (*10*)?
- Running WLM-managed initiators (*30*%)?
- Using RMF Monitor III (*90*%)?
- Using Omegamon z/OS Management Console (*8*)?
- Using or planning to use HyperPAV?

Important Fixes
SRM Overhead

- **OA18452** (z/OS 1.7+, 8Mar2007) - *SRM Invocation Interval Incorrect on a System z9 D/T2094*
  - Corrects RMPTTOM rounding error that was causing SRM to be invoked too frequently on faster processors
  - Changes RMPTTOM default value to 3000 on faster processors
  - Invokes SRM less frequently for some functions
  - See WSC Flash **10526**
- IBM Test Results after OA18452
  - System z9 32-way with 1,600 address spaces
  - SRM overhead reduced by 50%
  - 60 MIPS reclaimed
- Comment from a TUNING Letter reader
  - Running a System z9 2-way (2 LPARs)
  - Saw more impressive overhead reduction after installing z/OS 1.8
    - Processor use by MASTER address space dropped 80%
    - 40 MIPS reclaimed
  - See new WSC Flash **10598** (August 6, 2007)

Important Fixes
Service Unit Overflow

- Applies to users with long-running enclaves
  - Problem reported by several SAP Users
  - Workload Manager detects processor service unit counter overflow
  - Workload Manager restarts enclave and resets counters
- But not all counters are being cleared
  - IWMRCOLL service returns bad values
  - SMF records from RMF have bad values
  - RMF Workload Activity Report is incorrect
  - Excessive overhead due to multiple enclave restarts
  - Potential S0C9 ABEND
- Install
  - **OA21256** (z/OS 1.6+, 20Jun2007) - *Large CPU Service Units Values on RMF Workload Activity Report R723CCPU, R72 07/06/04 PTF PEREMOVE 07/07/09 PTF PECHANGE*
  - **OA21436** (z/OS 1.7+, 04Jul2007) - *Large zIIP Service Times Reported in RMF Workload Activity Report*

Important Fixes
ESQA/ECSA Storage Creep

- Potential shortage of ESQA/ECSA storage
  - Orphaned cell pools in subpool 245, key 0
  - Size of each block is x'2500'
  - Blocks are identified as SRM QPDB CPOOL
- Problem caused by Workload Manager (WLM) and SRM
  - Occurs when frequent policy activations are done
    - New cell pools are allocated
    - Old cell pools are never freed
- **OA20890** (z/OS 1.7+, 13Jun2007) - *ABEND878 Storage Growth in SP245 Key0 QPDB Cell Pool*
- Thanks to Tim Follen (Antares Management Solutions)

Important Fixes
WTO Exit Parameter List

- **OA09018** (z/OS 1.4+, 9Mar2007) - *The WTO/MPF Exit Parameter List (CTXT) is Lacking in its Editorial Content*
  - Provides an updated version of Macro IEZVX100
    - Maps the CTXT parameter list
    - Used by the IEAVMXIT WTO exit
    - Used by MPF exits
  - Makes the CTXT parameter list more useful
    - Adds more comments
    - Provides better descriptions of most processing flags
    - Includes updates from console restructure (z/OS 1.4.2)
    - Adds more comments related to message intensity and color
  - APAR text includes a link to updated documentation
    - publibz.boulder.ibm.com/zoslib/pdf/ieavmxit.pdf
    - Considerations for coding IEAVMXIT and MPF exits
- Useful for those who write or maintain WTO exits

Important Fixes
Broken Catalog Records

- **OA21181** (DFSMS for z/OS 1.4+, **OPEN** 13Jun2007) - *Job Cancelled Leaves a Spanned Record Error in Catalog IEC331I 026-008(8D08008C)*
  - Job cancelled during catalog update causes a broken record
  - Catalog must be recovered or rebuilt
  - **OA18860** fixed problem, but…
    - A sysplex-wide hang can occur waiting for catalog resource SYSIGGV2
    - Very likely that this hang will occur
  - **OA19429** fixed broken catalog and wait problems, except…
    - There is a small timing window where a hang can still occur
  - See **OA20443** for recommendations
    - Remove OA18860 (catalog exposure but no wait)
    - Apply OA19429 (no catalog exposure and small chance of wait)
    - Wait for OA21181 (no catalog exposure and no wait – hopefully!)

Thanks to Jerry Urbaniak of Acxiom

Important Fixes
zFS Performance

- **OA20180** (Distributed File Service for z/OS 1.7-1.8, 27Jul2007) - *zFS Performance Change Default Setting for zFS Directory Cache Size dir_cache_size Directory Cache Processing Efficiency*
  - Changes the default zFS directory cache size
  - New default is 32MB instead of 2 MB
  - Can be specified as option dir_cache_size in IOEFSPRM
  - Requires a restart of zFS to take effect
- Useful commands for measuring zFS performance
  - `F ZFS,QUERY,ALL`
  - `F ZFS,RESET,ALL`
- See also
  - WSC Flash **10557**
  - TUNING Letter 2007 Number 2

New Function Maintenance
A little explanation…

- New Function Maintenance
  - Many of these simply provide new facilities between releases
  - Some of them may also provide significant performance improvements
  - Although not always identified as a fix, many provide corrections to known problems
  - These often may not be included in service maintenance, so you might not get them automatically
  - But they're worth your time to investigate
  - Here are some that we think are especially useful (also see slide 29 about a zIIP publication and APAR)
- Thanks to Jerry Urbaniak from Acxiom for most of these

New Function Maintenance
zIIP Processor Control

- **OA20045** (z/OS 1.8, 6Jun2007) - *New Function - For zIIP-Processors: SRM Support for the Processing of the New IEAOPT PARAMETER IIPHONORPRIORITY*
  - Adds SRM support for new IEAOPTxx parameter

    IIPHONORPRIORITY=YES (default)
    - Specifies that standard processors run both zIIP processor eligible and non-zIIP processor eligible work in priority order when the zIIP processors indicate the need for help from standard processors. The need for help is determined by the alternate wait management (AWM) function of SRM for both standard and zIIP processors. Standard processors help each other and standard processors can also help zIIP processors if YES is in effect, which is the default. Specifying YES does not mean the priorities will always be honored because the system manages dispatching priorities based on the service definition goals.

    IIPHONORPRIORITY=NO
    - Specifies that standard processors will not examine zIIP processor eligible work regardless of the demand for zIIP processors unless contention on a suspend lock requires a zIIP eligible unit of work to be dispatched.
  - Similar to existing controls for zAAP processors
  - APAR also needed to support zIIP processing for IPSec requests

New Function Maintenance
Message Flood Automation

- **OA17514** (z/OS 1.6+, 17Nov2006) - *New Function APAR to Integrate the Message Flood Automation Function into z/OS*
  - Small Programming Enhancement (SPE) for z/OS 1.6-1.8
  - Part of the consoles component (has been part of GDPS since 2003)
  - PARMLIB member MSGFLDxx can be used to control message floods
  - Install will replace the IEAVMXIT console exit
  - Supports several new operator commands
  - APAR will be included as part of z/OS 1.9
- References
  - White paper **WP100904** (*Message Flood Automation for z/OS* - 2Dec2006)
  - Several SHARE sessions
  - publibz.boulder.ibm.com/zoslib/pdf/mfaguide.pdf (User's Guide)
  - TUNING Letter 2007 Number 3
  - **OA19764** (z/OS 1.6-1.8, 8Mar2007) - *A Shared SYSDSN ENQ May Remain on the PARMLIB Dataset in the DUMPSRV Address Space Following a PARMLIB Read Error in MFA*

New Function Maintenance
Other Recent Items

- **OA11382** (z/OS 1.7-1.8, 9Mar2007) - *New Function - Dynamic Settings for the GRS Contention Notification System (CNS), GRSQ, and Address Space ENQ Maximums*.
  - Small Programming Enhancement (SPE)
  - Delivers selected GRS enhancements for z/OS 1.8
  - Also rolled back to z/OS 1.7
- **OA17556/OA17914** (DFSMS for z/OS 1.6-1.7, 3Mar2007) - *New Function - DIAG*.
  - Adds a new diagnostic command
    - D SMS,SMSVSAM,DIAG(CONTENTION) or
    - D SMS,SMSVSAM,DIAG(C)
  - Display contention associated with the SMSVSAM address space
  - Useful for VSAM RLS applications
  - See *z/OS V1R8.0 DFSMSdfp Diagnosis* (**GY27-7618-07**, June 2006)

New Function Maintenance
Other Recent Items

- **OA19421** (z/OS 1.7-1.8, 28Feb2007) - *Increased CPU, Elapsed Time, and CF Accesses Using RLS 64 Bit Buffering*
  - Affects VSAM RLS applications using 64-bit buffering
  - Moves index buffers from 31-bit pool to 64-bit pool
  - Reduces CPU usage, DASD activity, and CF activity
- **OA19439** (DFSMS for z/OS 1.7-1.8, 27Mar2007) - *New Function*.
  - Helps you detect HFS data sets with excessive fragmentation
  - Updates the output of the *confighfs* UNIX shell command
- **OA20077** (DFSMS for z/OS 1.7-1.8, 19Mar2007) - *New Function - Add Two Fields to SMF Type 21 Record - Device Read and Write Bytes Processed*. (See also **OA21306** for z/OS 1.7 users.)
  - Adds two counters to the SMF Type 21 demount record
    - SMF21DBR (device bytes read)
    - SMF21DBW (device bytes written)
  - Can be used to compute compression ratios for tape data sets

New Function Maintenance
Other Recent Items

- **OA19262** (DFSMS for z/OS 1.7+, 17Jul2007) - *Health Checks for DFSMShsm CDS Backup Function*
  - Adds DFSMShsm checks to the IBM Health Checker for z/OS
  - Checks active by default after installation
  - Patch provided in documentation to disable checks
  - Descriptions of checks and new messages contained in APAR text
  - See also **OA21778**, **OA21788**, **OA21789**, **OA21790**
- **OA17070** (z/OS 1.5-1.8, 26Jul2007) - *New Function - RMF CF Reporting Enhancements*
  - Adds RMF support for coupling facility level 15 code (CFLEVEL 15)
  - Several Monitor III coupling facility reports enhanced
  - Postprocessor CF (Coupling Facility) report enhanced
  - Changes to the SMF 74-4 record
  - New warning messages when Monitor III versions differ in a sysplex
  - APAR text describes report changes and SMF record changes

Hardware Problems

- Potential System z9 Hardware Problem
  - Affects all System z users (both z9-EC and z9-BC)
  - Exposed if you are running at the Driver 63 level
    - DAL5 / Driver 63 bundle 39
    - DAL6 / Driver 63 bundle 36a
    - DAL7 / Driver 63 bundle 33a (21 April)
    - DAL8 / Driver 63 bundle 33a (28 April)
  - De-configure of any processor can cause a disabled wait
  - More likely when multiple processors are de-configured at once
  - HIPER fixes have been released in MCL bundle 40
  - See z9 HIPER notice **041807B** (April 19, 2007)
- Thanks to Lawrence Jermyn

Useful Tools
zlsof Command for z/OS UNIX

- Useful for showing UNIX file and file system activity
  - Who's using a file or file system?
  - Which files/file systems are being used by a UNIX Process?
  - Which files/file systems are being used by a UNIX User?
- Tool may be found on the UNIX Tools & Toys Web site
  - www.ibm.com/servers/eserver/zseries/zos/unix/bpxa1ty2.html
  - Author is Bill Schoen of IBM
  - Written in REXX
  - Download command (REXX source) and instruction file
  - Must run in the UNIX shell (OMVS command from TSO)
  - Useful tool for file system management
- More details in the next TUNING Letter

Useful Tools
z/OS Storage Administration Reference

- Produced by DTS Software
  - Hardcopy available at SHARE
  - www.dtssoftware.com/download_pocket_reference_guide.htm
  - Version 1.8 (March 1, 2006) / 30 pages
  - Useful for storage administrators
- But also useful for system programmers
  - Common RACF commands
  - SYS1.PARMLIB member summary
  - Common operator commands
  - APAR status/resolution codes
  - PTF closing codes
  - Register save area formats
  - Julian perpetual calendar

Useful Tools
HFS to zFS Migration

- Many installations migrating from HFS to zFS data sets
  - HFS has been stabilized
  - Most zFS problems have been addressed
- Useful changes in z/OS 1.7
  - Support for zFS as root file system
    - All file systems may now be zFS
  - More flexible configuration handling
    - TYPE(HFS) will not fail when used with a zFS data set
  - Enhancements to the pax UNIX command
    - More efficient handling of sparse files
    - Enhanced error recovery for source file read errors
    - Better handling of empty directories
    - Copying of all file attributes

Useful Tools
HFS to zFS Migration

- Migration utility also included as part of z/OS 1.7
  - Runs under ISPF
  - Invoked with the command '**`TSO BPXWH2Z`**'
  - Provide name of HFS data set(s) to be migrated
    - Supports ISPF data set name pattern masking
  - Copies sizes and DFSMS attributes from source HFS data set
    - Can be changed at global or data set level
  - Uses pax command to move data
  - Runs in TSO foreground or UNIX background
  - Retains old HFS under a different name
- References
  - SHARE session **2925** (*Hints for a Successful HFS to zFS Migration*)
  - *z/OS V1R7.0 Distributed File Service zFS Administration* **(SG24-5989-05)**
  - *z/OS V1R7.0 Migration* **(GA22-7499-08)**
  - Our next TUNING Letter

Useful Tools
IBM Health Checker for z/OS

- Improvements made as part of z/OS 1.8
  - New checks may be added via HZSPRMxx file
  - Support for remote checks
    - Do not consume resources from the Health Checker address space
    - Can access resources in other address spaces
    - Can run in a non-APF environment
  - Support for a different time interval after a check fails
  - Ability for a check to generate more output (VERBOSE option)
  - Support for multiple installation policies
  - Common parse service to validate check options
  - Support for checks written in REXX (z/OS 1.9 rolled back to z/OS 1.8)
  - New component checks (ASM, CSTCP, CSVTAM, GRS, RACF, RRS, VSM)
- References
  - *IBM Health Checker for z/OS V1R8.0 User's Guide* (**SA22-7994-04**)
  - Several SHARE sessions
  - TUNING Letter 2007 Number 3

Useful Tools
SMF Performance in z/OS 1.9

- IBM z/OS 1.9 Announcement (Announcement letter **207-175**)
  - "SMF data management is enhanced. SMF can be configured to use System Logger to write data to one or more log streams. When the Coupling Facility (CF) is used, this is expected to allow the system to support far higher data write rates than can be supported when using SYS1.MAN data sets. The use of DASDONLY log streams is also supported. You can specify that different SMF record types be written to separate log streams, and that the same SMF record type be written to multiple log streams. Different retention periods can be specified for each log stream. This can help improve both scalability and SMF data management."
  - See session **2853** by Stephen Jones this SHARE
- Good News
  - Better SMF performance
  - SMF decisions should no longer be tied to performance considerations
- Bad News
  - Need for more planning
    - How many log streams containing which records?
    - How will daily processing be affected?
    - How will retention be done?
  - Start thinking about this now!

Useful Tools
New IBM Web Sites

- IBM-Wide Product Alerts
  - www.ibm.com/support/alerts/us/en/
  - Designed to “enhance the notification process for pervasive issues”
  - First (and only) entry relates to the 2007 DST change
  - Hope to see more activity in the future!
- Destination z
  - www.ibm.com/systems/destinationz
  - Introduced by IBM in June
  - Repository of mainframe-related information
  - Links to
    - Business partners
    - Case studies and economic justifications
    - White papers, videos and Redbooks
    - Other web resources
  - www.ibm.com/press/us/en/pressrelease/21758.wss (press release)

Publications
Redbooks

- Publications for those new to the mainframe
  - Titles are all prefixed '*Introduction to the New Mainframe*'
  - Published by IBM starting in 2006
  - Detailed descriptions and a large glossary of terms
  - High ratings based upon reader feedback
  - Excellent for students and those new to the platform
- Current volumes
  - *z/OS Basics* (**SG24-6366-00**)
  - *Networking* (**SG24-6772-00**)
  - *Security* (**SG24-6776-00**)
  - *Large-Scale Commercial Computing* (**SG24-7175-00**)
  - *z/VSE Basics* (**SG24-7436-00**)
  - *z/VM Basics* (**SG24-7316-00**)

Publications
Redbooks

- New and updated volumes in the ABC series
  - *ABCs of z/OS System Programming Volume 3* (**SG24-6983-02**, May 2007)
    - DFSMS, VSAM, and catalogs
    - Storage management hardware and software
  - *ABCs of z/OS System Programming Volume 8* (**SG24-6988-00**, May 2007)
    - Problem determination
    - Gathering diagnostic data
    - Working with IBM to resolve the problem
  - *ABCs of z/OS System Programming Volume 9* (**SG24-6989-03**, Aug 2007)
    - z/OS UNIX System Services
  - *ABCs of z/OS System Programming Volume* 10 (**SG24-6990-02**, Aug 2007)
    - z/Architecture and System z processor design
    - Connectivity
    - LPAR, HCD, and DS8000
- Will be an 11-volume collection when complete
- www.redbooks.ibm.com

Publications
Redbooks

- New and recently updated Redbooks
  - *IBM System z Connectivity Handbook* (**SG24-5444-07**, August 2007)
  - *GDPS Family - An Introduction to Concepts and Capabilities* (**SG24-6374-02**, March 2007)
  - *System Programmer's Guide to: Workload Manager* (**SG24-6472-03**, April 2007)
  - *HiperSockets Implementation Guide* (**SG24-6816-01**, March 2007)
  - *z/OS Version 1 Release 8 Implementation* (**SG24-7265-00**, February 2007)
  - *Performance Monitoring and Best Practices for WebSphere on z/OS* (**SG24-7269-00**, April 2007)
  - *Server Time Protocol Implementation Guide* (**SG24-7281-00**, July 2007)
  - *DB2 9 for z/OS Technical Overview* (**SG24-7330-00**, June 2007)
  - *Implementing REXX Support in SDSF* (**SG24-7419-00**, June 2007)
  - *z/OS V1R8 DFSMS Technical Update* (**SG24-7435-00**, June 2007)
  - *Customizing and Using IBM OMEGAMON z/OS Management Console 4.1.0* (**REDP-4166-00**, March 2007)

Publications
Washington System Center (WSC)

- White paper **WP100988** (11May2007)
  - ***Capacity Planning for zIIP-Assisted IPSec***
  - For z/OS 1.8 users planning to move IPSec processing to zIIP processors
- Contents
  - Enabling the support
    - Required maintenance
    - Communication Server configuration changes
    - Workload Manager policy changes
  - Measuring the effect
    - How much work will migrate from general-purpose processors to zIIP processors?
    - How much will general-purpose processor utilization decrease?
    - How many zIIP processors will be required?
  - Capacity planning methods
    - PROJECTCPU facility (z/OS 1.8 users with IPSec workload running)
    - TCP/IP SRB mode processor usage (users with IPSec workload running)
    - IPSec traffic model
  - Early performance studies
- **PK40178** (Communications Server for z/OS 1.8, 12Jul2007) - *New Function for IPSec Exploitation of zIIP D/T2094*

Publications
Washington System Center (WSC)

- Hint & Tip **TD103748** (5Apr2007)
  - Searching the IBM Domain with Google (5Apr2007)
- Here is the tip
  - *"The w3 search engine is known for giving poor results, while Google seems to work very well. So, how can you use Google to search IBM? Simply append the term site:ibm.com to your search, and the Google search engine will filter your results. Many of us have found more pertinent information this way."*
- Sample Google search
  - `smf exit iefujv site:ibm.com`
- This tip has since been removed from the library!
- www.ibm.com/support/techdocs

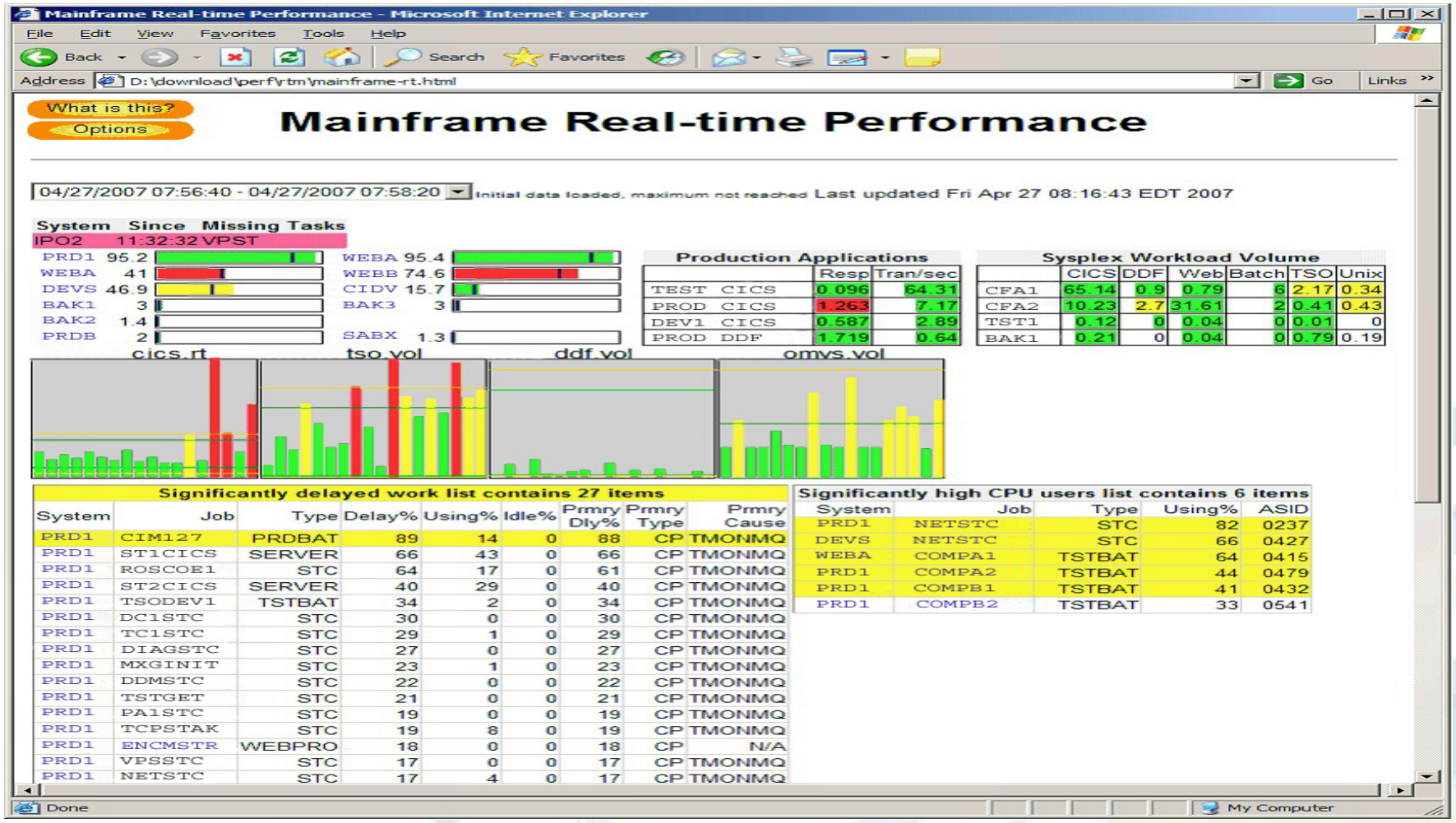
Last SHARE
Hot Flashes #17

- Hot Flashes #17 from Tampa is on the SHARE Web site and on our own Web site (www.watsonwalker.com)
- It won a best user session award this week! Thank you all!
- We'd like to update some of the items from that session and highlight the items that have generated the most comments and questions.

Last SHARE
RMF Data Portal

- RMF Monitor III Data Portal
  - Provides Web browser view of RMF Monitor III data
  - The facility comes as part of RMF
    - Available on z/OS 1.8, 1.7 (**UA90253**), and 1.5 - 1.6 (**UA90251**)
    - Easier to view and use than RMF Monitor III
  - Mentioned in last Hot Flashes and TUNING Letter 2007 Number 2
- Resulted in a comment from a TUNING Letter subscriber
  - Data Portal option available to produce XML output
  - XML is easy to read and parse
  - His installation has written a home-grown JavaScript application
    - Reads data from 9 LPARs in 4 sysplexes
    - Produces a one-screen summary
    - 2000+ lines of JavaScript code

Last SHARE
RMF Data Portal



Last SHARE Capacity Planning

- Majority of capacity plans use service units
- Service units aren't consistent
  - Small LPARs on a large CEC appear to take less time (based on the SU/Sec value assigned), but in fact take more CPU time due to overhead from other LPARs
  - Service unit usage increases as the CEC utilization increases, especially for memory-intensive applications
  - Service units per second are constant when using IRD, even as LPs are varied on and offline
  - Variation used to be within 5%, now it's closer to 20-30%
  - EWCP project is asking IBM for help and direction
  - We have submitted a requirement that all LPARs on a CEC use the CEC value of SU/Sec instead of the LPAR view of SU/Sec, or at least have the data element available for users

Last SHARE
Latent Demand Metric

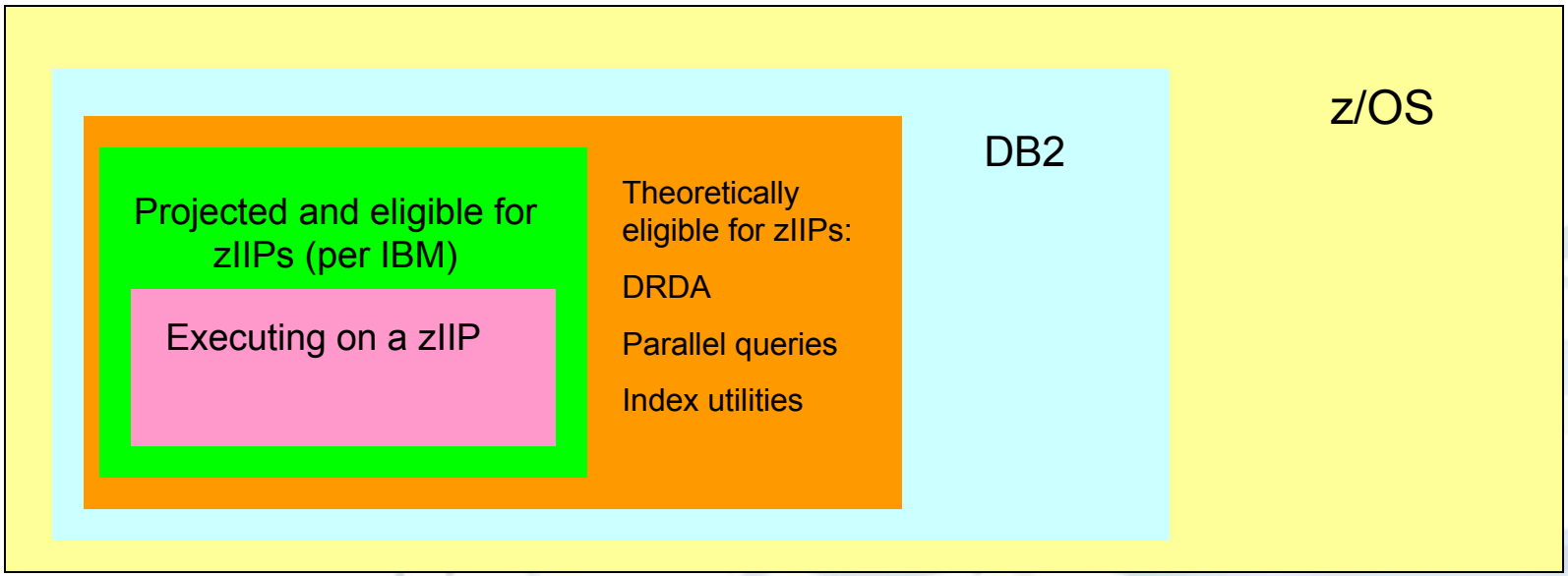
- 'In and Ready' greater than the number of LPs shows the number of ready tasks that aren't getting dispatched
- For years this field has been tracked to indicate latent demand
- But the number of LPs now changes dynamically due to: IRD dynamic CPU management, operator vary commands, CPU on demand, etc.
- z/OS 1.7 provides new data fields in type 70 record:
  - SMF70Q00 to SMF70Q12 – Count of the In Ready users based on the number N of CPs being online when the sample was taken
  - SMF70Q00 – Count of users less than or equal to N
  - SMF70Q01 – Count of users equal to N + 1
  - SMF70Q02 – Count of users equal to N + 2
  - SMF70Q03 – Count of users equal to N + 3
  - SMF70Q04 – Count of users equal to N + 4 or N + 5
  - …
  - SMF70Q12 – Count of users greater than N + 80
- New metric for latent demand = ((SMF70Q01 * 1) + (SMF70Q02 * 2) + (SMF70Q03 * 3) + (SMF70Q04 * 4.5) + (SMF70Q05 * 7) … (SMF70Q12 * 80)) / sum(**SMF70Q00**…SMF70Q12)
- There was a typo in the presentation last SHARE (last line)

Last SHARE
Migration Assistance for z/OS 1.8

- IBM Migration Checker
  - Free downloadable utility
  - Similar (in concept) to the IBM Health Checker for z/OS
    - Checks the status of z/OS migration tasks
    - Provides recommendations
    - Makes NO changes to your system
  - Designed for z/OS 1.7 to z/OS 1.8 migration
    - But some checks work with earlier z/OS releases
    - To be updated for z/OS 1.9 migration in 4th quarter of 2007
  - There are 12 checks in the first version
  - For more information…
    - Several SHARE sessions
    - IBM Hot Topics newsletter; February 2007, pages 14-15
    - TUNING Letter 2007 Number 1
  - To download
    - www.ibm.com/servers/eserver/zseries/zos/downloads

Last SHARE zIIPs

- Word of mouth: zIIPS are outperforming expectations of users; customers are very happy with results
- Definitions on chart – each box is subset of larger box
  - We have all measurements but 'Theoretically eligible"



Last SHARE
zIIP Implementation

- How much can your installation move to zIIPs?
- Only benefits now are seen in large DB2 sites with DRDA (distributed DB2), utilities, and large parallel queries
- Future applications on zIIPs: TCP/IP Sec (security) and more
- Important to run projection tools first and to look at RMF data
- The pricing benefits of zIIPs depends on what's causing the highest CPU usage by time (rolling 4-hour average)
  - If it's DB2 that could run on a zIIP, then a zIIP can reduce your cost
  - If there is no 'eligible' DB2 during your peak hours, then a zIIP may not help at all
- Requirements: DB2 V8, System z9, z/OS 1.6, zIIP FMID

Last SHARE WebSphere Note

- We hear from many installations who want to implement WebSphere on z/OS
- Most don't have the time, and certainly don't have the knowledge or experience
- One easy entry into Web serving is to use HATS (Host Access Transformation Services) - described in our Hot Flashes #15. You could have a Web application converted from green screens within a week. (Also see sessions 3433/3443 by Tony Lewitt this SHARE.)
- For actual WebSphere solution to allow development of new applications: contact your IBM representative for help
  - If you can justify your need and interest in WebSphere, IBM might provide free onsite implementation help (this also takes about a week)

See You in Orlando!

- **Email:** technical@watsonwalker.com
- **Web site:** www.watsonwalker.com