Tuning Tips To Lower System z Costs with OMEGAMON® Monitoring

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IBM System z Service Management continues providing customers improved business flexibility

Key Takeaways

1. Attempting to manage with 70s techniques and thresholds not effective or efficient

2. Modern approaches using modern tools yields reduced problem source identification times with less overhead

3. Redesigned OMEGAMON® provides significant customer value to reduce costs and decrease risks
Application Performance Management is a key component of Mainframe Service Management

Application performance management (APM) refers to discipline within service management focused on monitoring and managing of performance and service availability.

- **End-user experience** monitoring
- **Application and Services** sub-system monitoring
- **Application runtime architecture** discovery, modeling and display
- **User-defined transaction** profiling
- **Application performance** analytics

More than just basic z monitoring!
APM – Not equal to monitoring resources

- 1976 OMEGAMON classic created
  - Original product focused on monitoring hardware failures and resource restraints
- 1990 OMEGAMON CUA created, copied all the exceptions and thresholds and created warning and critical thresholds
- 1996 Candle Command Center (CCC) created, copied all the CUA exceptions and thresholds provided migration utility from CUA
- 2004 Tivoli Enterprise Portal Server, new UI w/ same situations / thresholds as CCC

- Migration path allowed customers to continue to monitor the way they always did, using the same thresholds
- MVS (OS/VS2R2 and later) 1974
  - MVS/SP 1980 (24 bit addr)
  - MVS/XA 1983 (32 bit addr)
  - MVS/ESA 1988
    - WLM in V5.1
  - OS/390 1995
  - z/OS 2000 (64 bit addr)
- MVS IPS/ICS converted to WLM
  - Customer continue to focus on resources instead of SLAs
Categorize

- All alerts aren’t critical to availability or real-time performance
- All alerts aren’t equally expensive to collect and analyze
- Use the lowest overhead with maximum benefit
Categorize

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Overhead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Benefit /</td>
<td></td>
</tr>
<tr>
<td>High Overhead</td>
<td>High Benefit / High Overhead</td>
</tr>
<tr>
<td>Low Benefit /</td>
<td></td>
</tr>
<tr>
<td>Low Overhead</td>
<td>High Benefit / Low Overhead</td>
</tr>
</tbody>
</table>
Tune -
High benefit and high overhead

When disabling is not an option

• Adjust scope and frequency.
• Substitute - there may be more than one way to detect the same situation; not all these have the same overhead.
• Policies – use low overhead detected to enable higher overhead analysis
Use Modern tools and methods

- Monitor Workload throughput instead of resources
  - WLM Performance Index
  - OMEGAMON RTA or SLA (zIIP Enabled)
- Use Bottleneck analysis to identify resources
  - Look at resource performance on demand when issues
  - Enable resource (rule of thumb) monitoring dynamically when SLO issue exist due to bottleneck on that resource
- Continue to monitor constrained resources that can cause stalls or outages
  - Use low overhead symptom detection to enable higher overhead in-depth analysis
XE for z/OS Situations

- Referencing Real storage Attributes
  - Convert UIC situation to System_Paging_Activity attribute Unreferenced_Interval_Count
  - Eliminate other Real_Storage situations or start w/ policy based on UIC situation true

Chasing Control block chains for UCB, Real storage, Common Storage is expensive
Examples of low cost ways to ensure same protection

• Use 1 situation to monitor CSA and ECSA warning and use display item to show where. Use warning to dynamically start critical. Don’t frequently monitor SQA or ESQA as they will overflow w/o issue.

• Use CICS SLA violations w/ bottleneck data to enable resource monitoring. Consider SLA history as alternative to ONDV to VSAM or use ONDV to data space
Maximize benefits and minimize overhead

- Manage what is important
  - Workload throughput vs resources
  - Production vs test

- Install Hiper performance maintenance
  - False Assumption - If it's not ABENDING I don’t need maintenance

- Assign appropriate thresholds
  - False Assumption – Default thresholds and false alarms can’t hurt me
Resource Growth = Monitoring CPU growth

- DASD original limit (FF) 255 devices
  - Current data centers 2K, 5K, 20K on an LPAR
  - Impacts OMEGAMON (z/OS, CICS, IMS)

- Real Storage
  - MVS 16mb, low threshold 2048K
  - z/OS 1.9 128gb, now 4TB
  - Z990 256gb, z9 512gb, z10 > 512gb

- Common Storage
  - MVS only below the line 16mb – (OS + Private area)
  - z/OS – ECSA up to 2048M – (ePrivate area)

- UIC counter (z/OS 1.7 10sec ASID update, now global LRU)
  - Original limit 255, threshold for pain 10
  - z/OS 1.7 and below 2540
  - z/OS 1.8+ 65535, threshold 10, should be 40K

- SMF record size (80% of OCCI)
  - 2.1.2 320
  - 3.3 448
  - 4.1 572
  - 5.1 / TS 1.1 680
  - 5.2 / TS 1.2 740
  - 5.3 / TS 1.3 1288
  - 6.1 / TS 2.1 1564

- Transaction rate, elapsed time
  - More shorter = higher fixed
  - Impacts RTA, SLA

- TCT Size growth
  - Checking connections from TORs expensive, check from AORs
Non-OMEGAMON Hiper Performance APARs

- **z/OS APARs**–
  - ESQA OA34865
  - XCF OA35436
  - GRS OA33898

- **MQSeries APAR**
  - Performance Events OA34372 -events not purged from Current Events, impacts XE table size and therefore CPU
GRS APAR – Task Cycle vs APAR

Jan 15th

Jan 29th

Feb 4th

Feb 19th

APAR Applied
OMEGAMON XE z/OS – Large Resources

- **OMEGAMON XE for z/OS (w/ Situations or Workspaces;)
  - Referencing Common Storage Attributes
    - OA37619, OA37647, OA38162 avail 12/1/11
    - OA36726 avail 06/22/11 CSA Sort
  - Referencing MVS_DASD attributes
    - OA38126 PTF UA63483 avail 12/7/11
    - If situations do not reference Cache attributes, low CPU w/ APAR

- **OMEGAMON II for MVS CUA (all users)
  - Storage light
    - CPU in Classic from Real Storage XMEM exception
    - OA37619, OA37647, OA38162 avail 12/1/11
    - *Eliminates XMEM call if only UIC being tested*

- **OMEGAMON for MVS classic (all users)
  - Exception analysis of Common Storage
  - OA37619, OA37647, OA38162 avail 12/1/11
  - Converts XCSA and XECS to use CSAA if running
OMEGAMON XE – Hiper Performance

OMEGAMON XE for IMS
- Dexan and Epilog improvements reduction in DASD UCB scan CPU
  - APAR OA37338/UA63247 11/21/11
- Epilog RESC(DEV) DASD UCB scan improvements
  - APAR OA37921 PTF UA63147 avail 11/17/11
- V420 IF3 (OA36278) ATF and TRF performance and functional improvements
- LROWs and .RC (OMSUB3) – APAR OA37766

OMEGAMON XE for DB2
- Exception analysis in 3270 or TEMA, loop in CICS connection exceptions processing RCT.
  - XE DB2 V510 APAR PM30479 PTF UK64243 avail 01/27/11
  - XE DB2 V420 APAR PM27058 PTF UK63351 avail 12/20/10
- V510- base efficiency and Near term history zIIP enabled

OMEGAMON XE for Messaging
- XE APAR OA37944 PTF UA63274, UTF-8 avail 11/24/11
  - Reduces situation overhead on Queues, Channels and Current Events, more
  - Especially helpful to customers w/ QMgrs w/ international character sets
Assumption: Bad thresholds can’t hurt me

OMEGAMON XE – All
- Situations that continuously evaluate true especially if for multiple rows creates extra CPU in TEMS and TEMA.

z/OS
- WAIT – False exception trips cause excessive Enqueue and I/O delay analysis
- XMEM – Real storage online, high CPU with no value w/ default threshold. Use XUIC with good threshold.
- XLF, ASF – Background exception analysis

CICS, IMS
- Duplicates OMEGAMON z/OS collection DASD, DNRS, DRDY, TNRS,(TPDR, TRDY)

DB2
- XOPT ON – Background exception analysis enabled
New commands and messages

- OMEGAMON V420/ V510 PTF UA65400/UA65401
  - Peek has new minor XTCBS which has extended display w/ CPU seconds by TCB
  - CICS each region attach message has TCB address
  - .VTM has new flavor .VTMX which has extended display w/ CPU secs and auto-refresh interval, if in classic autoupdate mode and profile used.

<table>
<thead>
<tr>
<th>.VTMX</th>
<th>USERID</th>
<th>TERMINAL</th>
<th>MODE</th>
<th>SESSION START</th>
<th>LAST UPDATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>OMWORK</td>
<td>PRODWORK</td>
<td>TCB</td>
<td>PGM CKS CYCLE</td>
<td>CPU SECS PROF INT</td>
</tr>
<tr>
<td>+</td>
<td>TECH40</td>
<td>N705</td>
<td>VTM</td>
<td>05/15/12 17:33:25</td>
<td>05/15/12 17:36:52</td>
</tr>
<tr>
<td>+</td>
<td>00014C00</td>
<td>0007C008</td>
<td>006E5D10</td>
<td>0</td>
<td>50</td>
</tr>
</tbody>
</table>
Energy Co – Dispatch application

- Eliminates need to collect the data for every interested user
- Graphic Health view collect once share exceptions
- Rapid link to raw data and alerts in same user interface

Links to Energy Delivery Overview
Visibility – Reduced Problem Source Identify
Reduce PSI time through improved visibility of issues

- Automated actions, notification and problem management
  - Take action TEMS vs TEMA vs none
    - TEMA requires 2\textsuperscript{nd} Situation (ITM auto starts)
    - Take action not makes not eligible for shared collection
  - EIF events / SNMP Alerts
    - EIF = Efficient, can be trapped by Netview for z/OS
    - SNMP = Autonomous agent not shared collection
  - Policies – to control situations
    - If Situation true, start more detailed analysis, wait, evaluate detail, take action, still true - notify
### Situation Synchronization (RKDSRULD)

<table>
<thead>
<tr>
<th>Sitname</th>
<th>Predicates</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>_ICSF0</code></td>
<td><code>(&quot;SITNAME&quot;, &quot;_Z_ICSF0&quot;, 8) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;##&quot;, 2) AND (ICSF.PKDSWRITE = -1) OR (ICSF.PKDSREAD = -1)</code></td>
</tr>
<tr>
<td><code>_ICSF1</code></td>
<td><code>(&quot;Z_ICSF1&quot;, 8) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;00&quot;, 2) AND (ICSF.STATUS = 1 AND ICSF.CKDSPCT = 1) OR (ICSF.CRYPTO = 0) OR (ICSF.STATUS = 1 AND ICSF.CCHW = 0) OR (ICSF.CKDSACCESS = 0) OR (ICSF.MONSTATUS &lt;&gt; 1)</code></td>
</tr>
<tr>
<td><code>_ICSF2</code></td>
<td><code>(&quot;SITNAME&quot;, &quot;_Z_ICSF2&quot;, 8) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;##&quot;, 2) AND (ICSF.STATUS = 1 AND ICSF.PKACALL = -1) OR (ICSF.STATUS = 1 AND ICSF.CCMK = -1) OR (ICSF.PCI = -1) OR (ICSF.PCI = 1 AND Crypto_CKDS_Access_Disabled)</code></td>
</tr>
<tr>
<td><em>Crypto_CKDS_Access_Disabled</em></td>
<td><code>(&quot;SITNAME&quot;, &quot;Crypto_CKDS_Access_Disabled&quot;, 27) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;00&quot;, 2) AND ICSF.CKDSACCESS = 0 ;</code></td>
</tr>
<tr>
<td><em>Crypto_CKDS_80PCT_Full</em></td>
<td><code>(&quot;SITNAME&quot;, &quot;Crypto_CKDS_80PCT_Full&quot;, 22) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;00&quot;, 2) AND ICSF.STATUS = 1 AND ICSF.CKDSPCT = 1 ;</code></td>
</tr>
<tr>
<td><em>Crypto_Internal_Error</em></td>
<td><code>(&quot;SITNAME&quot;, &quot;Crypto_Internal_Error&quot;, 21) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;00&quot;, 2) AND ICSF.MONSTATUS &lt;&gt; 1 ;</code></td>
</tr>
<tr>
<td><em>Crypto_Invalid_Master_Key</em></td>
<td><code>(&quot;SITNAME&quot;, &quot;Crypto_Invalid_Master_Key&quot;, 25) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;##&quot;, 2) AND ICSF.STATUS = 1 AND ICSF.CCMK = -1 ;</code></td>
</tr>
<tr>
<td><em>Crypto_No_Coprocessors</em></td>
<td><code>(&quot;SITNAME&quot;, &quot;Crypto_No_Coprocessors&quot;, 22) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;00&quot;, 2) AND ICSF.STATUS = 1 AND ICSF.CCHW = 0 ;</code></td>
</tr>
<tr>
<td><em>Crypto_No_PCI_Coprocessors</em></td>
<td><code>(&quot;SITNAME&quot;, &quot;Crypto_No_PCI_Coprocessors&quot;, 26) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;##&quot;, 2) AND ICSF.PCI = -1 ;</code></td>
</tr>
<tr>
<td><em>Crypto_PCI_Unavailable</em></td>
<td><code>(&quot;SITNAME&quot;, &quot;Crypto_PCI_Unavailable&quot;, 22) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;##&quot;, 2) AND ICSF.PCI = 1 AND ICSF.PCISTAT &lt;&gt; -1 ;</code></td>
</tr>
<tr>
<td><em>Crypto_PKDS_Read_Disabled</em></td>
<td><code>(&quot;SITNAME&quot;, &quot;Crypto_PKDS_Read_Disabled&quot;, 25) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;##&quot;, 2) AND ICSF.PKDSREAD = -1 ;</code></td>
</tr>
<tr>
<td><em>Crypto_PKDS_Write_Disabled</em></td>
<td><code>(&quot;SITNAME&quot;, &quot;Crypto_PKDS_Write_Disabled&quot;, 26) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;##&quot;, 2) AND ICSF.PKDSWRITE = -1 ;</code></td>
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<tr>
<td><em>Crypto_Service_Unavailable</em></td>
<td><code>(&quot;SITNAME&quot;, &quot;Crypto_Service_Unavailable&quot;, 26) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;00&quot;, 2) AND ICSF.CRYPTO = 0 ;</code></td>
</tr>
<tr>
<td><em>Crypto_Invalid_PKA_Master_Keys</em></td>
<td><code>(&quot;SITNAME&quot;, &quot;Crypto_Invalid_PKA_Master_Keys&quot;, 30) AND SYSTEM.PARMA(&quot;VERSION&quot;, &quot;##&quot;, 2) AND ICSF.PKAMK = -1 ;</code></td>
</tr>
</tbody>
</table>

12 original reduced to 3 executions

Complete your sessions evaluation online at SHARE.org/AnaheimEval for Session 11791
Service Console enable traces

Traces will show Situation and TEPS requests for data and # of rows returned. Disable with;

RAS1 set error (unit:kraafira ANY) (unit:kraadspt ANY)
Custom WTO w/ attributes to MVS Console via Netview for z/OS EIF intercept

Trappable WTO w/
msg id = EIF991I,
situation name=N3T_Conn_Rnd_Trip_Time,
Threshold= > 100,
and raw data= Round_Trip_time=2.07,
from OMEGAMON or İTM / ITCAM TEMA
OMEGAMON XE V51x – enhanced 3270

Benefits of new architecture
High Priority OMEGAMON customer capabilities focused on helping decrease costs and reduce risks

Redesigned OMEGAMON Enhanced 3270 User Interface addresses customer requirement to make mainframes more efficient and effective

Customer-Driven Focus Areas for Improvement

- **Integrate**
  - Move from silo monitoring towards composite views. Provide XE and classic data in common 3270 UI

- **Modernize**
  - Make the 3270 Interface ‘Best of breed” – SME focused Problem Solving Scenarios

- **Simplify**
  - Eliminate complexity and frustration

- **Standardize**
  - Align with existing IBM 3270 Applications

- **Minimize**
  - Reduce footprint, install, configuration, and CPU

- **Customize**
  - Personalize User Interface

- **Support**
  - Reduce customer calls/PMRs through simplification
Enhanced 3270 User Interface creates Enterprise wide view of information across sysplex

- ALL Active Sysplexes
- CICSplexes
- DB2 SSIDs
Enhanced 3270 User Interface creates Enterprise wide view of information across sysplex

- Understand transactions across entire Enterprise
- Ability to define multiple CICSplexes and their members

zOS-wide sysplex view

CICSplex details views
OMEGAMON V510 vs TEPS - Overhead and responsiveness

- Less total network traffic, larger packets moved
  - Backwards navigation does not recollect data
  - Sort done at host not in TEPS client workstation
  - Data reductions (filters) done at host not client

- More CPU efficient
  - No Java (Compiled C and assembler)
  - No EBCDIC to ASCII translation required
  - Data collected /moved less frequently
  - Fewer data transfer hops
  - e3270ui Manager does sort instead of TEMS (w/o TEMA filter)
  - Statement of direction – e3270 UI Server zIIP enabled
Plexwide response analysis w/ wait reasons

Ability to monitor and understand current activity based on SLAs and KPIs
SLA one service class – Details / bottlenecks by regions

```
<table>
<thead>
<tr>
<th>Transaction ID</th>
<th>Interval End Timestamp</th>
<th>% Time Using CPU</th>
<th>% Wait on DB2</th>
<th>% Wait on DLI</th>
<th>% Wait on File</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATRN</td>
<td>10:14:00</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CICS Region Name</th>
<th>Interval End Timestamp</th>
<th>% Time Using CPU</th>
<th>% Wait on DB2</th>
<th>% Wait on DLI</th>
<th>% Wait on File</th>
</tr>
</thead>
<tbody>
<tr>
<td>CICSBVT1</td>
<td>10:14:00</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>CICSBVT2</td>
<td>10:14:00</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
```
UOW – Details for CICSpexus

- Unit of Work (UoW) summary shows TOR, AOR, FOR
- Currently in CICSDEN3
- See / navigate to DE01 or DE02
Customer prioritized Problem Solving scenarios built into enhanced 3270 User Interface

- Easy to see and find critical system and sub-system information
- Single screen focused on customer defined problems
- Screen content based on problem solving scenarios

Gain graphical view of details

Top consumers view of details
New Problem Determination and Management allows Operations and SMEs to see what is happening sooner.

**Monitor over time to identify and fix potential problems**

Alert when SWLC or CooD risks

Use Capacity risks to enable additional detection or take action to reduce low priority workloads ability to run

<table>
<thead>
<tr>
<th>LPAR Group Name</th>
<th>Average Unused Group MSUs</th>
<th>LPAR Group Capacity Limit</th>
<th>Group LPAR MSU Limit</th>
<th>LPAR MSUs</th>
<th>% LPAR MSU Capacity</th>
<th>% LPAR Capacity Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available</td>
<td>0.00</td>
<td>100.00</td>
<td>100.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Unavailable</td>
<td>0.00</td>
<td>100.00</td>
<td>100.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**5 Minute Intervals**

<table>
<thead>
<tr>
<th>Time Period</th>
<th>% Time Uncapped</th>
<th>Uncapped MSUs/Hour</th>
<th>% LPAR Uncapped</th>
<th>% Time Capped</th>
<th>Capped MSUs/Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:40-13:45</td>
<td>100.00</td>
<td>294.08</td>
<td>10.19</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>13:35-13:40</td>
<td>100.00</td>
<td>305.13</td>
<td>10.57</td>
<td>0.00</td>
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<tr>
<td>13:30-13:35</td>
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<td>305.21</td>
<td>10.58</td>
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<td>0.00</td>
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<tr>
<td>13:25-13:30</td>
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<td>302.38</td>
<td>10.48</td>
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<tr>
<td>13:20-13:25</td>
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<td>13:05-13:10</td>
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<td>300.06</td>
<td>10.40</td>
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<td>293.42</td>
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<td>301.05</td>
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<td>290.67</td>
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<td>12:45-12:50</td>
<td>100.00</td>
<td>300.20</td>
<td>10.40</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>12:40-12:45</td>
<td>100.00</td>
<td>290.61</td>
<td>10.06</td>
<td>0.00</td>
<td>0.00</td>
</tr>
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<td>288.81</td>
<td>10.01</td>
<td>0.00</td>
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</table>
V510 e3270 – vs Classic

- **Reduced Problem source identification time**
  - Single sign on to monitor environment
  - Customer designed common diagnostic navigation
  - Unit of work cross system views
  - Multiple Sysplex, CICSplex and DB2plex views
  - Updated w/ latest metrics
  - Complete WLM metrics

- **Reduced number of address spaces**
  - One Tivoli OMEGAMON Mgr can serve multiple hubs
    - Multiple managers can back each other up
  - Data retrieval agent runs in existing TEMS or TEMAs
    - Multiple DRAs can be configured for failover and performance
OMEGAMON Architecture Comparison

Today V4.20
- Classic 3270
- CUA 3270
- TEMAs

CUA 7 STCs

TEMMS

XE TEP

Phase 1 architecture at v510
(enhanced to replace all CUA STCs)

OMEGAMON v510
- IMS
- CICS
- z/OS
- Storage
- MfN
- DB2
- Messaging

TEMAs

TEMS

TEP/TIP/TBSM
- XE/DE

Enhanced e3270
Client Response - Pre vs post filters

**Pre-filters (Query Criteria)**

Each unique query is separate take sample

**Post Filters (View)**

Sort is partial pages may have few rows

Use CPU and Memory

---

**Client**

TEP

**Server**

TEP

**Hub**

TEPS

**RMT**

DRA

**TEMA**

Strips Ordered by from query does its own sort

None unless TEMA direct connected

Ordered by 1st n rows

Return n rows

Post Filters (View)

Pre-filter (Query) Criteria
IBM System z Service Management continues providing customers improved business flexibility

Key Takeaways

1. Attempting to manage with 70s techniques and thresholds not effective or efficient

2. Modern approaches using modern tools yields reduced problem source identification times with less overhead

3. Redesigned OMEGAMON® provides significant customer value to reduce costs and decrease risks
OMEGAMON® Family announcement includes significant new capability

- General Availability
  - OMEGAMON XE for z/OS V510
  - OMEGAMON XE for CICS V510
  - OMEGAMON XE for DB2 V511
- Statement of Direction
  - Enhanced 3270 User Interface will additionally be included in:
    - OMEGAMON XE for IMS
    - OMEGAMON XE for Messaging
    - OMEGAMON XE for Storage
    - OMEGAMON XE for Mainframe Networks
  - Additional zIIP enablement
- Keep an eye out for additional OMEGAMON Betas
## Tivoli System z Sessions at SHARE

### Monday
- **11:00** 11207: Automating your IMSplex with System Automation for z/OS  
  Platinum 7
- **1:30** 11832: What’s New with Tivoli System Automation for z/OS  
  Elite 1
- **1:30** 11896: Problem Solving with Consolidated Logs  
  Grand Salon A
- **3:00** 11886: Improve Service Levels with Enhanced Data Analysis  
  Elite 1

### Tuesday
- **9:30** 11792: What’s New with System z Monitoring with OMEGAMON  
  Elite 1
- **11:00** 11791: Tuning Tips To Lower Costs with OMEGAMON Monitoring  
  Platinum 8
- **1:30** 11900: Understanding Impact of Network on z/OS Performance  
  Grand Salon A

### Wednesday
- **9:30** 11835: Automated Shutdowns using either SA for z/OS or GDPS  
  Elite 1
- **1:30** 11479: Predictive Analytics and IT Service Management  
  Grand Salon E/F
- **1:30** 11899: Top 10 Tips for Network Perf. Monitoring w/ OMEGAMON  
  Platinum 9
- **4:30** 11836: Save z/OS Software License Costs with TADz  
  Elite 1

### Thursday
- **8:00** 11887: Learn How To Implement Cloud on System z  
  Grand Salon E/F
- **9:30** 11905: Using NetView for z/OS for Enterprise-Wide Mgmt and Auto  
  Grand Salon A
- **11:00** 11909: Get up and running with NetView IP Management  
  Grand Salon A

### Friday
- **9:30** 11630: Getting Started with URM APIs for Monitoring & Discovery  
  Elite 1

---

Complete your sessions evaluation online at SHARE.org/AnaheimEval for Session 11791
For More Tuning information

- IBM Redbook OMEGAMON XE Deep Dive on z/OS SG24-7155-0
- Short Tuning articles on the Web Google search – Zeunert Site:IBM.COM
- Recent info – Linkedin group ‘Tivoli OMEGAMON Performance specialists’
For more details on what’s new with OMEGAMON family please attend these additional webcasts in the series

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>2-Feb</td>
<td>Get More From Your Mainframe with Proactive End-to-End Monitoring</td>
</tr>
<tr>
<td>9-Feb</td>
<td>Reduce Costs Based on Faster Problem Solving with Redesigned OMEGAMON</td>
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<tr>
<td>16-Feb</td>
<td>Tuning Tips Lower System z Costs with OMEGAMON Monitoring</td>
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<tr>
<td>23-Feb</td>
<td>OMEGAMON Faster</td>
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<tr>
<td>8-Mar</td>
<td>See Into the Heart of CICS and Resolve Problems Faster Across LPAR Boundaries</td>
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<tr>
<td>15-Mar</td>
<td>The Critical Role of Service Management in Moving to Cloud on System z</td>
</tr>
<tr>
<td>22-Mar</td>
<td>Shave Time Off Application and Service Delivery with Enhanced Event Management</td>
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</tbody>
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Please Join Us!

At our new IBM OMEGAMON® v5.1
Proof of Technology in a City near you.

OMEGAMON Open House

IBM is hosting an Open House for existing and prospective customers of our award-winning System z Service Management software. During this event, customers are invited to explore and exercise the newly enhanced-3270 OMEGAMON products in a live System z environment. You will gain first hand experience with a hands on test drive of the latest OMEGAMON v5.1.

Contact Tony Anderson at Andersan@us.IBM.Com for:
San Francisco, CA - Oct 2012; Sacramento, CA - Oct 2012;
Costa Mesa, CA - Nov 2012; Phoenix, AZ - Nov 2012;
Olympia, WA - Nov 2012; Salem, OR - Nov 2012

Contact Lih Wang at LihWang@us.IBM.com for:
Omaha, NE - Aug 23, 2012; Chicago, IL - Sept 2012;
Springfield, IL - Sept 2012; Minneapolis, MN - Oct 2012;
Des Moines, IA - November 2012

Contact Steve Hackenberg at HackenbS@us.IBM.com for:
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Huston, TX - Nov 2012

REGISTER Now!

To register for an event, please send an email with your name, contact information, and the company you represent to the listed IBM Representative:

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