What’s New on System z Monitoring with OMEGAMON

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OMEGAMON Release Manager
Cloud and Smarter Infrastructure
IBM

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14073
IBM System z Service Management development continues enhancing OMEGAMON portfolio

- OMEGAMON XE V5 portfolio continues delivering significant new business value and support
  - OMEGAMON XE for z/OS V5.1.1
  - OMEGAMON XE for Mainframe Networks V5.1.1
  - OMEGAMON XE for Storage V5.2
  - OMEGAMON XE for z/VM and Linux V4.3

- IBM enhanced OMEGAMON portfolio focused on hardware and Mobile, Big Data and Cloud support

- OMEGAMON Cross-Product integration simplify operations ability to achieve optimal availability
Increased Business Agility with improved IT visibility now available with redesigned OMEGAMON family

Modernize and strengthen OMEGAMON product line with reduced resource usage and increased information available for higher quality service management

- Enhanced 3270 User Interface for SMEs
- Built-in Problem Solving Scenarios
- Faster Configuration/Maintenance
- Usage of zIIP specialty servers
- zEnterprise monitoring across zEC12/BC12 and zBX
Increased analytics and mobile visibility and productivity

**IBM OMEGAMON XE for z/OS V5.1.1**

- **Enhanced zEnterprise analytics visibility** – Support zAware for monitoring and management

- **Increased Productivity** – Enhanced OMEGAMON family Install/Config PARMGEN capability.

**Benefits:**
- Save up to 75% of time needed to find problems
- Up to 73% of CICS SLA processing off-loaded
- Reduce fix times from 90 minutes to 2 minutes
IBM zAware, Event Management and Traditional Performance Monitoring

Processing …
- Query IBM zAware (10 minute interval)
- If anomaly detected
  - Trigger situation to Generate Event when anomaly is surfaced
- Include IBM zAware insights in performance monitoring views
IBM zAware, Event Management and Traditional Performance Monitoring

Interval View for System SYSG

The Messages table provides detailed analysis information for each message that occurred during the indicated time interval. To view message details for other intervals use the date and time interval selectors. Click the Return to Analysis to the Analysis view.

Date:
July 20, 2013

Time interval (UTC):
18:40 – 18:50

Analysis Source:
LPAR400J.SYSG

Interval anomaly score:
100.0

Messages

<table>
<thead>
<tr>
<th>Anomaly Score</th>
<th>Interval Contribution Score</th>
<th>Message Context</th>
<th>Rules Status</th>
<th>Appearance Count</th>
<th>Time Line</th>
<th>Message ID</th>
<th>Message Example</th>
<th>Rarity Score</th>
<th>Component</th>
<th>Cluster ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15.928</td>
<td>new</td>
<td>None</td>
<td>20</td>
<td></td>
<td>KLVVT251</td>
<td>SESSION SETUP ERROR: POOL(DEDICATED) APPLID(DBEMV28)</td>
<td>101</td>
<td>KLVVT</td>
<td>-1</td>
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<tr>
<td>1</td>
<td>7.089</td>
<td>new</td>
<td>None</td>
<td>2</td>
<td></td>
<td>DFS0821</td>
<td>IMS LOG TERMINATED IB1K</td>
<td>101</td>
<td>DFS</td>
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<tr>
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<td>7.089</td>
<td>new</td>
<td>None</td>
<td>2</td>
<td></td>
<td>DFS19581</td>
<td>IMS CONNECTION TO APPLC/MVS COMPLETE, LUNAME=USCAC001.IMSLUB1K</td>
<td>101</td>
<td>DFS</td>
<td>-1</td>
</tr>
</tbody>
</table>
Monitoring zAware Server with OMEGAMON

- The Tivoli zEnterprise Monitoring Agent already monitors logical partitions in CEC as shown in ‘Logical Partitions Summary’ table in zEnterprise Ensemble Summary workspace.
Continuing to enhance PARMGEN to make installation and configuration easier

<table>
<thead>
<tr>
<th>New Capability</th>
<th>Customer Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added two global parameters for quicker out-of-the-box configuration.</td>
<td>First-time installers now have 490 fewer parameters to customize to get to proof-of-concept.</td>
</tr>
<tr>
<td>Automatically refresh PARMGEN profiles whenever configuration changes are made after initial RTE deploy.</td>
<td>75% reduction in steps for this refresh activity.</td>
</tr>
<tr>
<td>Automatically incorporate local variables (if defined) into the PARSE job.</td>
<td>50% reduction in the number of jobs needed to incorporate local overrides to system variables.</td>
</tr>
<tr>
<td>Provide a job to compare test and production libraries.</td>
<td>Enables quick visualize differences before moving test into production.</td>
</tr>
<tr>
<td>Enhance the System Variable report job to include user-defined variables and their current values.</td>
<td>Full range of variables PARMGEN supports and their current values (for debugging purposes).</td>
</tr>
</tbody>
</table>
Enterprise View - Sysplex, CICSpex and DB2plex

### z/OS-wide sysplex view

**Columns 2 to 6 of 9**

<table>
<thead>
<tr>
<th>Sysplex Name</th>
<th>Average VCPU Percent</th>
<th>Highest LPAR Name</th>
<th>Highest VLPAR CPU%</th>
<th>Percent VMSU Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESYSPLEX</td>
<td>14</td>
<td>ESYSMYS</td>
<td>26</td>
<td>26.5</td>
</tr>
</tbody>
</table>

### CICSpex details views

**Columns 2 to 6 of 19**

<table>
<thead>
<tr>
<th>ACICSpex Name</th>
<th>ANumber of VRegions</th>
<th>ATransaction VRate</th>
<th>ACPU VUtilization</th>
<th>Any Sysplex Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>CICSCAB9</td>
<td>1</td>
<td>0</td>
<td>0.0%</td>
<td>No</td>
</tr>
<tr>
<td>CICSDAX1</td>
<td>6</td>
<td>0</td>
<td>0.0%</td>
<td>No</td>
</tr>
<tr>
<td>CICSPLEX1</td>
<td>9</td>
<td>0</td>
<td>0.0%</td>
<td>No</td>
</tr>
<tr>
<td>CICWKS38</td>
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<td>0</td>
<td>0.0%</td>
<td>No</td>
</tr>
<tr>
<td>OMEGPLEX</td>
<td>8</td>
<td>0</td>
<td>0.0%</td>
<td>No</td>
</tr>
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</table>

### DB2plex details views

**Columns 3 to 7 of 29**

<table>
<thead>
<tr>
<th>ADB2 ID</th>
<th>AMYS System ID</th>
<th>Lock Conflict</th>
<th>Lock Escalation</th>
<th>Lock Escalation</th>
<th>Lock Escalation</th>
<th>Lock Escalation</th>
<th>Lock Escalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSNT</td>
<td>MYSE</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>DSNC</td>
<td>MYSE</td>
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<td>0</td>
<td>165</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DSNB</td>
<td>MYSE</td>
<td>0</td>
<td>0</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DSNA</td>
<td>MYSE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DB1S</td>
<td>MYSE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DB1I</td>
<td>MYSE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DB1D</td>
<td>MYSE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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Complete your sessions evaluation online at SHARE.org/BostonEval
Increased analytics and mobile visibility and productivity

*IBM OMEGAMON XE for Mainframe Networks V5.1.1*

- **Increase Mobile Network availability** – Improved visibility into networks and enhanced problem determination and resolution
  - FTP and Hybrid Networks

- **Enterprise Wide Views** - Extended TEP capabilities to enable SMEs to improve MTTR (Mean Time To Repair) for network related problems

*Continued Enhancement of OMEGAMON family to support Mobile, Cloud and Analytics*
OMEGAMON XE for Mainframe Networks views across Enterprise
OMEGAMON XE for Mainframe Networks Key Indicators to monitor and manage

TCP/IP Connection
FTP long running jobs
VTAM Buffer Pools

Backlog Connection Rejected
Packet Retransmission Rate
OSA Adapter Interfaces

<table>
<thead>
<tr>
<th>Listeners with active connections - All LPARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>System ID</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>SYS</td>
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<tr>
<td>SP22</td>
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<td>SP22</td>
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<td>SYS</td>
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<td>SP22</td>
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<tr>
<td>SYS</td>
</tr>
</tbody>
</table>
Enhanced System z Storage Management supporting quickly growing Big Data management requirements

IBM Tivoli:
- OMEGAMON XE for Storage on z/OS v5.2.0
- Adv Storage Management Suite for z/OS v1.2
- Advanced Allocation Management for z/OS v3.3
- Advanced Catalog Management for z/OS v2.5
- Advanced Audit for DFSMShsm v2.5
- Output Manager for z/OS V3.1

- Reduced resource usage
- New storage hardware support
- Easier Installation and Configuration
- Enhanced support for catalog attributes
  - improved recovery processing and reduced recovery time
  - Predictive search improves responsiveness and accuracy

IBM Tivoli Storage management portfolio works together to provide simplified management
Enhanced visibility and management for z/VM and Linux applications and resources saving time and money

OMEGAMON for z/VM and Linux V4.3 and SmartCloud Monitoring

Cloud Monitoring

Increased Performance & Availability
- zVM Live Guest Relocation & Single System Image

Cloud Health Visibility and Optimization
- Performance and Availability metrics/analytics

Extensible Cloud Environment
- Business Expansion based on capacity planning
- Grow without adding hardware

zEnterprise monitoring provides value in Enterprise Private Cloud implementations
OMEGAMON XE on z/VM and Linux provides improved performance for z/VM environment

- Performance monitoring for z/VM and Linux guests
- Linux agents gather detailed performance data from Linux guests
- z/VM agent gathers performance data from z/VM and Linux
  - Including z/VM view of guests
  - Uses IBM Performance Toolkit as its data source
- Executes automated actions in response to defined events or situations
- Part of the Tivoli Management Services infrastructure and OMEGAMON family of products.
  - Integrates performance management for entire enterprise
- Tivoli Data Warehouse (TDW) allows analysis trends and look at historical data
University of Florida (UF) keeps students on track with mobile applications built on zEnterprise

Client Challenges:
• Smartphone ownership at UF jumped from 27% (2009) to 69% (2012) and growing. The message is clear. Want to reach university students - do it with a smartphone
• Enable 50,000 students and 5,400 faculty members to access a rich selection of online features anytime and anywhere with mobile device

Solution:
• Created UF Mobile web with access to Integrated Student Information System for tracking all class related information
• CICS Transaction Server running on upgraded zEnterprise® 114 with OMEGAMON XE for CICS monitoring and management

Benefits:
• Non-disruptive expansion of current applications to support Mobile
• Handling over one million Transactions per day at peak registration times
• “The UF Mobile Web helps students navigate through this information overload and meet their responsibilities.” Steve Ware, systems administrator/programmer, UF
Enhanced Configuration and Maintenance capability with Self-Describing Agents

Faster, easier, less error-prone for improved reliability and productivity

- Eliminate monitoring outages caused by ITM Server recycles
  - Product upgrades/maintenance requires agent or RTEMS recycles only
- Eliminate maintenance upgrade errors:
  - Applies to new installs, staged upgrades, and maintenance
  - Crosschecks and validates version with installed data and framework
  - Avoids inconsistent application data in ITM framework layers
- Self-describing framework extensible to new capabilities
-Eliminates application data DVDs and CDs:
  - No extra distributed installs or upgrades for mainframe-centric customers

- Moving from 40 hours a week to 4 hours a week maintenance
- 80% improvement in time for installation and maintenance
- 30% improvement in time to configure post installation
zEnterprise visibility support to allow for discovery and monitoring across all components

Workload Resource Groups can include information across z196/z114 and zBX

Unified Resource Manager APIs support

Add existing operating system, middleware, and application insights
Transaction Tracking designed to increase operations productivity and improve application availability
Moving to **simplified architecture** driving decreased resource utilization with increased capability

**v5.1 Enhanced OMEGAMON Architecture**

- **TEMS**
- **OMEGAMON XE Agents**
- **Tivoli OMEGAMON Manager**
- **Single Manager for Enhanced 3270 User Interface across OMEGAMON family**

**v4.2 OMEGAMON Architecture**

- **TEMS**
- **OMEGAMON XE Agents**
- **CUA 3270**
- **Classic 3270**
- **Multiple Address Spaces and User Interfaces across each OMEGAMON**
OMEGAMON integrates within total Enterprise-wide Application Performance Management capability

Performance and availability visibility for System z events and data

OMEGAMON V5.1

- e3270ui
- OM DE
- TEP

Tivoli OMEGAMON Manager (TOM)

IBM Tivoli Monitoring (ITM)

TBSM OMNIbus

Discovery

TADDM

Transaction Tracking

ITCAM

Cloud

SC APM

Business Assessment

TADDM – Tivoli Application Dependency Discovery Manager
ITCAM – IBM Tivoli Composite Application Manager
TBSM – Tivoli Business Service Manager
OMEGAMON and System Automation work together to improve availability and simplify operations

- Active or passive performance monitoring
  - Managed by automation
  - Integrated with monitor products
- Determine health state or exceeded thresholds
- Send a notification to event receiver or owner
- Start/stop/move resources (work around)
- Expert level: Cure performance problem
  - Using performance monitor, system or affected subsystem
IBM Enhanced 3270UI improvements

Super Charge your Tivoli OMEGAMON Manager NOW!

Includes:
• Hub Connectivity Administration
• Help build your own workspaces
• Browse your RTE datasets
• Tabbing in Enhanced 3270UI

UA69205 is the OB700 IF1 PTF. It can be downloaded now from the support site.

Apar link: http://www-01.ibm.com/support/docview.wss?crawler=1&uid=swg1OA42127

Learn more and join conversation on monitoring requirements going forward

Find documentation and latest advise on OMEGAMON V5.1

**Google:** OMEGAMON Common Information

**Join the Conversation:**
• System z Service Management

**Google:** Developerworks System z Management

Includes:
• e3270ui workspace navigation (cheat sheets)
• Parmgen upgrade guidance reference material
Learn about all recent Tivoli announcement and how to exploit them in sessions this week.

Monday
- 14073 – What’s New in OMEGAMON (11:00)
- 14121 – OMEGAMON for Storage (4:30)

Tuesday
- 13903 – OMEGAMON Lab (9:30)
- 14074 – Automation Control (11:00)
- 14163 – OMEGAMON for Storage (4:30)

Wednesday
- 13295 – OMEGAMON for MfN (8:00)
- 13771 – Advanced Catalog Mgmt (9:30)
- 14076 – System Automation (11:00)
- 14089 – Storage Management (11:00)
- 14080 – Workload Automation (3:00)

Thursday
- 13546 – NetView Canslog (12:15)
- 14345 – Lunch and Learn – Mike Baskey
- 14077 – OMEGAMON zAware support (1:30)
- 13545 – NetView Management (3:00)

Friday
- 14056 - OMEGAMON power user (8:00)
- 13824 - OMEGAMON for DB2 (9:30)
- 14082 – Capacity Management with TDSz

System z Facebook page: https://www.facebook.com/IBMsystemz
Twitter hashtag: #systemzsw
IBM System z Service Management critical for moving to Mobile, Big Data and Cloud

IBM continues to improve z/OS environment to support new technologies

- OMEGAMON family enhancements
  - OMEGAMON XE for z/OS V5.1.1
  - OMEGAMON XE for Mainframe Networks V5.1.1
  - OMEGAMON XE for Storage V5.2
  - OMEGAMON for z/VM and Linus V4.3
- IBM Automation Control for z/OS
- Workload Scheduler for z/OS v9.1
- Storage Management for z/OS portfolio enhancements


IBM continues to enhance Mainframe monitoring to address new technology, like Mobile, Big Data and Cloud

- **OMEGAMON XE V5** delivers significant new customer value based on high priority customer requirements

- Extended performance tuning methodology to **end-to-end Application Performance Management**

- Enhanced **Cross-Product** capabilities to simplify operations ability to achieve optimal services
Learn more about the IBM’s Mainframe support for Visibility, Control and Automation

<table>
<thead>
<tr>
<th>Product</th>
<th>URL</th>
</tr>
</thead>
</table>