

IBM Software Group

Become An OMEGAMON Power User

Session 14056

Friday, August 16th: 8:00 AM - 9:00 AM











Agenda

- What is a Power User?
- How to become A Power User
- OMEGAMON Interfaces & Options
- OMEGAMON Power User Examples
- OMEGAMON Power User Resources



What Is A Power User?

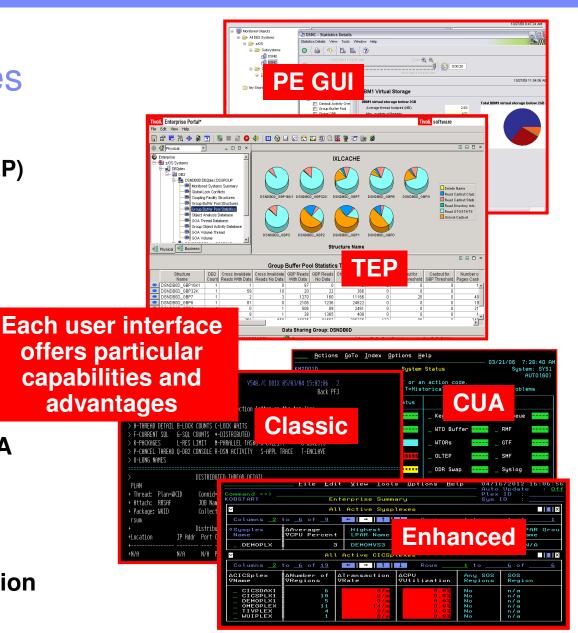
- As defined by Wikipedia
 - "A power user is a user of a personal computer who has the ability to use advanced features of programs which are beyond the abilities of "normal" users"
- Ed Woods' definition
 - A user of computer technology who takes that technology and crafts it to more fully fill their needs



OMEGAMON XE Options & Interfaces

- GUI Interfaces
 - ▶ Tivoli Enterprise Portal (TEP)
 - **▶ OMEGAMON DB2 PE GUI**
 - Real time and historical
 - Automation & alerts –Situations & Policies

- 3270 interface
 - OMEGAMON Classic, CUA and Enhanced 3270
 - Real Time & Historical
 - Real Time & Historical
 - Warning & Critical exception alerts





OMEGAMON Classic Interface Usage And Considerations

- "Classic" Interface the original OMEGAMON interface
 - The "Big Four" OMEGAMONs offer Classic interface
 - z/OS, CICS, DB2, IMS
- OMEGAMON Classic Interface is the original ""Power User" interface
 - Fast and reliable
 - Powerful command driven
 - Flexible and customizable
- Typical Classic interface power user scenarios
 - Quickly create custom classic workspaces using major and minor commands
 - Screen logging
 - Timed screen facility TSF
 - Automated screen facility ASF

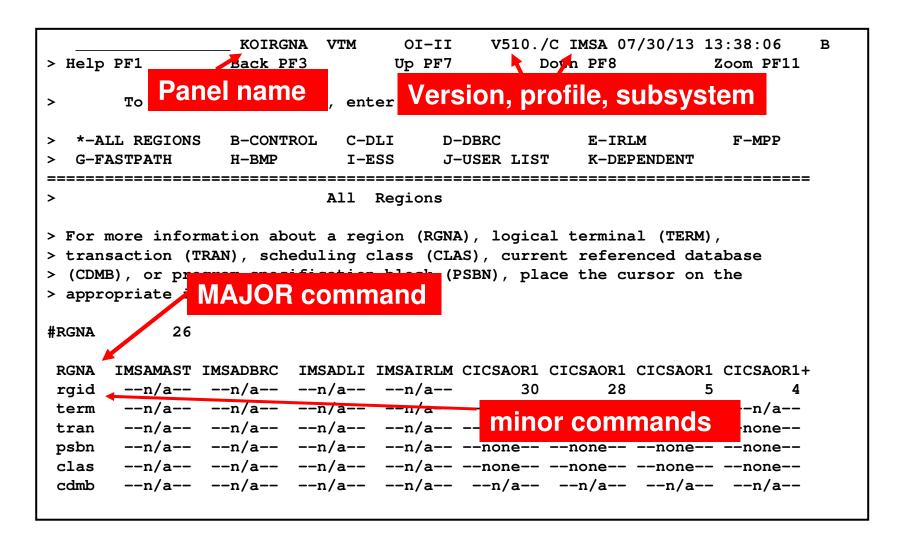


Classic Interface Example OMEGAMON IMS - Classic 3270 Interface Main Menu

```
ZMENU
                          VTM
                                          V510./C IMSA 07/30/13 13:36:33
                                  OI-II
> Help/News PF1
                        Exit PF3
                                         Keys PF5
                                                          Command Mode PF12
> Return to CUA PA2
                        Colors PF18
                 Enter a selection letter on the top line.
               OMEGAMON for IMS Performance Monitor Main Menu
    EXCLPTIONS ...... Current and potential system problems, latch conflicts
    RESPONSE TIME .... Transaction response times (RTA users)
                  .... Resource contention (bottleneck analysis) (DEXAN users)
    TRANS HISTORY ... Application Trace and Journal Facility
    MONITOR ..... IMS status, graphs, and time controlled operations
    WORKLOAD ..... PSBs, DMBs, transactions, regions, and classes
     OTMA ..... OTMA status, TMEMBERs, and TPIPEs
    LINES ..... Terminals, nodes, and lines
    ALL POOLS ...... Communication, database, and program pools
    COMPONENTS ...... I/O, logging, storage, and control blocks/modules
    FAST PATH ...... IMS Fast Path information
                                                         Select letter options to
    OTHER SYSTEMS .... External subsystems (DB2 and MQ) an
                                                         navigate to different displays
    TOOLS ......... Operator tools
    PROFILE ..... Profile maintenance and session settings
```



Classic Interface MAJOR And minor Commands





Classic Interface Examples

- Detailed IMS subsystem, transaction, and region analysis is a common usage of the Classic interface
 - ▶ Example RGNA major commands with various minors
- Classic interface includes easy to use screen logging capabilities
 - ▶ Have screen spaces logged to OMEGAMON sysout for later review
- Classic interface includes timer and screen automation capabilities
 - Execute classic screen spaces at certain times of day (TSF)
 - Execute classic screen spaces based upon classic exceptions (ASF)



Creating A Custom Region Overview Screen

The MPP major command shows all the MPP message regions in the IMS subsystem.

Options could include using RGNA to show all the IMS regions, etc.

30/13 13:41:50 B

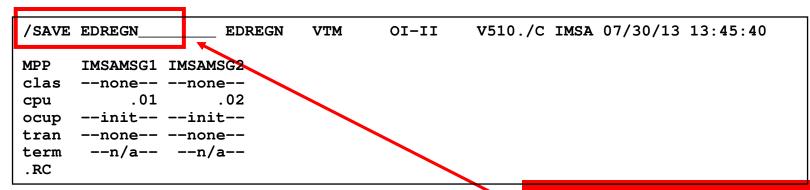
```
MPP
      IMSAMSG1 IMSAMSG2
clas
      --none-- --none--
            .01
                     .02
cpu
      --init-- --init--
ocup
tran
      --none-- --none--
       --n/a-- --n/a--
term
.RC
```

The .RC option will repeat and wrap the commands

There are over 100 minors for the MPP major command. Creating a custom region screen allows the user to create a targeted region screen, and include more relevant information on that screen.



Save The Customized Screen Space



Use the /SAVE command to save the custom screen space.

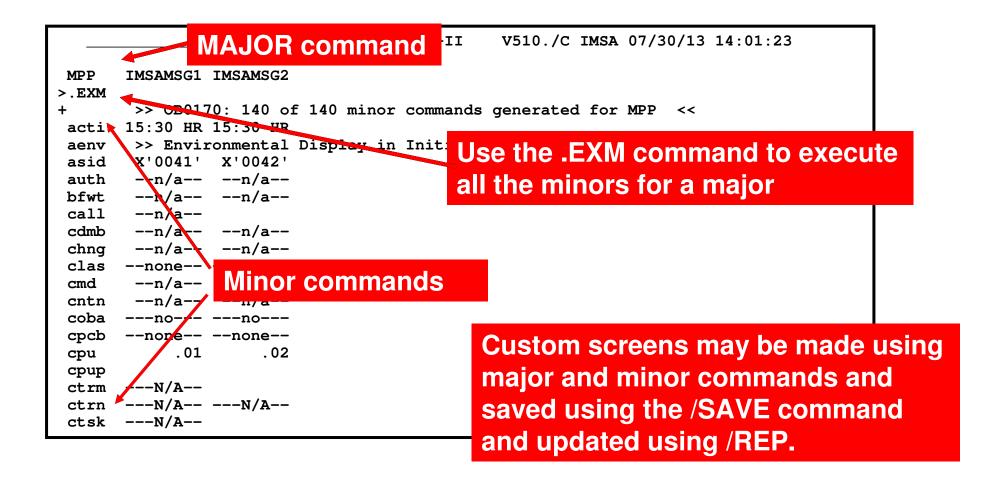
Use the /REP command to replace an existing screen.

To invoke the screen enter the screen name on the command line.

Make screens for various filter options needed.

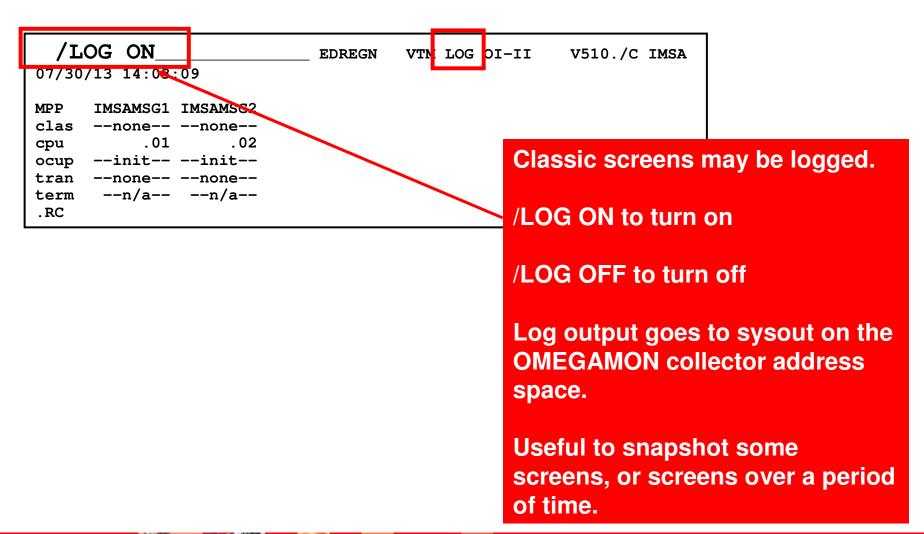


Making Custom Screen Spaces





Screen Logging





Executing A Screen Space Based Upon A Timer TSF Command – Timed Screen Facility

```
______ KOIRGNA VTM LOG OI-II V510./C IMSA 07/30/13 14:49:53

.TSF01 TIME=1100 SS=EDREGN DAY=DAILY
```

.TSF01 command to enter a timer. Enter the time and the screen to execute.

```
______ KOIRGNA VTM LOG OI-II V510./C IMSA 07/30/13 14:49:53

.TSF00
+ 1 TIME=1100 SS=EDREGN DAY=DAILY
+ 2 TIME=0000 SS=*NONE* DAY=DAILY
+ 3 TIME=0000 SS=*NONE* DAY=DAILY
+ 4 TIME=0000 SS=*NONE* DAY=DAILY
+ 5 TIME=0000 SS=*NONE* DAY=DAILY
```

.TSF00 command to list all the current timers that have been set.



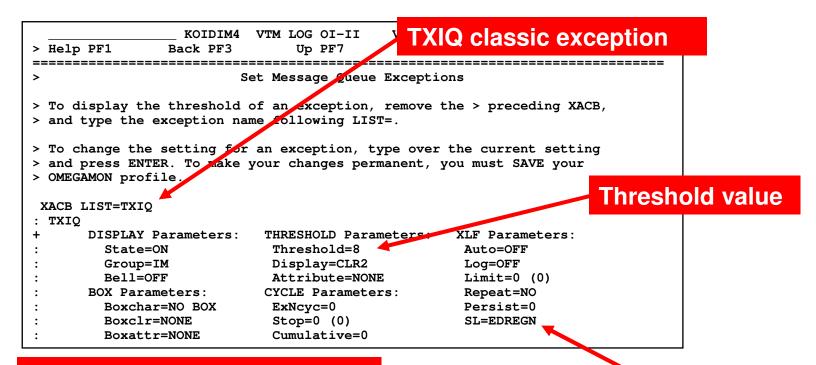
TSF Requirements

- For TSF to operate the following is needed
 - An active OMEGAMON classic session
 - OMEGAMON running in auto update mode /AUP ON
 - ▶ TSF has been set to ON /TSF ON
- To log the screens execute by timer the Log needs to be set to ON

```
V510./C IMSA 07/30/13 14:51:57
                KOIOPEA VTM LOG OI-II
> Help PF1
                           Back PF3
                                                    Save Profile PF22
_____
                        SET DISPLAY OPTIONS
> To change the value of an option, type the new value over the current one.
> Press ENTER to record the change.
OPTN
      ASF
                 = ON
                              BELL
                                         = ON
      BELLINT
                      60.00
                              DATEFORMAT
                                         = USA
                                                                Note Log is set to
      FIRSTSCREEN
                 = KOINITZZ
                                         = ON
      MINORCASE
                 = LOWER
                              SCREENCASE
                                         = MIX
                                                                ON and TSF is set
                 = PAGE
      SCROLL
                              TSF
                                         = ON
      XLF
                 = ON
                              ZEROS
                                         = ON
                                                                to ON.
```



Classic Exceptions May Be Used To Drive Screens Using Classic Interface And Automated Screen Facility



Thresholds may be stored in classic profiles. Classic exceptions may be referenced by automation.

Execute screen EDREGN if exception is true



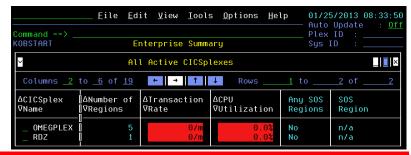
OMEGAMON Power User - Resources And References

- OMEGAMON z/OS Classic Command Reference SC27-4031
 - http://www.ibm.com/ebusiness/linkweb/publications/servlet/pbi.wss?CTY=US&FNC=SRX&PBL=SC27-4031-00
- OMEGAMON IMS Classic Command Reference SC27-4437
 - http://www.ibm.com/ebusiness/linkweb/publications/servlet/pbi.wss?CTY=US&FNC=SRX&PBL=SC27-4437-01
- OMEGAMON DB2 Classic Command Reference
 - http://pic.dhe.ibm.com/infocenter/tivihelp/v42r1/topic/com.ibm.omegamon.xe.pe_db2 .doc_5.1.1/ko2ci_book.pdf
- OMEGAMON CICS Users Guide SC14-7474
 - <u>http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss?CTY=US&FNC=SRX&PBL=SC14-7474-00</u>

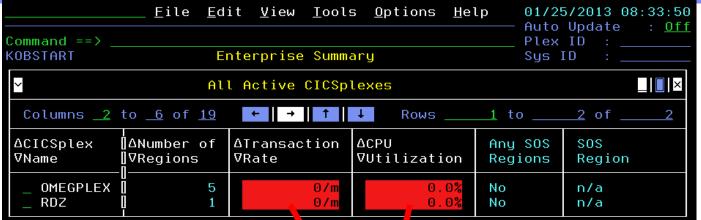


OMEGAMON Enhanced 3270 UI The Newest OMEGAMON User Interface

- All the core OMEGAMONs offer support for the Enhanced 3270 UI
 - OMEGAMON z/OS, CICS, IMS, DB2, Storage, Mainframe Networks, Messaging
- Enhanced 3270 UI offers many advantages
 - Speed of native 3270 user interface for z/OS based monitoring
 - Superior integration across the monitoring environment
 - Ease of use
- Enhanced 3270 UI power user scenarios
 - Highlighting critical thresholds of monitored fields
 - Modifying how data is displayed on a panel
 - Adding zoom navigation to a critical field
 - Adding options to popup navigation



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Display
Fields May
Be
Highlighted

Tran rate threshold

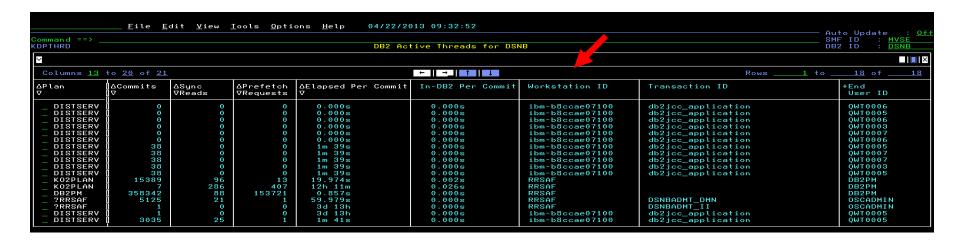
CPU threshold

```
<u>M</u>enu <u>U</u>ti ities
                      ompilers <u>H</u>elp
BROWSE
                                 RKANPAR(KCPTHRSH) - 0 Line 00000026 Col 001 080
IF ( OMCICS.KCPPLX.
                    RANRATE
                                GT 1000/MIN
                                                              0R
     OMCICS.KCPPLX
                    FRANRATE
                                LT 100/MIN
   THEN DO
                                            Critical
                  RITICAL 9 )
        STATUS (
  ENDDO
IF ( OMCICS.KCPPL
                  X.TRANRATE
                                EO 900/MIN<>1000/MIN
                                                             0R
     OMCICS.KCPP
                 X.TRANRATE
                                EQ 100/MIN<>300/MIN
                                                       Warning
   THEN DO
        STATUS WARNING 4)
  ENDDO
IF ( OMCICS.KCPPLX.CPUUTIL
                                GT 300.0%
                                                             OR
     OMCICS.KCPPLX.CPUUTIL
                                LT 10.0%
   THEN DO
                                              Critical
        STATUS ( CRITICAL 9 )
  ENDDO
IF ( OMCICS.KCPPLX.CPUUTIL
                                EQ 200.0%<>300.0%
                                                             0R
                                E0 10.0%<>20.0%
     OMCICS.KCPPLX.CPUUTIL
                                                         Warning
  THEN DO
        STATUS ( WARNING 4 )
  ENDDO
```



Panel Customization Fields May Be Moved Example - The Default OMEGAMON DB2 KDPTHRD Panel







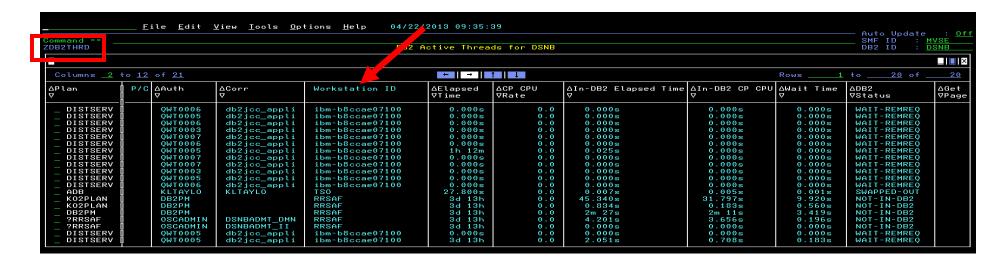
Moving The Workstation ID Column Modify The DISPLAYCOLS Command

```
<u>File Edit Edit_Settings Menu Utilities Compi</u>
                                 KANWENU (ZDB2THRD)
EDIT
000119 DISPLAYCOLS='TDIDPLAN.
000120 THDXPIND(CAPTION="P/C"),
                                  /*@D2A*/
000121 UTDIDAUTH(CAPTION="Auth ID",W=8),
000122 TDIDCORR (CAPTION="Corr ID"),
000123 THDXETIM,
000124 THDXCPUR,
000125 WHNDBTIM(CAPTION="In-DB2_Elapsed_Time"), /*@
000126 WHNDBTCT(CAPTION="In-DB2 CP CPU"),
000127 THWTTOTW,
000128 TDIDDB2S,
000129 THDXGETP,
000130 THDXUPDT,
000131 THDXCOMT,
000132 THDXREAD,
000133 THDXPFCH,
000134 THDXELCM(CAPTION="Elapsed_Per_Commit"),
000135 THDXDBCM(CAPTION="In-DB2_Per_Commit"),
000136 TDIDWKID,
                                             /*@D2A
000137 TDIDTXID.
                                             /*@D2A:
000138 TDIDEUID,
                                             /*@D2A
Command ===>
```

```
File Edit Edit_Settings Menu Utilities Comp
EDIT
                                UKANWENU (ZDB2THRD
000119 DISPLAYCOLS='TDIDPLAN,
000120 THDXPIND(CAPTION="P/C"), /*@D2A*/
000121 UTDIDAUTH (CAPTION="Auth ID", W=8),
000122 TDIDCORR(CPCTION="Corr ID"),
000123 TDIDWKID.
                                             /*@D26
000124 THDXETIM,
000125 THDXCPUR,
000126 WHNDBTIM(CAPTION="In-DB2 Elapsed Time"),
000127 WHNDBTCT(CAPTION="In-DB2_CP_CPU"),
000128 THWTTOTW,
000129 TDIDDB2S,
000130 THDXGETP,
000131 THDXUPDT.
000132 THDXCOMT,
000133 THDXREAD,
000134 THDXPFCH.
000135 THDXELCM(CAPTION="Elapsed Per Commit"),
000136 THDXDBCM(CAPTION="In-DB2_Per_Commit"),
000137 TDIDTXID,
                                             /*@D26
000138 TDIDEUID,
                                             /*@D2F
Command ===>
```



The Newly Updated Panel

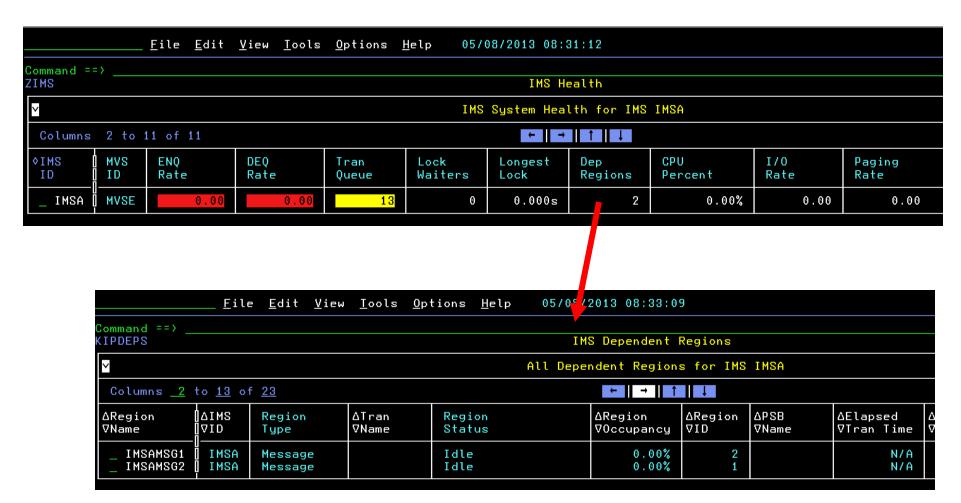


The Workstation ID column has been moved to the front of the panel

Note – In this example a new panel (ZDB2THRD) was created versus changing the product provided KIPTHRD panel



Another Example Using ZOOMCOLS To Add Drill Down Support



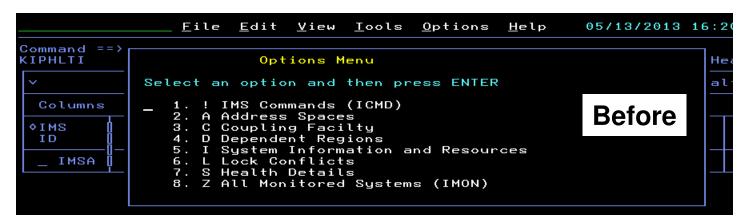


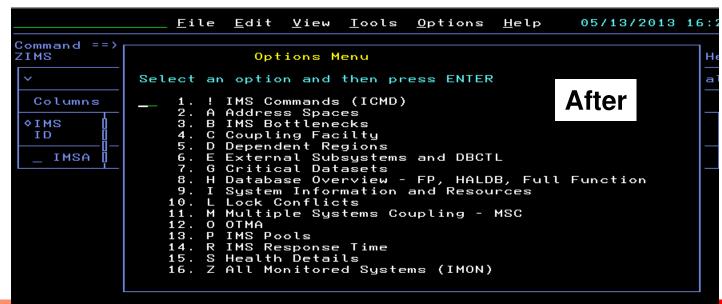
How To Add ZOOMCOLS Support To A Field

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT
                                UKANWENU(ZIMS) - 01.12 Columns 00001 00072
000046 DISPLAYCOLS='IMSID,
                                             Add after DISPLAYCOLS
000047 MVSID (CAPTION="MVS\ID"),
000048 ENQRATE (CAPTION="ENQ\Rate"),
000049 DEQRATE (CAPTION="DEQ\Rate"),
000050 TRANQUEUE (CAPTION="Tran\Queue"),
000051 LOCKWAIT(ALIGNRIGHT, CAPTION="Lock\Waiters"),
                                                                Specify the field
000052 LOCKELAP(ALIGNRIGHT, CAPTION="Longest\Lock"),
                                                                and the
000053 REGCOUNT(ALIGNRIGHT, CAPTION="Dep\Regions"),
                                                                destination panel
000054 TOTCPU(CAPTION="CPU\Percent", PERCENT),
000055 IORATE(CAPTION="I/O\Rate"),
000056 PAGERATE (CAPTION="Paging\Rate") '
000057 ZOOMCOLS='ENQRATE(KIPDEPS), DEQRATE(KIPDEPS),
000058 TRANQUEUE (KIPTRNS), LOCKWAIT (KIPLLKS), LOCKELAP (KIPLLKS),
000059 REGCOUNT (KIPDEPS), TOTCPU (KIPADRS), IORATE (KIPADRS), PAGERATE (KIPADRS)
000060 KEYCOLS='IMSID, MVSID, LOCKWAIT, LOCKWAITPI, DSGROUP, PLEXNAME,
000061 IMSPLXNM, LOCKWAITIR, SQGROUP'
000062 ACTION=IMSID(!, "IMS Commands (ICMD)", KIPCMD)
000063 ACTION=IMSID(A, "Address Spaces", KIPADRS)
000064 ACTION=IMSID(B, "IMS Bottlenecks", ZIMSBTLP)
000065 ACTION=MVSID(C, "Coupling Facilty", KIPCFS10)
Command ===>
                                                               Scroll ===> PAGE
```



Another Example Adding Navigation Options To A Popup







Adding Popup Navigation Options

```
Menu Utilities Compilers Help
 BROWSE
                                UKANWENU(ZIMS)
                                                       Line 00000060 Col 001 080
KEYCOLS='IMSID, MVSID, LOCKWAIT, LOCKWAITPI, DSGROUP, PLEXNAME,
IMSPLXNM, LOCKWAITIR, SQGROUP'
ACTION=IMSID(!, "IMS Commands (ICMD) ", KIPCMD)
                                                        Each line represents
ACTION=IMSID(A, "Address Spaces", KIPADRS)
                                                        an option in the popup
ACTION=IMSID(B, "IMS Bottlenecks", ZIMSBTLP)
ACTION=MVSID(C, "Coupling Facilty", KIPCFS10)
ACTION=IMSID(D, "Dependent Regions", KIPDEPS)
ACTION=IMSID(E, "External Subsystems and DBCTL", ZIMSEXT)
ACTION=IMSID(G, "Critical Datasets", ZIMSDSN)
ACTION=IMSID(H, "Database Overview - FP, HALDB, Full Function", ZIMSDB)
ACTION=IMSID(I, "System Information and Resources", KIPRESPU)
ACTION=IMSID(L, "Lock Conflicts", KIPLOK10)
ACTION=IMSID(M, "Multiple Systems Counting - MSC", ZIMSMSC)
ACTION=IMSID(O, "OTMA", ZIMSOTMA)
ACTION=IMSID(P, "IMS Pools", ZIMSPOOL)
ACTION=IMSID(R, "IMS Response Time", ZIMSRTA)
ACTION=IMSID(S, "Health Details", KIPHLTD, DEFAULT)
ACTION=IMSID(Z, "All Monitored Systems (IMON)", KIPMONS)
KONACTION>
SET ZOMEGNAV1=&IMSPLXNM
 Command ===>
                                                                Scroll ===> PAGE
```



OMEGAMON Power User - Resources And References

- Enhanced 3270 Interface Guide SC22-5426-00
 - http://pic.dhe.ibm.com/infocenter/tivihelp/v15r1/index.jsp?topic=%2Fcom.ib m.omegamon share.doc 623fp1%2Fsource%2Fe3270%2Fe3270 interfa ce.htm
- Other resources
 - ▶ Ed Woods' blog many examples of e3270ui customization
 - http://Tivoliwithaz.blogspot.com

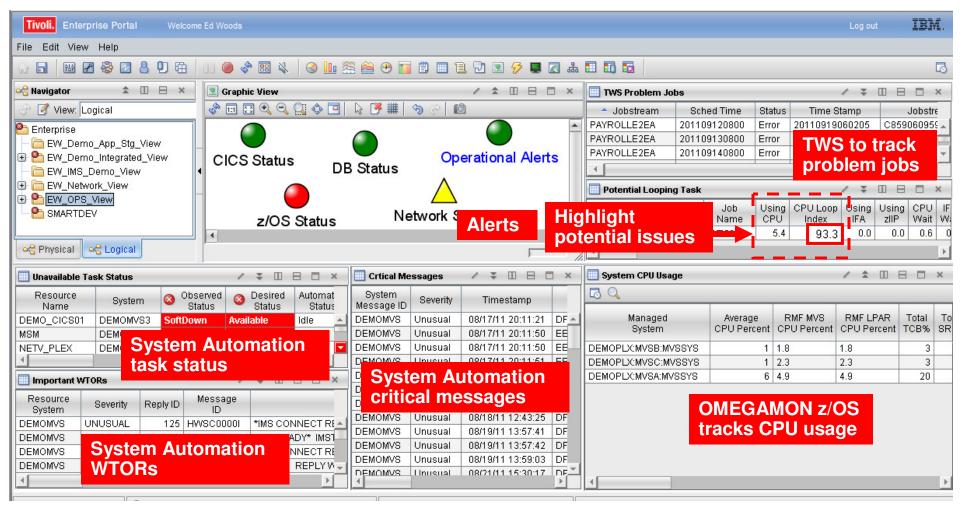


Tivoli Enterprise Portal – The TEP Power User Considerations

- The "TEP" is the GUI interface for OMEGAMON monitoring
 - All the core OMEGAMONs offer support for the TEP
 - Critical systems managements tools offer support for the TEP
 - System Automation, NetView, Tivoli Workload Scheduler
 - IBM distributed monitoring (ITM) exploits the TEP
- The "TEP" provides powerful functions and capabilities
 - Flexible and customizable
- Typical TEP interface power user scenarios
 - Integrated systems management dashboard view
 - Integrated performance automation
 - Historical trending
 - Real time and history with graphics

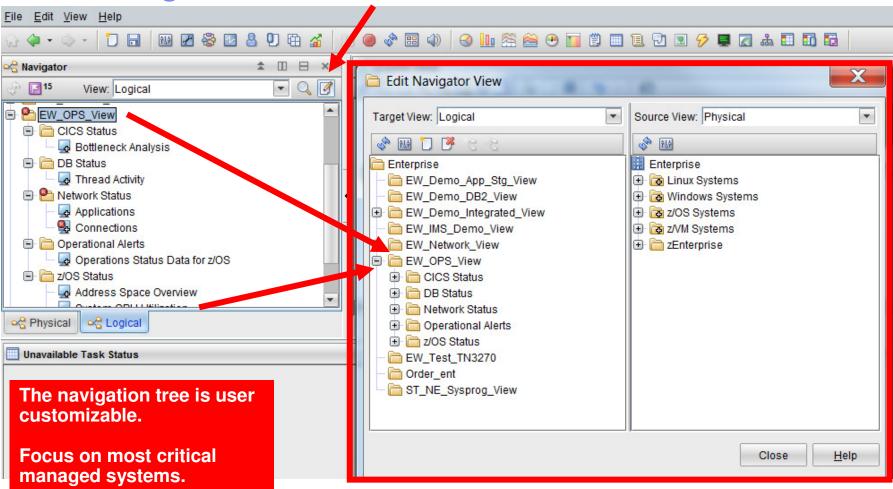


Leverage OMEGAMON As Part Of An Integrated Dashboard Monitoring Strategy



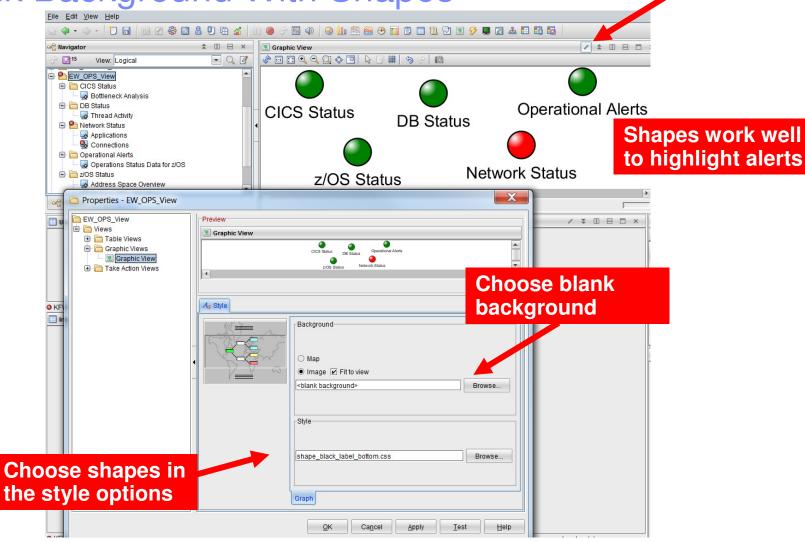


Using TEP To Build A Dashboard The Navigation Tree Is Customizable



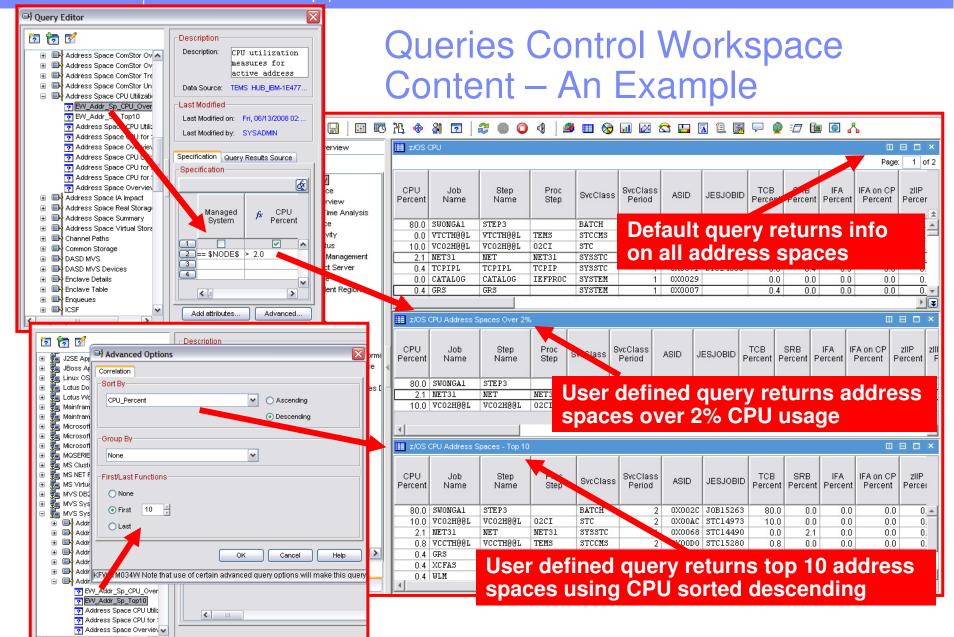


Graphics View Blank Background With Shapes



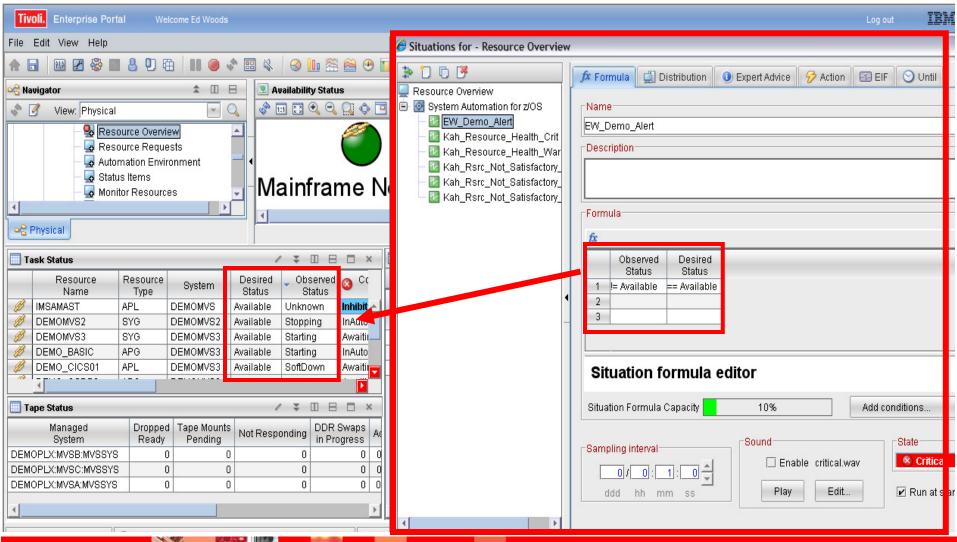
Become An OMEGAMON Power User







Exploit Filter Options To Add Detail Example – Add System Automation To The Dashboard





Tivoli Enterprise Portal Performance Automation Integrated Within The Portal

- The Portal provides manual commands and corrections
 - 'Take Action' provides for manual command capability
 - Commands may be predefined
- The Portal enables automated commands and corrections
 - Implement machine speed corrective actions, issue alerts, and allow for later human intervention
 - Use for automated commands for dynamic subsystem management and 'tweaks' as the workload and system changes
 - Two core types of automated actions
 - Situations Use for simple "fire and forget" type of scenarios
 - Policies Use for more sophisticated performance automation scenarios

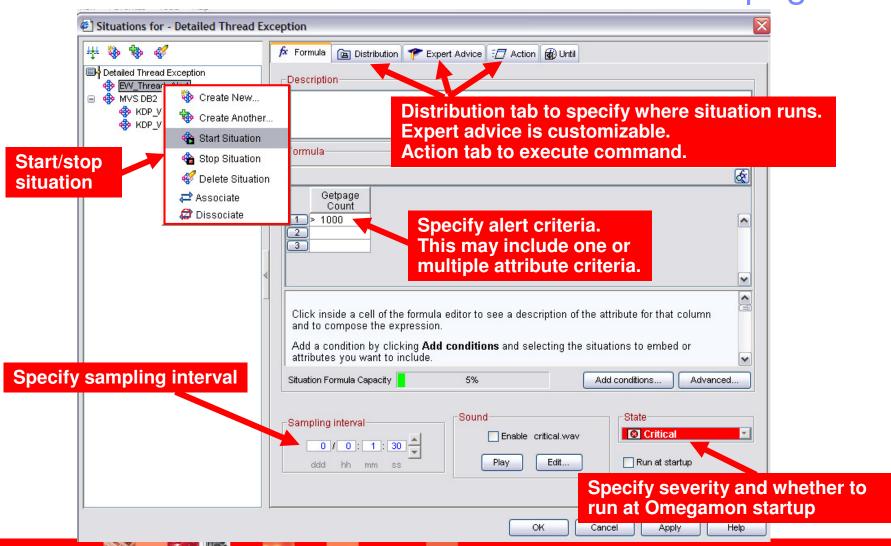


About Situations And Policies

- Situations are the building blocks of systems management logic in the Tivoli Enterprise Portal (TEP)
 - Situations may be used to highlight performance and availability problems within key operating systems, subsystems, and mission critical resources
 - Situation logic may be distributed to the agent (IRA architecture)
 - Situations typically run at the level of the agent (TEMA)
- Policies extend concepts established with situations and add additional functionality to the TEP
 - Situations remain the essential starting point
 - Policies add additional function and flexibility
 - Note Policies run within the TEMS infrastructure

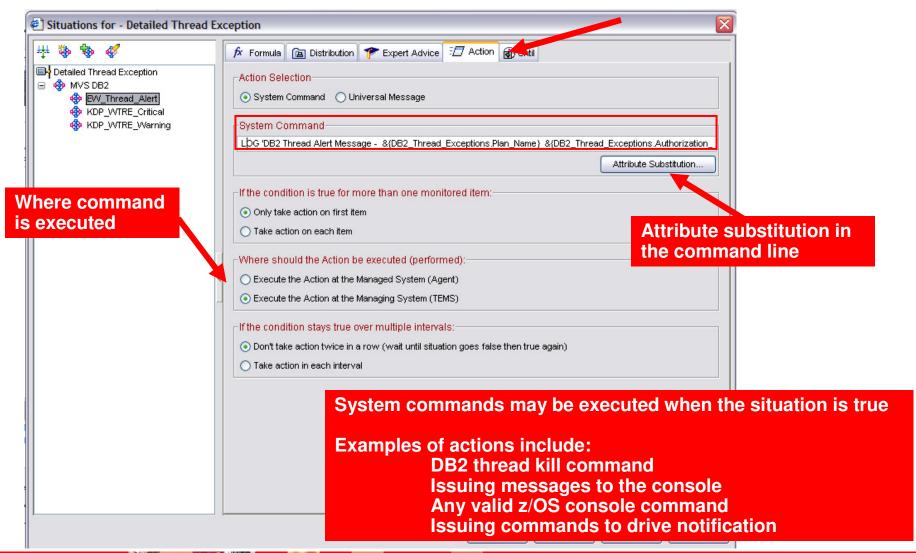


Situations - A Basic Example Alert On DB2 Threads With More Than 'n' Getpages



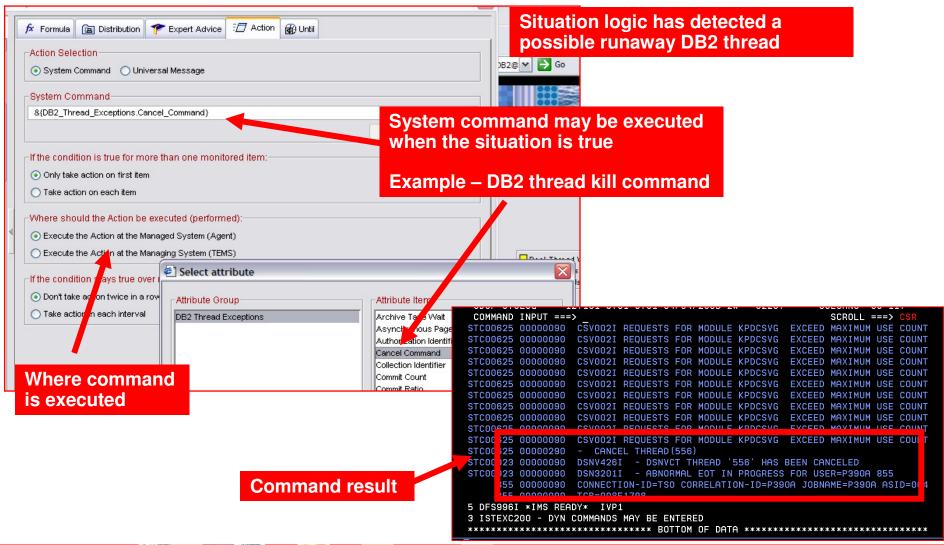


Situations 'Action' To Perform Commands And Corrections



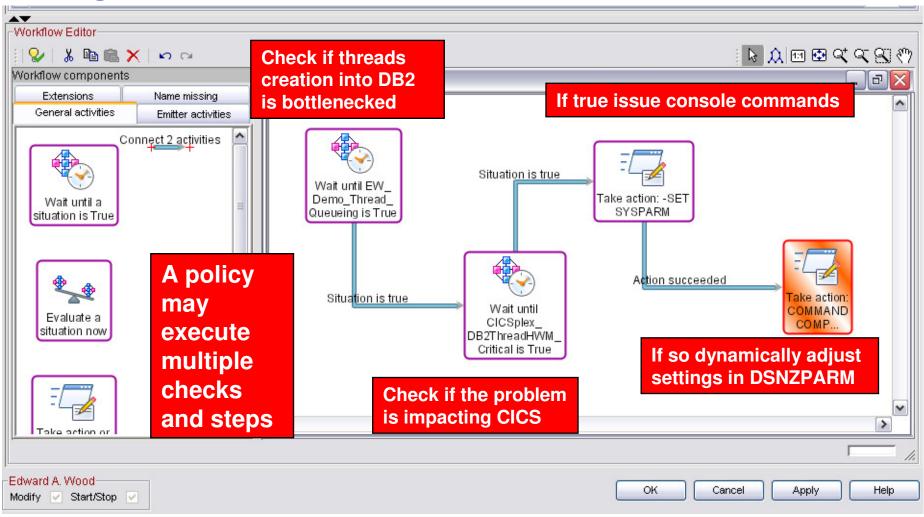


An OMEGAMON DB2 Situation Example Addressing A "Runaway" DB2 Thread



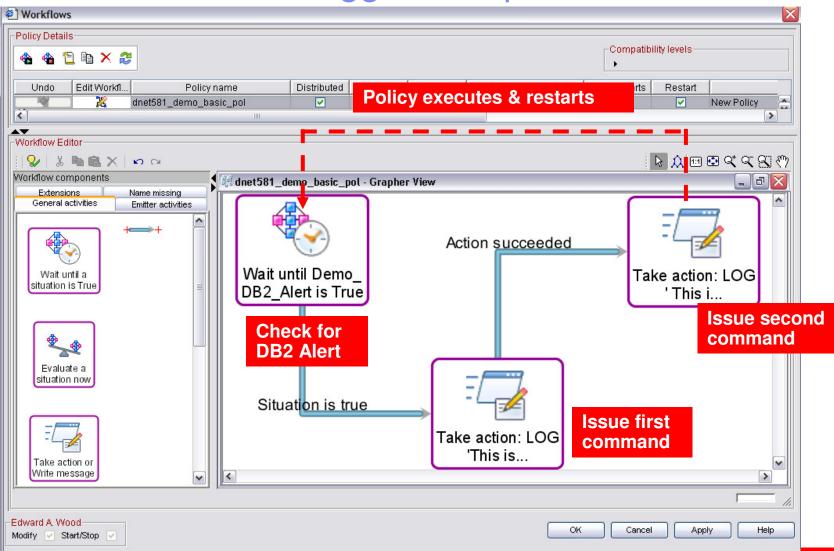


Policies Expand The Concept Of Automated Performance Management



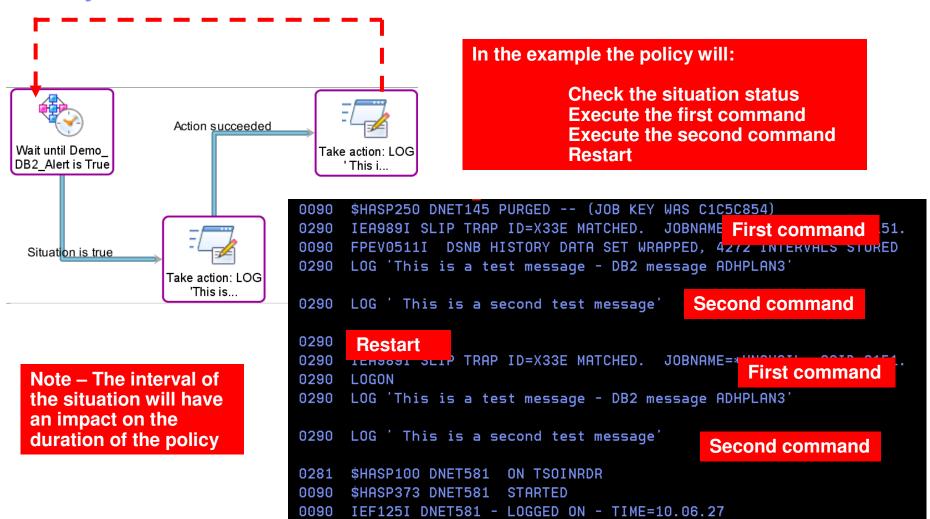


Basic Policy - Example Scenario Have A Situation Trigger Multiple Commands



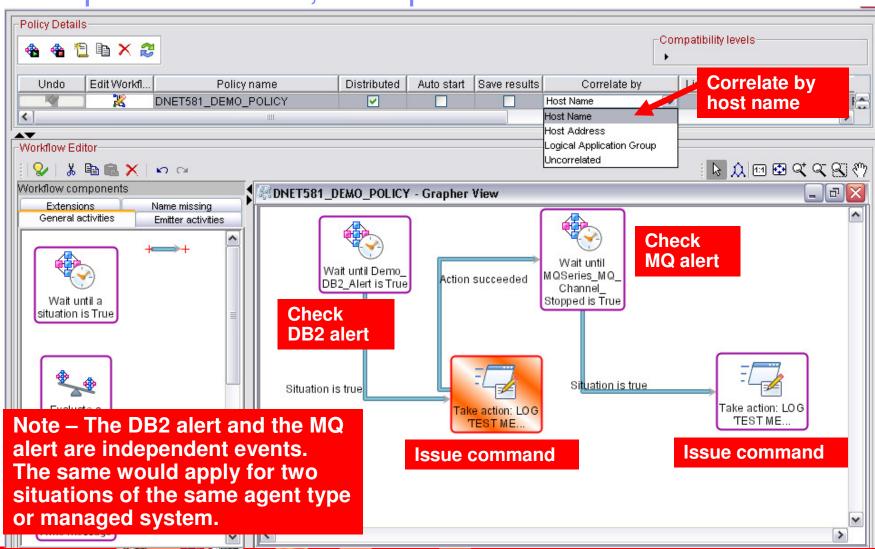


Policy Command Execution





Policy Example Multiple Situations, Multiple Commands





Policies Require An Understanding Of The Monitoring Infrastructure **Windows** ITM TEMA Distribution of policies requires a more complete understanding of the monitoring topology What agents? Agents on what platforms? **UNIX** What TEMS? **TEMS on what platforms?** ITM TEMA **TEMS Portal Server** I inux Remote **TEPS** ITM TEMA **OMEGAMON OMEGAMON TEMS TEMS** TEMA Remote TEMA HUB **OMEGAMON OMEGAMON TEMA TEMA** z/OS z/OS



Recommendations And Best Practices Situations And Policies What They Are And What They Are Not

Situations And Policies – What they are

- Situations are the core alert building block of Tivoli monitoring
- Policies extend concepts established with situations and add additional functionality to the TEP
- Policies expand the integrated command and control capabilities of the TEP
 - Situations remain the essential starting point
- Policies add additional function and flexibility to situation capabilities

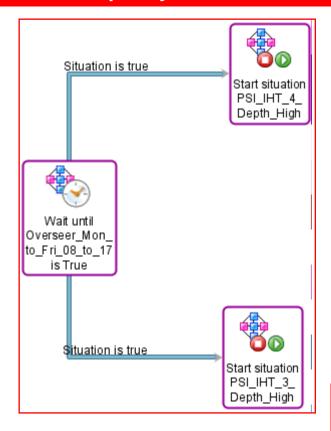
Situations And Policies – What they are not

- The command capabilities of situations and policies are not a substitute for a full function automation engine such as IBM System Automation
 - Use situations and/or policies for basic detection and command/correction scenarios
 - Use situations and/or policies to drive SA automation execs when needed
 - For more detailed scripts (such as REXX) and analysis use System Automation

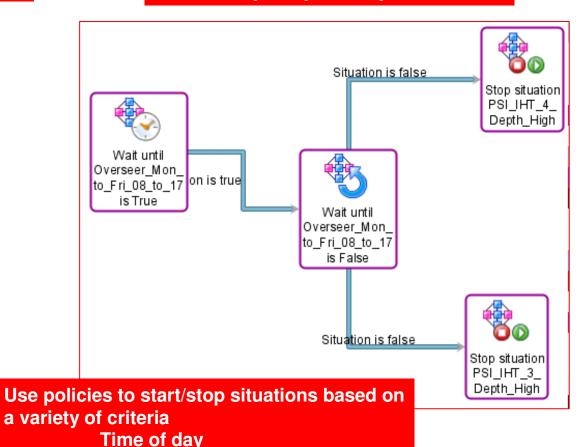


Example - Using A Policy To Manage Situations Based Upon Time Of Day Requirements

Overseer policy to start situations



Overseer policy to stop situations

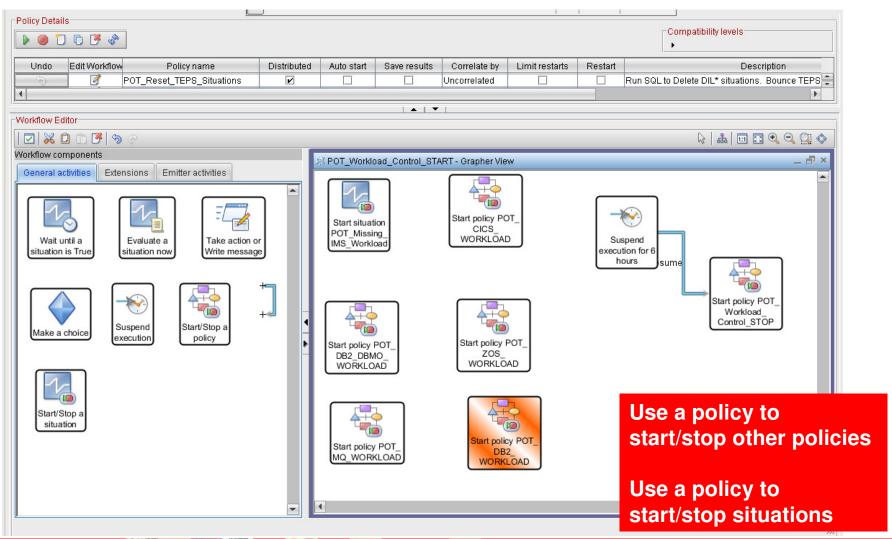


Start specific analysis situations

and more.....



Another Example Using Policies To Manage The OMEGAMON PoT Workload





OMEGAMON Power User - Resources And References

- Other relevant OMEGAMON presentations
 - ▶ Top 10 Problem Solving Scenarios Using IBM OMEGAMON and the Tivoli Enterprise Portal
 - <u>ftp://ftp.software.ibm.com/software/systemz/telecon/22jul/July 22 Telecon Top 10 Problem Solving Scenarios OMEGAMON and Tivoli Enterprise Portal.pdf</u>
 - Leveraging Tivoli Enterprise Portal

<u>ftp://ftp.software.ibm.com/software/os/systemz/summit/handouts/Track 5 - 06 - Leveraging Tivoli Enterprise Portal.pdf</u>

Tivoli Enterprise Portal Customization Tips and Techniques

<u>ftp://ftp.software.ibm.com/software/systemz/pdf/June 26 Telecon Tivoli Enterprise</u>
Portal Customization Tips and Techniques.pdf



Summary

- Being a "Power User" means leveraging the most powerful capabilities of a technology
- OMEGAMON provides a choice of interfaces and options
 - ▶ Each interface (Classic, e3270ui, TEP) offers a unique set of capabilities
 - Leverage the appropriate interface to address requirements
 - Classic
 - Speed, reliability, power user function and flexibility
 - E3270ui
 - Speed, integration, ease of use
 - TEP
 - Integrated views, dashboards, alerts, integrated automation



OMEGAMON Power User - Resources And References

- Various Share Conference OMEGAMON presentations
 - DB2 Performance Tuning Using Omegamon DB2 Performance Expert Use Case Examples and Practical Applications https://share.confex.com/share/120/webprogram/Session12693.html
 - Automated Performance Management Using IBM Tivoli: Techniques And Best Practices (a new presentation I created for this Share event) https://share.com/share/120/webprogram/Session12880.html
 - Tuning Tips To Lower System z Costs with OMEGAMON Monitoring https://share.confex.com/share/119/webprogram/Session11791.html
 - Understanding The Impact Of The Network On z/OS Performance https://share.confex.com/share/119/webprogram/Session11900.html
- Other presentations
 - Top 10 Problem Solving Scenarios Using IBM OMEGAMON and the Tivoli Enterprise Portal
 - ftp://ftp.software.ibm.com/software/systemz/telecon/22jul/July_22_Telecon_Top_10 _Problem_Solving_Scenarios_-_OMEGAMON_and_Tivoli_Enterprise_Portal.pdf



Thank You!!

Session 14056



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