TIVOLI ENTERPRISE INTERNALS AND PROBLEM DETERMINATION pdf

1: Testing TEC rules

Tivoli Enterprise Internals and Problem Determination March SG International Technical Support Organization.

Instead of writing the special file name or directory name in the script, you may want to use these variables to make your custom script widely usable. After you finish writing the script, make sure it works in a stand-alone environment, and then copy the script to your PC where you will use the Workbench. The bash and tr commands are included in the bin directory of the Workbench. Using the wizard Now you have a custom script in your PC. You can import it into your Resource Model by using the Workbench wizard. Let us begin by clicking on the New icon in the left side of the Workbench toolbar, as shown in Figure Etc Society Groupthink: Two Party System as Polyarchy: Understanding Micromanagers and Control Freaks: Surviving a Bad Performance Review: The Iron Law of Oligarchy: Libertarian Philosophy Quotes War and Peace: Language Design and Programming Quotes: Mark Twain Quotes Bulletin: Efficient Crooks The efficient markets hypothesis: Political Skeptic Bulletin, Slightly Skeptical Euromaydan Chronicles, June Greenspan legacy bulletin, Financial Humor Bulletin, Copyleft Problems Bulletin, Malware Protection Bulletin, Fifty glorious years Multix OS Unix History: History of pipes concept: History of GCC development: OSS early history Classic books: How to Solve It by George Polya: The Art of Computer Programming: The Elements of Programming Style: The Good Soldier Svejk: The Power Elite Most popular humor pages: The Perl Purity Test: Object oriented programmers of all nations: Goldman Sachs related humor: Best Russian Programmer Humor: Microsoft plans to buy Catholic Church: Richard Stallman Related Humor: Linus Torvalds Related humor: Sun Solaris Related Humor: Bright tomorrow is rescheduled to a day after tomorrow: This document is an industrial compilation designed and created exclusively for educational use and is distributed under the Softpanorama Content License. Original materials copyright belong to respective owners. Quotes are made for educational purposes only in compliance with the fair use doctrine. We are making such material available to advance understanding of computer science, IT technology, economic, scientific, and social issues. Grammar and spelling errors should be expected. The site contain some broken links as it develops like a living tree You can use PayPal to make a contribution, supporting development of this site and speed up access. The statements, views and opinions presented on this web page are those of the author or referenced source and are not endorsed by, nor do they necessarily reflect, the opinions of the author present and former employers, SDNP or any other organization the author may be associated with. We do not warrant the correctness of the information provided or its fitness for any purpose. The site uses AdSense so you need to be aware of Google privacy policy. You you do not want to be tracked by Google please disable Javascript for this site. This site is perfectly usable without Javascript.

2: Situation problem determination

Problem Solution You want to change the appearance of situations when they are displayed in a Workspace view. Right-click an item in the Navigation tree. Select Situations in the pop-up menu. The Situation Editor window is displayed. Select the situation that you want to modify. Use the Status pull-down menu in the lower right of the window to set the status and appearance of the Situation when it triggers. The Tivoli Enterprise Monitoring Server is properly configured for event forwarding, and events for many other situations are sent to the event server. This condition can occur when a situation is only monitoring the status of other situations. The event forwarding function requires an attribute group reference in the situation in order to determine the correct event class to use in the event. When the situation only monitors other situations, no attribute groups are defined and the event class cannot be determined. Because the event class cannot be determined, no event is sent. This is a limitation of the Tivoli Enterprise Monitoring Server event forwarding function. Situations that only monitor other situations do not send events to the event server. Monitoring activity requires too much disk space. For example, trace logs grow rapidly when you apply the ALL logging option. A formula that uses mathematical operators appears to be incorrect. Your formulas cannot have mathematical operators. The Situation Editor provides alternatives to math operators. For a situation to have the correct severity in TEC for those situations which are not mapped, you need to ensure that one of the following is true: Right-click the name of the monitoring server. Add application support if any for any agent that is missing from the list. The situation results are provided in a chain of buffers of bytes each. The interface code currently extracts event information from only the first buffer. When situations or agent table data expands into a second buffer, this additional data is not examined, and it is not included in events sent to the Tivoli Enterprise Console server. Complete the following two steps: These events are not able to set the cited slot values. Problems with configuration of situations Table 22 lists problems that might occur with situations. This section provides information for problem determination for agents.

3: TEC Documentation

Problem Determination Guide (Revised March 30, Problem Determination Guide, Tivoli Enterprise â„¢ Internals and Problem.

Two Party System as Polyarchy: Understanding Micromanagers and Control Freaks: Surviving a Bad Performance Review: The Iron Law of Oligarchy: Libertarian Philosophy Quotes War and Peace: Language Design and Programming Quotes: Mark Twain Quotes Bulletin: Efficient Crooks The efficient markets hypothesis: Political Skeptic Bulletin, Slightly Skeptical Euromaydan Chronicles, June Greenspan legacy bulletin, Financial Humor Bulletin, Copyleft Problems Bulletin, Malware Protection Bulletin, Fifty glorious years Multix OS Unix History: History of pipes concept: History of GCC development: OSS early history Classic books: How to Solve It by George Polya: The Art of Computer Programming: The Elements of Programming Style: The Good Soldier Svejk: The Power Elite Most popular humor pages: The Perl Purity Test: Object oriented programmers of all nations: Goldman Sachs related humor: Best Russian Programmer Humor: Microsoft plans to buy Catholic Church: Richard Stallman Related Humor: Linus Torvalds Related humor: Sun Solaris Related Humor: Bright tomorrow is rescheduled to a day after tomorrow: This document is an industrial compilation designed and created exclusively for educational use and is distributed under the Softpanorama Content License. Original materials copyright belong to respective owners. Quotes are made for educational purposes only in compliance with the fair use doctrine. We are making such material available to advance understanding of computer science, IT technology, economic, scientific, and social issues. Grammar and spelling errors should be expected. The site contain some broken links as it develops like a living tree You can use PayPal to make a contribution, supporting development of this site and speed up access. The statements, views and opinions presented on this web page are those of the author or referenced source and are not endorsed by, nor do they necessarily reflect, the opinions of the author present and former employers, SDNP or any other organization the author may be associated with. We do not warrant the correctness of the information provided or its fitness for any purpose. The site uses AdSense so you need to be aware of Google privacy policy. You you do not want to be tracked by Google please disable Javascript for this site. This site is perfectly usable without Javascript.

Problem Determination Guide Version This redbook is an update of the existing Tivoli Enterpriseâ„¢ Internals and Problem Determination, SG redbook. The.

TPS directly affects user response times and the cost of your hardware infrastructure. Whether certain services have more processors is determined by the load requirements of that specific service. In this case, the request controller service is called for each request, where the cheese and onion services are not. Frequently used acronyms JDK: Java software development kit LPAR: Extensible Markup Language The application layer refers to the internal layer which includes a request controller service to process service-based transactions, as well as, a list of other WebSphere Application Server version 7-based Apache Tuscany Open SCA services. In this example, the application creates a hamburger. The hamburger service View image at full size Topologies for systems monitoring and management include IBM Tivoli Monitoring, where monitoring data is consolidated for performance views and management. The Tivoli topology includes IBM Tivoli Enterprise Monitoring Server as the primary hub for all systems monitoring, a backup Tivoli Enterprise Monitoring Server in case the primary fails, IBM Tivoli Enterprise Portal Server and the number of remote servers to handle, as well as, load balancing the number of systems monitoring agents. This configuration covers infrastructures for up to servers for the collection of systems monitoring data. The Tivoli Monitoring version 6. The LPAR-generated distribution of the Tivoli Composite Application Manager services the visualization engine, kernel, publish server, global publish server, message dispatcher, archive agent. Publish server provides scalability and availability for distributed application profiling. Tivoli Composite Application Manager version 7. You can leverage this architecture if you tune your application to such a level of serialization that running multiple JVMs can increase your workload. Use this configure if LPAR processors and memory are still available. You implement horizontal scaling by adding multiple LPARs, each with one or many instances of WebSphere Application Server from the same service or application clusters. This configuration is best used for processor- and memory-intensive services. In Figure 1 , the request controller invoked for each service request is an example of horizontal scaling, because controller patterns seem to be processor intensive and memory is determined by the payload of each service request. Usage and performance management best practices This section describes tools you can use to determine where performance bottlenecks in the transaction are located. Problem determination Tivoli Composite Application Manager provides many tools and graphs for monitoring your infrastructure: In this case, you see that for this application there is minimal JVM-specific processor utilizationâ€"between 10 and 25 percent. This Tivoli Composite Application Manager graph see Figure 5 provides insights into the utilization of a single JVM rather than simply system memory utilization. But in this case, you can see that there is a 30 percent jump in memory use when load is generated for the application. JVM memory utilization Percent, last hour Application-level throughput: Throughput for a request is available in Tivoli Composite Application Manager for availability, as well as, problem determination see Figure 6. Often, without throughput and utilization, side-by-side performance bottlenecks are difficult to correlate with throughput, transaction response times, and CPU or memory utilization. For this application, there are on average transactions processed per minuteâ€"about 4 TPSs. Response times are critical performance indicators both for your business and for your customers. In this case, Tivoli Composite Application Manager shows initial transactions with extremely high response times in the second range see Figure 7. Once all resources have been loaded, response times improve to sub-second levelsâ€"around a few hundred milliseconds. This thread pool is initially set to a minimum of 50 and a maximum of 50; in most cases, this setting is sufficient. For this example, 10 concurrent requests were sent; therefore, 12 web container threads were used. As Figure 8 shows, there is a maximum of 50 threads, and 24 percent are actually being consumed. Thread pools View image at full size By default in WebSphere Application Server, asynchronous web request dispatching is not enabled. The DCS threads indicate network connections between each member of a cluster, including synchronization of configuration updates. For production configurations, IBM recommends disabling DCS in the WebSphere integrated

console, because this feature is only required during configuration. The transaction failure rate see Figure 10 helps you quickly identify, while performance tuning, whether transactions are failing. Such failures can occur if, for instance, the database or other service that the transaction requires is unavailable. In this small load performance example, zero transactions are failing, which indicates that all the metrics gathered are valid for capture in a tuning comparison. Transaction failure rate Database connection pools: In Tivoli Composite Application Manager, the use of database connection pools see Figure 11 helps you determine usage and whether thresholds for the database are employed. If the transaction cannot access a data source or the request thread needs to wait on database availability, then this can directly affect response times and throughput. Database connection pools The agent that Tivoli Monitoring provides for system-level monitoring includes network activity to help determine, based on performance load tests, how much data is passing through the network see Figure In the case of this example, the aggregate packets per second is This value can increase based on the payload XML request and response of the applications and services. Network activity View image at full size Other metrics include CPU load averages, which can include idle time. In this case, totals over 15 minutes average percent. In the capture interval for Tivoli Monitoring, you can see percent idle time in Figure Tivoli Monitoring system monitoring agents also provide trend analysis to help you make better decisions over time. In certain cases, CPU utilization for performance tuning may require more real-time data for tuning applications and services running on WebSphere Application Server. The nmon analyzer, an IBM freeware tool, provides this real-time data. Each logical CPU and its utilization is shown, and the total average is 50 percent. Keep in mind that the CPU utilization measurement is taken at time-based intervals and is never exact; therefore, be sure you use multiple tools and modes. In this example, there is 90 percent CPU utilization with reoccurring 0 percent utilization. This result is based on the client load performance tool sending 10 concurrent requests and waiting on blocked threads. You can see this in Figure 15 , as well as, in a JavaCore file and in a hint from Tivoli Composite Application Manager-monitored web container threads. CPU utilization in nmon with the l option View image at full size top, topas, and prstat. In the example in Figure 16 , the H option is set to display thread-level utilization. This consumption can be the result of several things: CPU utilization in top View image at full size vmstat. In vmstat, you can see utilization as well as other metrics to determine system-level bottlenecks caused by the application. The typical CPU columns us, sys, id, and wa appear in the other tools mentioned earlier. In the example shown in Figure 17 , although performance load is running, you can see a high level of steal and only 18â€"21 percent user CPU utilization for WebSphere Application Server. CPU utilization in vmstat View image at full size The processor data in the r column indicates the number of threads waiting to be processed. A high number indicates a thread bottleneck and many waiting threads. Because the load only ran shortly, shown in the first four rows, there were no waiting threads. Load Generating load is critical to successful application tuning. You must establish a baseline before each tuning change with a load tool. To initiate load, the requirements for Jmeter are: Load testing in Jmeter View image at full size For the generation of performance loadâ€"and especially for a single request that requires the response payloadâ€" Figure 19 shows soapUI. In some cases, you may want simply to confirm that the transaction is successful and validate the response payload. In this example, you can see high response times at the beginning of the application transactionsâ€"the result of loading initial classes, data sources, and caching. Before running high volumes of concurrent users, it may be helpful to initiate a few single-thread transactions and view the payload before running load against the new configuration change tuning parameter. Service testing in soapUI View image at full size Diagnostics Debugging problems in a development environment can be quick and efficient for a single application, but a multiple-service application can be challenging to troubleshoot. This helps to identify the transaction flow and provide insights into the code to determine response times at the method level. As Figure 20 shows, the trace report of Tivoli Composite Application Manager for Application Diagnostics has identified methods in the application code with high response times. Methods 3, 7, 12, and 13 have been marked for double- and even triple-digit millisecond response times. Furthermore, you can drill down into each method to find an additional breakdown, if you need to know which section of the code requires a fix. A transaction drill-down in Tivoli Composite Application Manager Transaction execution paths are also available with Jinsight to identify the

cause of high response times. Each method elapsed CPU time is profiled thus quickly identifying what code is responsible for execution problems see Figure Xtrace method profiling This figure shows the execution pattern for the HamburgerService servlet and which methods are causing high response times. To capture a single Jinsight transaction, begin by deploying Jinsight. To do so, add the libjinsight-pLinux. The benefit of running Xtrace is that it enables profiling for a single method rather than the complete application or service. Therefore, you can run load against the service and determine more accurate total response times, including the response times of a single method that has been identified as a suspect for high response times. To implement Xtrace in WebSphere Application Server 7, add the following line to the JVM arguments and restart the application server to include the change: The method parameters and attributes are marked with -, although this may not provide as much value as the execution times of entry and exit methods. Java garbage collection policy determines the performance of your application and by default is set to optthruput. This configuration generates and keeps all objects in a single heap container and therefore has performance-impacting garbage collection cycles. To improve performance in all applications, use the gencon generation conditional setting for the IBM JDK for garbage collection: One section is named nursery and contains objects leaving the heap in the next scavenger or global garbage collection cycle. The other section is named tenured and contains objects that leave only after global garbage collections. In line 1 of Figure 22 , the intervalms is In high-volume scenarios with tighter intervals for example, between 50 and ms , high CPU utilization for garbage collections is a concern. Performance tuning the nursery sizes and tenured heap sections is a must. Output from a thread dump View image at full size Core files indicate where threads are blocked or waiting and serve as the initial point of performance investigation. Using Tivoli Composite Application Manager as a centralized performance management tool for JavaCore helps, because no additional remote connections or copies of files across the infrastructure are required. Based on the list of methods and tools provided here, you can develop a process for improving response times, CPU utilization, and hardware cost.

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5: A33 IBM Tivoli OMEGAMON Family of Products V

Insider's guide to Tivoli troubleshooting Updated for post Framework and applications New troubleshooting functions included This IBM Redbook is an update of the existing Tivoli Enterprise Internals and Problem Determination, SG redbook.

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critical to operations unavailable. Severity 4 Minimal business impact: The problem causes little impact on operations, or a reasonable circumvention to the problem has been implemented. Describing the problem and gathering background information When explaining a problem to IBM, it is helpful to be as specific as possible. Include all relevant background information so that IBM Software Support specialists can help you solve the problem efficiently. To save time, know the answers to these questions: IBM Software Support is likely to ask for this information. If so, what steps led to the failure? For example, hardware, operating system, networking software, and so on. If so, be prepared to explain it when you report the problem. This introduction contains information to help you to understand the messages issued by this component. These texts elaborate on the message text, and are accessible only in documentation. The image below presents a typical message. The callouts on the right of the image identify each element of the message.

6: IBM ESLL-H - TIVOLI MONITORING - PC TROUBLESHOOTING MANUAL Pdf Download.

Problem determination Tivoli Composite Application Manager provides many tools and graphs for monitoring your infrastructure: JVM CPU utilization graph: This Tivoli Composite Application Manager graph (see Figure 4) provides utilization metrics of a single JVM rather than simply system CPU utilization.

7: IBM Tivoli Identity Manager | IBM TIM Training Services - VirtualNuggets

Situation problem determination This section provides information about both general situation problems and problems with the configuration of situations. See the IBM Tivoli Monitoring Problem Determination Guide for more information about problem determination for situations.

8: IBM WebSphere performance tuning and IBM Tivoli Monitoring

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IBM Tivoli OMEGAMON XE on z/OS and IBM OMEGAMON z/OS Management Console include IBM Support Assistance (ISA) product support plug-ins, a problem determination guide, and agent versioning for phased product migrations.

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