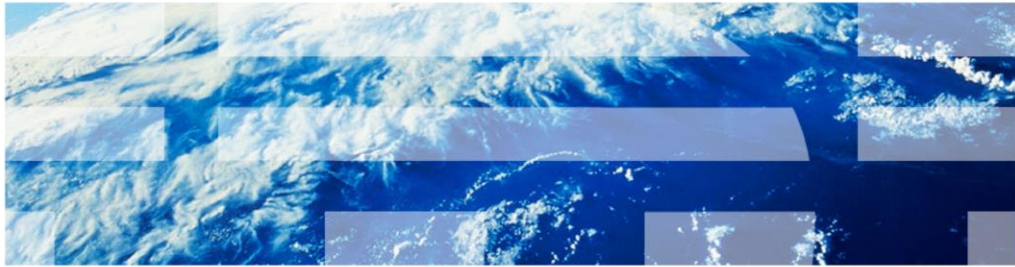


IBM Tivoli Netcool/OMNIbus V7.3.1

Probe and gateway key performance indicators



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In this training module, you learn about IBM Tivoli® Netcool/OMNIbus probe and gateway key performance indicators.

Objectives

When you complete this module, you can accomplish these tasks:

- Name the four key performance indicators (KPIs) that are used in probe monitoring
- Name the two key performance indicators that are used in gateway monitoring
- Monitor the amounts of processor and memory capacity probe and gateway processes use
- Enable and use the probe self monitoring feature

When you complete this module, you can perform these tasks: Identify four common probe key performance indicators. Identify two common gateway key performance indicators. Understand the CPU and memory usage monitoring of probe and gateway processes. Use probe self monitoring to monitor probe key performance indicators.

Introduction

- Several probe and gateway key performance indicators can be monitored
- You can establish a key performance indicator baseline on the system
- You can use the key performance indicators to compare the current status to the baseline
- Some probe and gateway key performance indicators are globally common to all probes and gateways
- Additional key performance indicators can apply specifically to an individual probe or gateway

Routine checks ensure that IBM Tivoli Netcool/OMNIBus is performing well. There are several key performance indicators that can be monitored. When using the key performance indicators establish a baseline on the system that shows when it is under a normal workload. The key performance indicators can be used to measure increased performance demands. System operators will see changes by comparing the baseline key performance indicator values to the current real-time production run values. The key performance indicators discussed here are common to all probes and gateways. There can be additional key performance indicators for the individual probes and gateways.

Six common probe and gateway key performance indicators

- Four probe key performance indicators are common to all probes
 - CPU usage
 - Memory usage
 - Number of events received
 - Average time spent processing rules
- Two gateway key performance indicators are common to all gateways
 - CPU usage
 - Memory usage

Probe key performance indicators include CPU and memory usage of probe processes, number of events received, and average time spent processing rules. Gateway key performance indicators include CPU and memory usage of gateway processes.

Probe and gateway CPU and memory usage monitoring

- Monitor process CPU and memory usage with system monitors
 - Memory usage either fluctuates or spikes intermittently
 - CPU usage either fluctuates or spikes intermittently
- Watch for high averages in the percentage of the CPU used by probe and gateway processes
- Watch for increased averages in the percentage of memory used by probe and gateway processes

CPU and memory usage of probe and gateway processes can be monitored by using system monitors. It is normal for memory and CPU usage for probe and gateway processes to fluctuate or spike intermittently. Watch for average high CPU usage from the probe or gateway processes. Watch for average increases in memory usage too.

Resolving high CPU usage issues

- If the CPU usage of a probe or gateway process is high, perform these tasks:
 - Check the probe or gateway for errors connecting to the ObjectServer or the gateway destination
 - Check the probe or gateway log file for error messages
 - Check the probe or gateway store and forward file size
 - The store and forward file might be consuming all file system or disk space
 - Check the probe or gateway log for errors related to a corrupted store and forward file
 - If the file is corrupted, stop the probe or gateway, delete the store file, and restart the gateway

Certain checks can be made if the CPU usage of a probe or gateway process is high. Check the probe or gateway for errors connecting to either the ObjectServer or the destination gateway. Check the probe or gateway log file for error messages. Check the probe or gateway store and forward file size. The store and forward file can be consuming too much of the available file system space or disk space. Check the probe or gateway log for errors related to a corrupt store and forward file. If the file is corrupt, stop the probe or gateway, delete the file, and restart the gateway.

Resolving high memory usage issues

- Probe and gateway processes are 32-bit applications
 - All 32-bit processes have a maximum 3 to 4 GB virtual memory limitation
- Memory of the probe or gateway process must not grow unbounded
- If the memory usage of a probe or gateway process is high, perform these tasks:
 - Check the probe or gateway for errors connecting to the ObjectServer or the gateway destination
 - Check the probe or gateway log file for error messages

Probe and gateway processes are 32-bit applications. All 32-bit processes have a maximum virtual memory limitation between 3 to 4 GB. Memory of the probe or gateway process should not grow unbounded. If the memory usage of a probe or gateway process is high then check for probe or gateway connection errors and other log file error messages.

Probe self monitoring feature log information types

Probe self monitoring can log information in either the probe log or at the ObjectServer

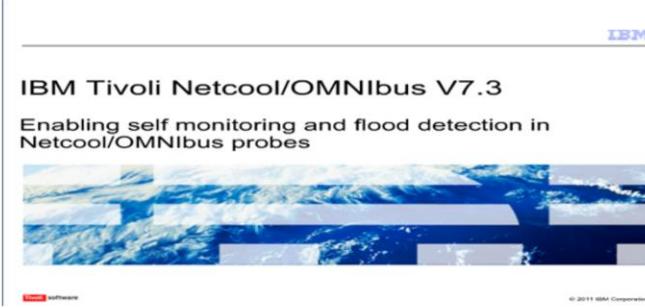
- CPU time
- Average rules file processing time
- Number of events received
- Number of events discarded from rules
- Number of events generated by self monitoring
- Average events per second

Probe self monitoring can log information either in the probe log or at the ObjectServer. This information can include CPU time, average rules file processing time, number of events received, number of events discarded from rules, number of events generated by self monitoring, and average events per second.

Enabling probe self monitoring

Link to the IBM Education Assistant module for enabling the probe self monitoring feature

http://publib.boulder.ibm.com/infocenter/ieduasst/tivv1r0/topic/com.ibm.iea.netcoolomnibus/netcoolomnibus/7.3/overview/self_monitoring_and_flood_detection_probes/player.html?dmuid=20110608100346372458

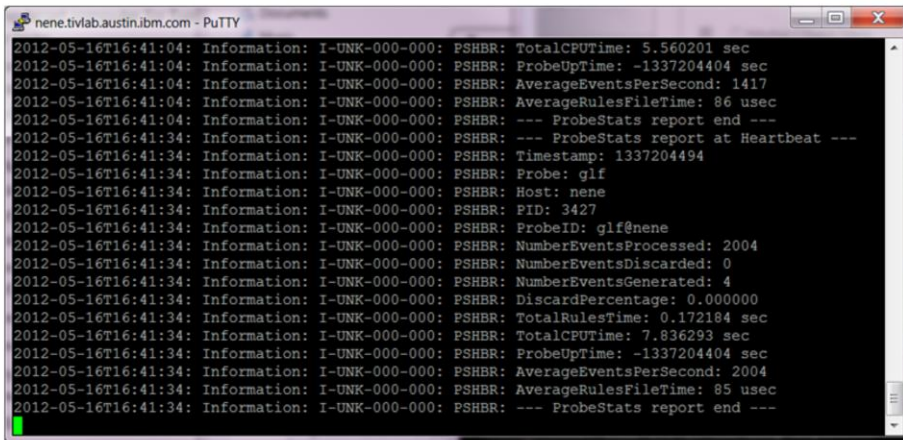


The screenshot shows a slide from an IBM Education Assistant module. At the top right is the IBM logo. The main title is "IBM Tivoli Netcool/OMNIBus V7.3". Below the title is the subtitle "Enabling self monitoring and flood detection in Netcool/OMNIBus probes". The central image is a blue-toned landscape with a bridge over water. At the bottom left is the "Software" logo, and at the bottom right is the copyright notice "© 2011 IBM Corporation".

For information about how to enable the probe self monitoring feature refer to the IBM Education Assistant module entitled “Enabling self monitoring and flood detection in Netcool/OMNIBus Probes”.

Probe self monitoring example

Probe log file MessageLevel information



```
nene.tivlab.austin.ibm.com - PuTTY
2012-05-16T16:41:04: Information: I-UNK-000-000: PSHBR: TotalCPUTime: 5.560201 sec
2012-05-16T16:41:04: Information: I-UNK-000-000: PSHBR: ProbeUptime: -1337204404 sec
2012-05-16T16:41:04: Information: I-UNK-000-000: PSHBR: AverageEventsPerSecond: 1417
2012-05-16T16:41:04: Information: I-UNK-000-000: PSHBR: AverageRulesFileTime: 86 usec
2012-05-16T16:41:04: Information: I-UNK-000-000: PSHBR: --- ProbeStats report end ---
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: --- ProbeStats report at Heartbeat ---
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: Timestamp: 1337204494
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: Probe: glf
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: Host: nene
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: PID: 3427
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: ProbeID: glf@nene
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: NumberEventsProcessed: 2004
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: NumberEventsDiscarded: 0
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: NumberEventsGenerated: 4
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: DiscardPercentage: 0.000000
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: TotalRulesTime: 0.172184 sec
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: TotalCPUTime: 7.836293 sec
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: ProbeUptime: -1337204404 sec
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: AverageEventsPerSecond: 2004
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: AverageRulesFileTime: 85 usec
2012-05-16T16:41:34: Information: I-UNK-000-000: PSHBR: --- ProbeStats report end ---
```

This is an example the information logged by probe self monitoring into the probe log file at MessageLevel info. The number of events processed, number of events discarded, and number of events generated by probe self monitoring are logged. The total rules file processing time and total CPU time are also logged. The average events per second and average rules file time can be used to calculate whether the probe is able to keep up with the throughput of events.

Common system monitors and common probe self monitoring KPIs

- Probe key performance indicators
 - System monitors
 - CPU usage
 - Memory usage
 - Probe self monitoring
 - Number of events received
 - Average time spent processing rules
- Gateway key performance indicators
 - System monitors
 - CPU usage
 - Memory usage

This slide reviews the common key performance indicators. Probe key performance indicators for CPU usage and memory usage can be monitored through system monitors. Probe self monitoring can be used to track the number of events received and average time spent processing the rules file. Gateway key performance indicators for CPU usage and memory usage can also be monitored through system monitors.

Summary

Now that you have finished this training module, you can accomplish these tasks:

- Name the four key performance indicators (KPIs) that are used in probe monitoring
- Name the two key performance indicators that are used in gateway monitoring
- Monitor the amounts of CPU and memory that are used by probe and gateway processes
- Enable and use the probe self monitoring feature

Now that you have finished the training module, you can perform these tasks: Identify four common probe key performance indicators. Identify two common gateway key performance indicators. Understand the CPU and memory usage monitoring of probe and gateway processes. Use probe self monitoring to monitor probe key performance indicators.

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