ICONICS – Setting up Windows Performance Monitor

APPLICATION NOTE

July 2012

Description: Guide to setting up performance monitoring in the event of an application crash or memory leak
OS Requirement: Windows 2000/ XP Pro/ Server 2003/ Windows Vista x64/ Server 2008 x64/ Windows 7.
General Requirement: understanding of Windows Operating Systems and tools

Why Use the Performance Monitor

The performance monitor that comes with Windows can be useful in debugging application crashes and detecting memory leaks. You can set the performance monitor to log information about the health of your computer programs to determine what is causing a crash or memory leak.

This application note intends to walk you through the steps necessary to create a performance log on any of the operating systems mentioned above.

Setting up a Performance Log for Windows 2000, XP Pro, and Server 2003

1. Go to **Start → Settings → Control Panel → Administrative Tools → Performance**.
2. Expand **Performance Logs and Alerts**, right-click **Counter Logs**, and choose **New Log Settings**.

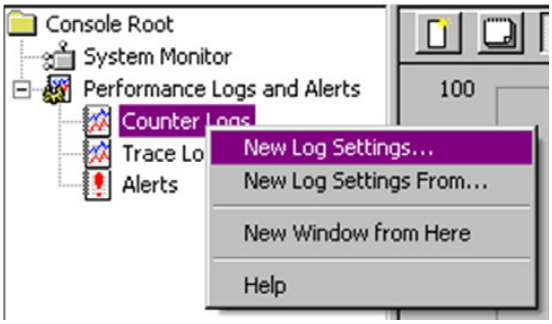

Figure 1 - New Log Settings

3. Enter a name for your log into the dialog box and click OK.
4. Click **Add Counters**.
5. Set up the log as displayed below. Use these settings (refer to Figure 2):
   a. Use Local Computer Counters
   b. Set Performance Object to **Process** (you will probably need to change it from "Processor")
   c. All Instances
   d. Select the counters: Private Bytes, Thread Count, and Virtual Bytes

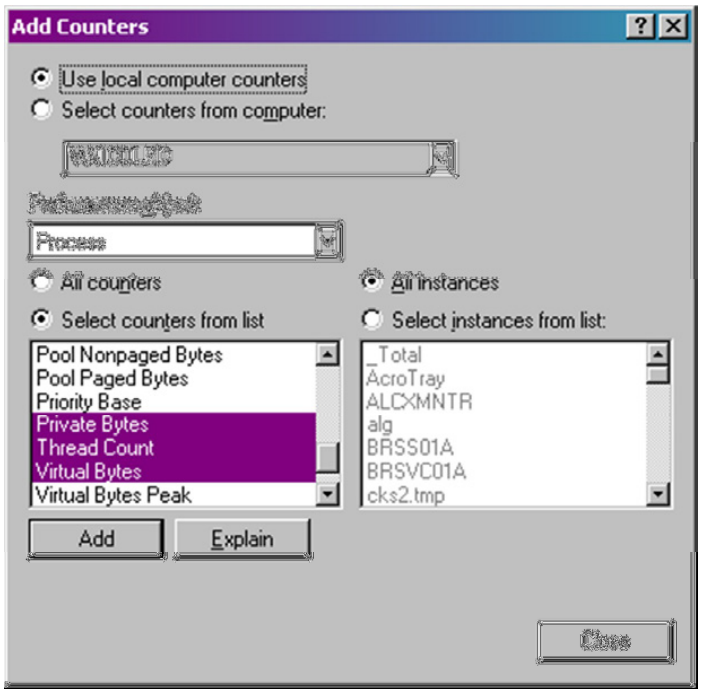

Figure 2 - Add Counters Dialog

6. Click **Add** (nothing will visibly happen), and then **Close**.
7. Set the **Interval** and **Units** appropriately. The shorter the interval the more data you will collect, but the larger hit you will take to your system's overall performance. Select a long interval if you do not know when the problem will occur or you know it will not occur for a while. Select a shorter interval if the problem is frequent or will happen soon. If you are unsure, a good default setting is every 1 minute.

Figure 3 - Collect Data Sample Interval

8. Note that the logging will discontinue after a reboot, so if you reboot and still need to log data, it will be necessary to manually restart logging. To do this, please follow these instructions:
   a. Go to **Start → Settings → Control Panel → Administrative Tools → Performance.**
   b. Expand **Performance Logs and Alerts.**
   c. Right-click your previously created logging settings and choose **Start.**

Creating a Performance Log for Windows 7, Vista, and Server 2008

1. Open the **Performance Monitor** from **Administrative Tools.**
2. Once you have that opened, you should see a screen similar to the one in Figure 4.

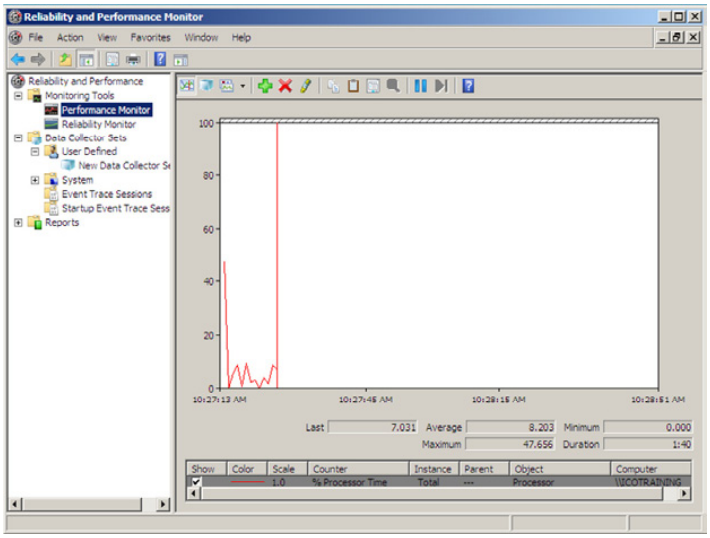

Figure 4 - Reliability and Performance Monitor

3. Under the Data Collector Sets, right-click on User Defined and select New → **Data Collector Set**
4. In the new dialog that comes up, enter the **Name** of this Data Collector set and select the **Create Manually (Advanced)** option. Click on Next when you are done.

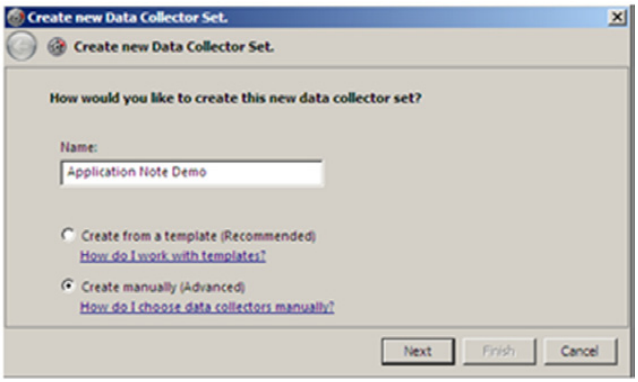

Figure 5 - Create New Data Collector Set Dialog

5. In this screen, check the **Performance counter** under the Create data logs section and click on Next.
6. In this step, you will need to add the necessary performance counters. Click on the **Add button** to open the **Add Counter Dialog**.
7. In the Available Counters section, make sure the "**select counters from computer**" option is set to the local computer.
8. Expand Process and select the following counters: **% Processor Time, Handle Count, ID Process, Private Bytes, Thread Count, and Virtual Bytes**. You can select multiple counters by holding ctrl and clicking.
9. In the Instances of selected object section, choose **<All Instances>**, then click on the **Add** button at the bottom. Your finished configuration may look similar to Figure 6.

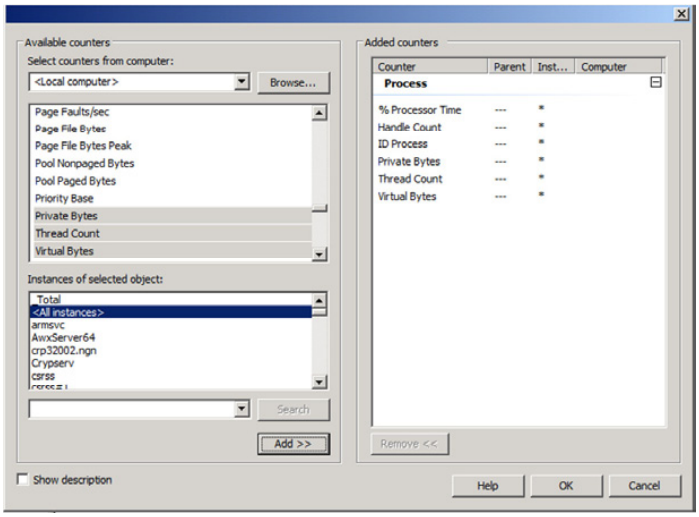

Figure 6 - Performance Counters

10. Click on OK to return to the Create New Data Collector Set dialog. You should now see the list of counters you have added in here.
11. Just below the Performance counters section, you can set the logging intervals. Set the Interval and Units appropriately. The shorter the interval the more data you will collect, but the greater it will affect your system's overall performance. Select a long interval if you do not know when the problem will occur or you know it will not occur for a while. Select a shorter interval if the problem is frequent or will happen soon. If you are unsure, a good default setting is every 1 minute.

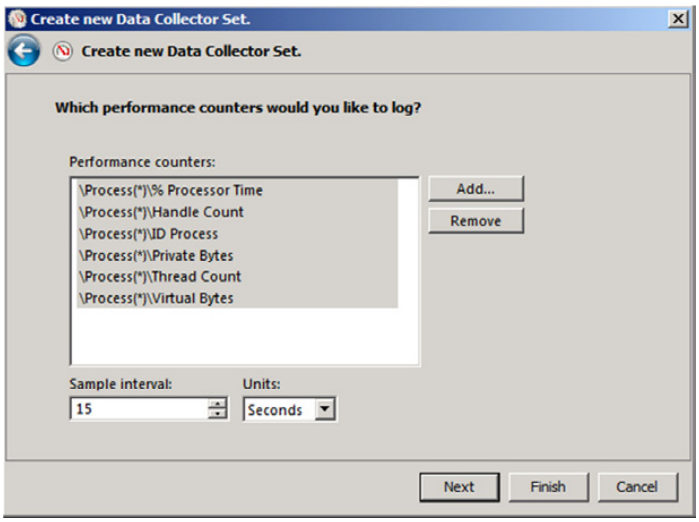

Figure 7 - Configured Performance Counter and Interval

12. Click on Finish when you are done. You have now created a performance log. You should see that under your Data Collector Sets → User Defined section of the Reliability and Performance Monitor.

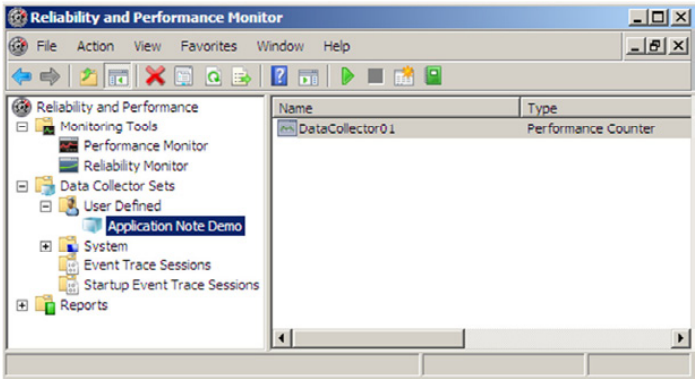

Figure 8 - Configured Log in the MMC

13. To start collecting data, click on the green start button at the top of the management console.
14. Note that if you need to restart your computer while logging, the log will stop. You must manually restart the log after each reboot of the computer. To restart the log you can go back into the Reliability and Performance Monitor console and use the same procedure as described in the previous step to start the log again.