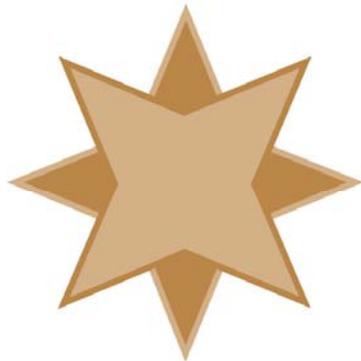


Obtaining a Windows Memory Dump with UserDump

A White Paper From



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SOFTWARE

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Obtaining a Windows Memory Dump with UserDump

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Sometimes, in the course of working a problem with a complex application or service like Pervasive.SQL, it becomes imperative to capture the state of the process and send it to the software developer for analysis. This paper describes the process of capturing a USERDUMP of the Pervasive database engine.

The original source of some of this information is from the Microsoft Knowledgebase, specifically from this URL:

<http://support.microsoft.com/kb/241215/en-us>

Obtain the UserDump Executable

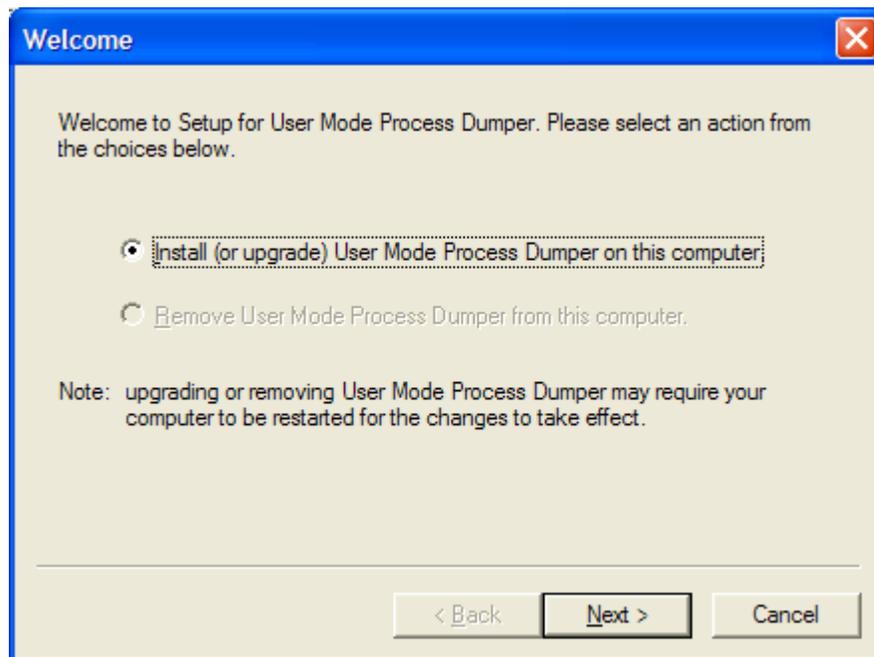
Download the UserDump program from Microsoft's web site. At the time of this writing, the current version is 8.1, and it can be found here:

<http://www.microsoft.com/downloads/details.aspx?FamilyID=E089CA41-6A87-40C8-BF69-28AC08570B7E&displaylang=en>

The name of the file downloaded, as of the time of this writing, is UserModeProcessDumper8_1_2929_4.exe.

Install UserDump

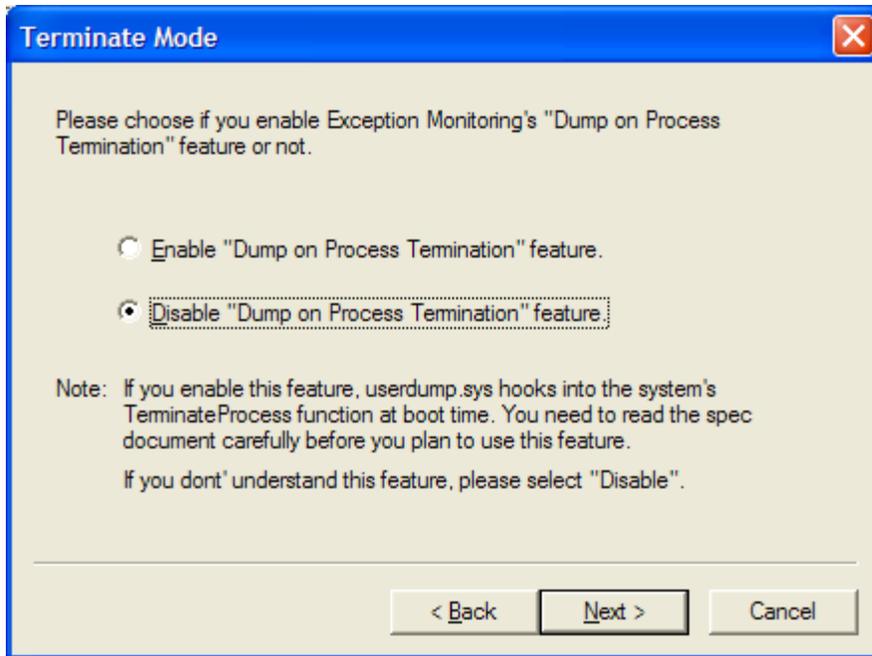
Running the above executable will extract the installation files to C:\KKTOOLS\USERDUMP8.1. Go to this directory, go into your platform directory (Intel users should go into x86), and then run the included SETUP program.



Click Next to go to the next screen.

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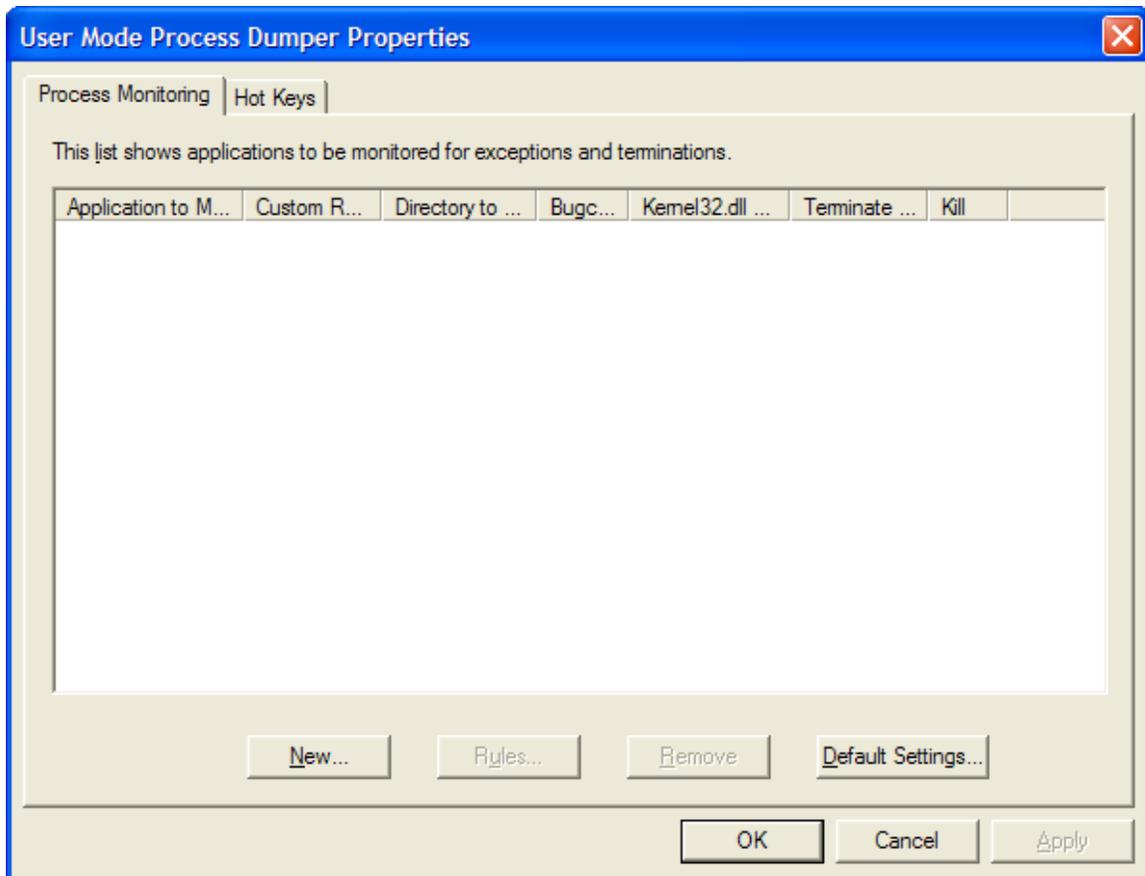
<http://www.goldstarsoftware.com>



The word from Microsoft on this question is this: *Unless you have a specific need, disable the "dump on process termination" feature when you run the Setup.exe program* Select the "Disable" option and click Next, then Finish.

Configure UserDump to Capture Crashes

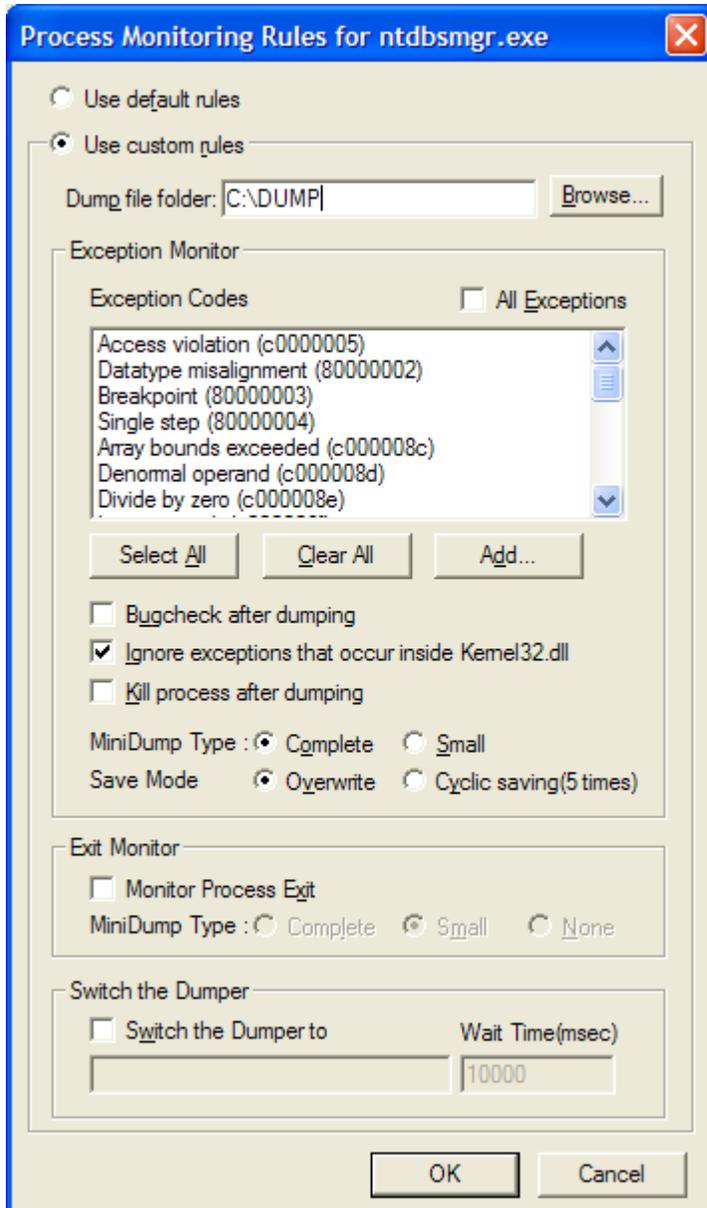
When the setup utility finishes, it will ask you if you want to configure it right away. You can also manually enter the configuration tool by going to the Control Panel and opening the "Process Dumper" tool there.



On the "Process Monitoring" tab, click the "New..." button and enter the process name.



For the Pervasive Server Engine, this will be "ntdbsmgr.exe". Click OK. Back at the main screen, highlight the new entry and click on the "Rules" button.



On the Rules screen, select “Use Custom Rules”, and then set up the rest of the dialog for your system. Be sure to specify a Dump File Folder with sufficient disk space (at least 2GB free) to capture the dump, and remember this location for later use.

For the exception codes, Pervasive recommends selecting the following three items:

- "Access violation (c0000005)"
- "Stack overflow (c00000fd)"
- "Guard page (80000001)"

It may also be valid to select the “All Exceptions” checkbox. (Need to figure this out.)

Be sure that the MiniDump Type is set to Complete. Set the Save Mode to either Overwrite (if you’re low on disk space) or Cyclic (if you have room for 5 dumps in this directory). Click OK to save the changes.

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Capture the Dump

If the server hits one of the exceptions selected, the dump should automatically be created in the directory specified. Go to the next step to submit the dump to Pervasive.

If the process is hanging instead of failing outright, or if you need to obtain a dump of the process to capture the state while it is still running, then you will need to manually trigger the USERDUMP process.

Generate the memory dump with this command:

```
USERDUMP ntdbsmgr.exe C:\NTDBSMGR.DMP
```

If you are obtaining a dump from the Workgroup engine, use w3dbsmgr.exe instead.

Running USERDUMP does not terminate the process, so NTDBSMGR will continue in the running state. The database engine MAY be able to recover, but this is a stretch. You should plan on restarting the server.

Note that the size of the DMP file will depend on how much memory the NTDBSMGR process is using. So if the Btrieve cache is set to say 128 MB the DMP file will be at least that big. Ensure that there is sufficient disk space on the drive where the DMP file is being written to.

Submit the Dump to Pervasive Software

If you do not have an active incident opened with Pervasive, then you will need to either open one or contact Goldstar Software's issue clearinghouse (if previously notified) for the next steps. If you **do** have an active incident opened with Pervasive Software, then you can submit your dump directly to them. Use PKZIP to shrink the file first. Be sure to name the ZIP file with the incident number, then upload it to the FTP site below.

Site: [ftpsupport.pervasive.com](ftp://ftpsupport.pervasive.com)

User: uploads

Password: pervas1ve (note the 1, not i)

Since Pervasive changes their FTP software from time to time, you may need to contact them directly to obtain current FTP login information.

If you still can't get it to work, contact Goldstar Software and let us work with you to help!