

Interpreting MicroKernel Database Engine (MKDE) System Errors

Problem Description:

The MicroKernel Database Engine (MKDE) sometimes puts one or more of the following messages in the PVSW.LOG file: MKDE-1180: System Error: nn.nn.nn

MKDE-2039: System Error: nn.nn.nn

MKDE-1157: System Error: nn.nn.nn

Problem Environment:

Pervasive.SQL 2000

Pervasive.SQL v7

Btrieve v6.15

The nn.nn.nn may be numbers, such as 116.5.0.

Solution:

The MKDE uses the System Error messages to record unexpected errors resulting from an operating system call made by the MKDE. For example, if an error is returned when the MKDE makes a file I/O call to the operating system, that error is recorded in the PVSW.LOG as a System Error. The format of a system error is id.op.rc where:

id - unique System Error identifier

op - Btrieve operation being performed at the time

rc - any unexpected return code from the OS

The id corresponds to a section of code in the MKDE where the OS call took place. There are different id ranges depending on which MKDE is being used:

Common source base 100 - 299

Netware 300 - 399

OS/2 400 - 499

Windows 500 - 599

Windows NT 600 - 699

WIN95/NT 700 - 799

The common code base contains all the file I/O requests, variable allocations, caching, etc. The platform specific ranges cover other file open, close, read, and lock requests. These codes can guide us to the portion of the MKDE code that was executing when the System Error occurred. For example, ids ranging from 110 - 124 correspond to the I/O Subsystem of the MicroKernel where disk I/O calls are made, and system errors with these ids usually correspond to file corruption problems. A list of ids is not available publicly because a list without the specific MKDE and knowledge of the code would not have much value.

The second piece of the system error is the operation code. This corresponds to the Btrieve request that was being processed when the error occurred. For example, a 5 is a GetEqual operation. Refer to a Btrieve Programmer's Reference for more information about Btrieve operation codes. If the system error occurs while the MKDE is performing some task that is not specifically associated with a Btrieve operation, the op will be set to -1.

The third piece of the system error is the OS return code. The meaning of the values reported

here varies depending on the OS call made and the type of failure that occurred. A return code value of 0 for different ids is likely to have different meanings. In many cases, the appearance of an occasional System Error does not indicate a problem. It is likely that the operation being performed was retried without an error and processing continued normally.

If there is a problem that would cause an interruption in normal operation, the System Error would correspond to a Pervasive status code returned to the application. For example, attempting to access a physically corrupt file will produce a system error such as 116.5.0 and the application will receive a Status Code 2.

If you experience repeated occurrences of a specific system error, along with abnormal behavior of your application, and you do not find any documentation in our knowledge base about the error, you should contact Pervasive with a description of the system error and the symptoms of failure in the application, and we will provide more details about the system error in question.