



SQL Server Performance Monitors

Keep some key considerations in mind, then think about the bells and whistles

When you encounter slow SQL Server performance and bottlenecks, you're probably frustrated by the process of figuring out what's causing the problem and what you should do to solve it. Performance problems can stem from a variety of factors, including faulty hardware, inadequate indexing, poorly constructed SQL code, and insufficient memory. But how do you determine which of these factors is causing your specific problem? Until you know the cause, you can't make informed decisions about whether to spend money upgrading hardware or implementing a less expensive fix, such as tuning your SQL code.

Monitoring tools are available to help you catch problems before they arise and analyze them after they've occurred. Performance Monitor is a free tool in Windows 2000 Server and later, and SQL Profiler is included with SQL Server 2000 and later. However, you might find that these freebies lack essential features or are difficult to use. If so, you can turn to a variety of third-party tools on the market. The hitch? These third-party tools are often costly, and you'll need to invest some time in deciding which is the most appropriate tool for your environment. This Buyer's Guide aims to present some of your options and considerations for your decision-making process.

Performance Monitor Basics

Your performance monitor should address five fundamental areas of functionality:

1. It should monitor memory usage to help determine whether an adequate amount of memory is available to SQL Server.
2. It should monitor CPU processor utilization to help determine whether you need a CPU upgrade or need to install multiple processors.
3. It should monitor disk I/O performance to determine whether your I/O subsystem is working efficiently and whether SQL Server can write or read data without waiting.

4. It should monitor user connections to help determine whether the number of users is properly configured.
5. It should monitor blocking locks, which help determine whether one process is forcing another process to wait.

In addition to these five key monitoring areas, the ability to establish a performance baseline and the ability to notify you of problems are basic ingredients of a performance monitor. Baseline measurements are crucial because they let you measure SQL Server's performance during normal circumstances. The best baselines display performance visually so that you can see at a glance how the server is performing. In his article "Proactive SQL Server Management" (June 2005, InstantDoc ID 46082), Kevin Kline discusses considerations to keep in mind when you're establishing a baseline. Finally, if a problem occurs, you'll require that the product contain an effective notification system—with such methods as email, pager, SNMP, and system broadcast.

More Features to Consider

Now, what about the bells and whistles? Most of the products in this Buyer's Guide provide lights-out monitoring—the ability to monitor a system even if it isn't booted or powered on—and remote-management capabilities that let you run the performance

monitor from any remote computer. Not as common, however, is the ability to perform T-SQL performance analysis and tuning. As you know, poorly written code can have a big effect on performance, and a tool to analyze and tweak this code might be just what you need.

You might also consider the trade-offs inherent in the decision between agent and agentless monitoring. An agentless tool doesn't require that you locally install a software agent on the server and can reduce administrative costs and deployment time, whereas an agent-based tool enables highly customized monitoring and management. If you aren't sure which type best fits your needs, you might even consider a product that offers both options.

Do you want to be able to plan for future growth? Some of the products in this Buyer's Guide analyze monitored parameters and give you capacity-planning recommendations based on the analysis. Several other products feature automated problem resolution, such as the automatic execution of a SQL job in response to an alarm. Other products offer real-time monitoring, as well as the capability to monitor third-party databases. Finally, how important is it to you to produce reports in various formats? All the products in this Buyer's Guide let you either export to or produce reports in HTML format, and some offer a few more output options. The table on page 50 will help you compare the features of each of the products and assess which performance monitor might work for you.

InstantDoc ID 49982

Trisha Pendley (products@windowsitpro.com) is a product and technology editor for *Windows IT Pro* and *SQL Server Magazine*.

Contact Information	Product	Base Price*	Versions of SQL Server Supported	Realtime Monitoring	Lights-Out Monitoring	Agent-Based, Agentless Monitoring	Establish Baseline Data	T-SQL Performance Analysis and Tuning	Remote Management	Capacity-Planning Functionality	Automated Problem Resolution	Types of Notification Services	Report Output Options
BMC Software 713-918-8800 800-841-2031 http://www.bmc.com	SmartDBA Performance Monitoring for SQL Server	\$1455 per CPU	2000, 7.0	Yes	Yes	Both	Yes	No	Yes	No	Yes	Email, pager, SNMP, system broadcast	HTML, Microsoft Excel, text
	BMC Performance Manager for Databases	\$975 per CPU	2005, 2000	Yes	Yes	Both	Yes	No	Yes	No	Yes	Email, pager, SNMP, system broadcast	Excel, HTML, text
Embarcadero Technologies 415-834-3131 http://www.embarcadero.com	Embarcadero Performance Center	\$2495 per monitored server	2000, 7.0	Yes	Yes	Agentless	Yes, historical repository of data only	No	Yes	No	Yes	Email, pager, SNMP	HTML
Heroix 617-527-1550 800-229-6500 http://www.heroix.com	Heroix Longitude	\$599 per monitored server	2005, 2000	Yes	Yes	Both	Yes	Yes	Yes	Yes	Yes	Email, event monitor, pager, SNMP	Excel, HTML
	Heroix eQ Management Suite	\$795 per monitored server	2005, 2000, 7.0, 6.5	Yes	Yes	Agent-Based	Yes	Yes	Yes	Yes	Yes	Email, event monitor, pager, SNMP	Excel, HTML
Idera 713-523-4433 877-464-3372 http://www.idera.com	SQL diagnostic manager (SQLdm)	\$1295 per SQL Server instance	2005, 2000	Yes	Yes	Agentless	Yes	Yes, analysis only	Yes	Yes	Yes	Console alert, email, pager, SNMP, text	CSV, Excel, HTML, PDF, XML
InterCerve 704-895-6241 http://www.intercerve.com	sqlSentry	\$995 per SQL Server instance	2005, 2000, 7.0	Yes	Yes	Agentless	Yes	No	No	Yes	Yes	Email, pager, SNMP	CSV, HTML, XML
ipMonitor 819-772-4772 http://www.ipmonitor.com	ipMonitor 7.5	\$995 for 500 monitor licenses	2005, 2000, 7.0	No. However, you can set polling frequency to near realtime.	Yes	Agentless	Yes, historical repository of data only	No	Yes	No	Yes	Email, pager, SNMP, system broadcast, text	HTML, SOAP
NetIQ 408-856-3000 888-323-6768 http://www.netiq.com	AppManager for Microsoft SQL Server	\$1200 per monitored server	2005, 2000, 7.0	Yes	Yes	Agent-Based	Yes, historical repository of data only	Yes	Yes	Yes	No	Email, log file, pager, SNMP, WMI event	HTML
	AppManager ResponseTime for Microsoft SQL Server	\$1200 per monitored server	2005, 2000, 7.0	No. However, you can set polling frequency to near realtime.	Yes	Agentless	Yes	No	Yes	Yes	Yes	Email, log file, pager, SNMP, WMI event	HTML
	AppManager Performance Profiler	\$400 per monitored server	2000, 6.5	Yes	Yes	Agent-Based	Yes	Yes	Yes	Yes	Yes	Email, pager, SNMP, system broadcast	Excel, HTML, PDF, XML
Quest 949-754-8000 http://www.quest.com	Spotlight on SQL Server	\$1495 per monitored server	2005, 2000, 7.0	Yes	No	Agentless	Yes	Yes, analysis only	No	No	Yes	Email	No information
	Spotlight on SQL Server Enterprise Edition	\$2160 per monitored server	2000	Yes	Yes	Agentless	Yes	Yes, analysis only	No	No	No	Email	No information
	Foglight Cartridge for SQL Server	\$2400 per monitored server	2005, 2000, 7.0	No. However, you can set polling frequency to near realtime.	Yes	Agent-Based	Yes	No	Yes	Yes	Yes	Email, log file, pager, script, SNMP	Excel, HTML, PDF
Symantec 408-517-8000 http://www.symantec.com	Symantec i3 for SQL Server	\$1500 per CPU	2005, 2000	Yes	Yes	Both	Yes	Yes	Yes	Yes	Yes	Email, log file, SNMP	HTML, PDF
TeamQuest 641-357-2700 800-551-8326 http://www.teamquest.com	TeamQuest View	\$500 per monitored server	2005, 2000, 7.0, 6.5	Yes	Yes	Agent-Based	Yes	No	Yes	Yes	Yes	Email, pager, SNMP, system broadcast	Excel, HTML, TeamQuest Graphical Client
Teratrac 1-888-460-2916 (fax) http://www.teratrac.com	TeraTrax Performance Monitor for SQL Server	\$195 per SQL Server instance	2005, 2000	Yes	Yes	Agent-Based	Yes	Yes	Yes	No	No	Console alert	CSV, HTML

*Contact the vendor for specific pricing details