The eG SQL Monitor

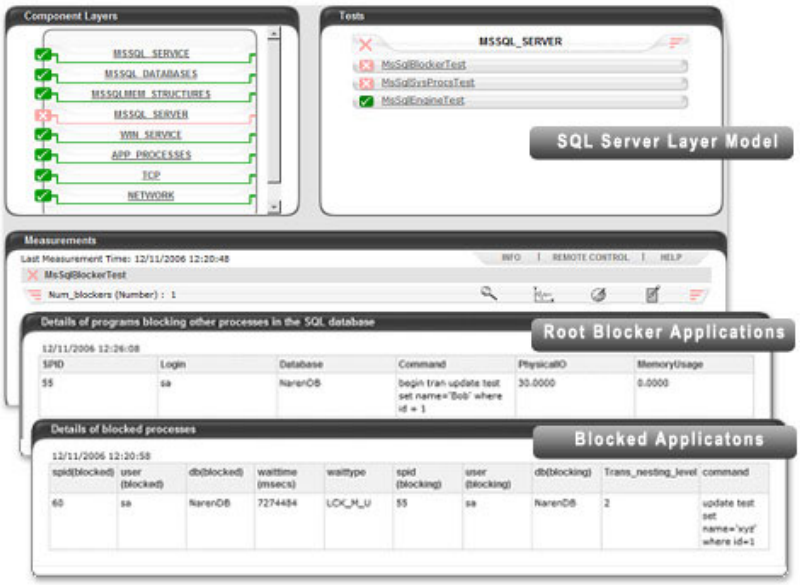
Benefits of the eG SQL Monitor

- Generates proactive alerts based on a variety of SQL database server statistics that are collected and analyzed in real-time
- Correlates end-to-end service performance with database, server, and network performance, so you can quickly determine where the hot-spots in the infrastructure are
- Provides trending and service level reports so you can assess the current capacity of your infrastructure and plan for future expansion
- Eliminates finger-pointing among IT administrators by ensuring that problems are easily and rapidly isolated to specific application tiers, so only specific administrators need to be involved in fire-fighting

Monitoring and Managing Microsoft SQL Servers

Microsoft's SQL server has emerged as the database engine of choice for most applications hosted on the Microsoft Windows platform. Services in various domains – healthcare, manufacturing, banking, etc. – rely on the backend database servers for data storage and access. Any performance degradation or unavailability of the database servers can severely impact the performance of the entire service, often causing customer dissatisfaction and lost business revenue.

The eG SQL Monitor provides in-depth monitoring for Microsoft SQL database servers. By monitoring a database server engine's availability and responsiveness round the clock, the eG SQL monitor generates alerts immediately as and when a problem is detected. The eG SQL monitor also tracks in real-time the utilization of each of the databases hosted on the server. Using the user login/logout statistics that the eG SQL monitor provides, administrators can determine which applications are taking up more of the SQL server's resources. In order to be proactive, the eG SQL monitor also monitors key metrics that can provide early warning indicators of problems. The host operating system is monitored to ensure that the server hardware that is hosting the SQL server is appropriately sized (e.g., sufficient free memory exists, disk utilization is within bounds, CPU usage is acceptable, etc.). Errors reported in the Windows event logs are also trapped and brought to the attention of administrators.



Monitoring of a Microsoft SQL server using the eG Enterprise Suite

Root-Cause Diagnosis of Microsoft SQL Servers using the eG SQL Monitor

Many a time, application users and developers point to the database engine - i.e., SQL server - as the reason for a slowdown. In reality, the problem may be caused by inefficient application design - e.g., one or more of the applications using the database server is generating queries that do not use indexes efficiently, thereby causing increased table scans and unnecessary disk activity. Likewise, one application may hold a lock on a table, thereby causing other applications to fail. Unusual transaction rollbacks may also indicate application design problems that need attention. The eG SQL monitor highlights many of these application abnormalities to the administrators. By analyzing the locking patterns of applications, the eG SQL monitor identifies "root" blocker processes – the ones that are causing other applications to be blocked. Ranking of applications based on their resource usage and indications of the queries they are running provides critical information that can be used by administrators to tune the usage of their SQL servers.

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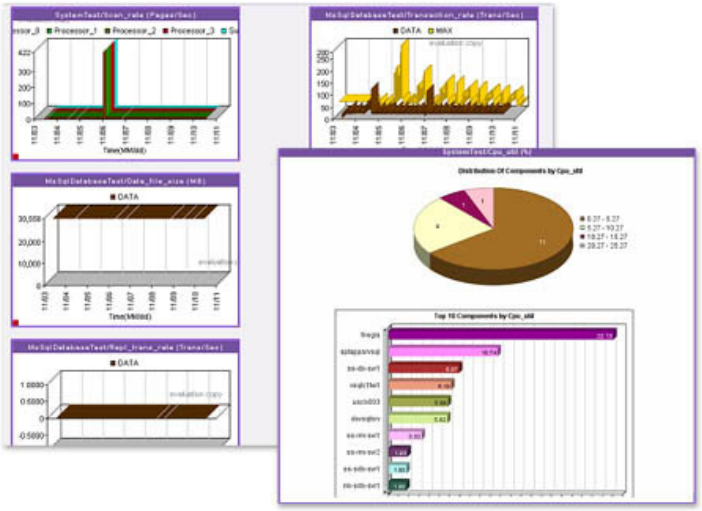
The eG SQL monitor supports Microsoft SQL 7, 2000, and 2005 versions; the development and express editions of the database servers can also be monitored. Support is also available for both named and port-based SQL server installations. Active/active and active/passive SQL clusters are also supported. Administrators have the option of deciding whether to monitor in an agent-based or agentless manner. If agent-based monitoring is used, the eG single agent technology ensures that all the applications executing on a server are monitored with a single agent, and the performance of the SQL server can be correlated with other activities happening on the server (e.g., backup jobs executing).

With its ability to automatically determine baselines for every metric collected in the IT infrastructure, the eG SQL monitor provides proactive alerts to administrators. In-depth snapshots of the SQL server's usage are also provided from time to time, to assist with real-time and post-mortem diagnosis. Hourly, daily, and monthly trends are automatically computed, so administrators can effectively plan the utilization and capacity of their SQL infrastructure.



Reports on Microsoft SQL Server performance and usage

What the eG SQL Monitor Reveals

Database Service Monitoring	Is the database server available for servicing requests? What is the response time for a typical query? How many logins/logouts are happening on the SQL server? Which applications/users are accessing the SQL server and what is their respective resource usage? What queries are each of the applications currently executing?
Database Server Engine Monitoring	What is the CPU utilization of the database server engine? How much time is the SQL server spending on processing vs. I/O? What is the typical workload on the database server? Which databases are imposing most load on the database server engine? How many processes are running, and what queries are they executing? Which user(s) are executing these queries?
Lock Activity Monitoring	What is the typical locking activity on the database? Which processes are being blocked and by whom? Which are the root-blocker processes, and what queries are they executing? Are any deadlocks happening?
Database Activity and Space Monitoring	What databases are hosted on the SQL server? Is any of the databases reaching capacity? Which of the databases is seeing more transaction activity? How many active transactions are currently happening to each of the database server?
SQL Memory Monitoring	Is there sufficient memory available for the SQL server? How much memory is the server consuming and how much is it willing to consume? How much memory is used for connections, how much for locks, and how much for query optimizations? What is the server's cache hit ratio? How many pages are available in the server's buffer pool? How many of these are free pages?
Operating System Monitoring	Is there sufficient disk capacity? Is there excessive contention for CPU or memory resources? Are the disks unusually busy? Which processes are taking up most resources (CPU, memory, disk, etc.)?