



From the **NORAD®** Family of Products

# Surveillance<sup>DB</sup><sup>TM</sup>

Enterprise Monitoring & Event Management



## Real-Time, Proactive Solutions to Ensure Database Uptime

### Key Benefits

*Reduce system downtime by detecting problems before they affect the database*

*Quickly identify problems that are causing a crisis for end users and hindering business objectives*

*Enterprise-wide, dashboard monitoring displays the status of servers and entities*

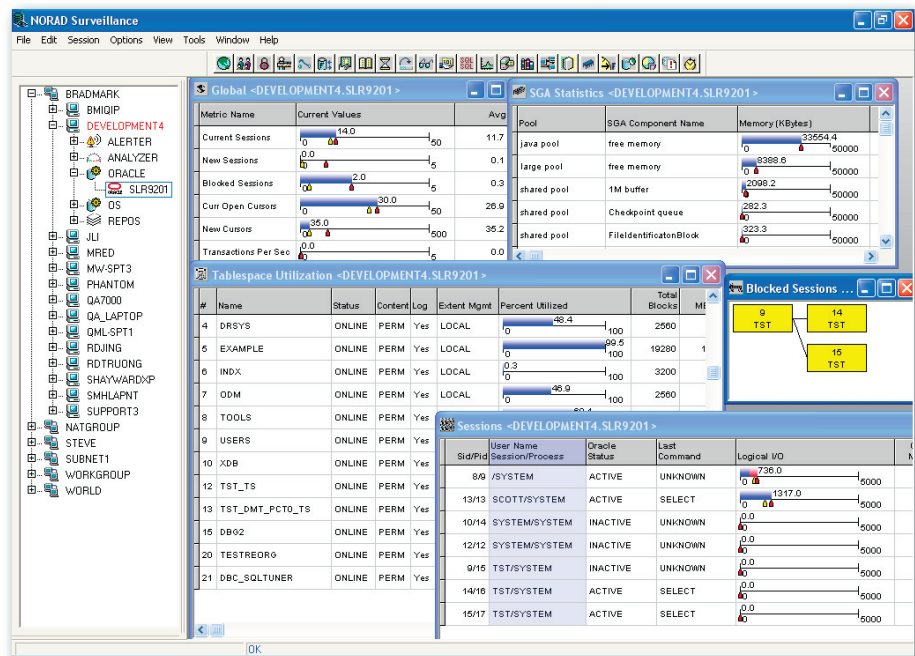
*Monitor application data and receive proactive alerts of potential problems before the database is affected*

*Determines the root cause of a recent outage using Flashback analysis*

*Produce high quality reports from the Surveillance Centralized Repository Database, and generate numerous pre-defined reports for each monitored platform.*

Bradmark's **Surveillance DB<sup>TM</sup>** provides real-time diagnostics, unattended event management, and historical analysis of the performance and utilization of your database environment. Capture high-level comprehensive views of the overall system health, and drill-down to the root cause of performance bottlenecks.

Out-of-the-box, Surveillance's unattended event management allows you to get immediate feedback of performance issues throughout your enterprise. Highly customizable rule sets and event handlers can then be tailored to your specific requirements including taking remedial action. For after-the-fact problem diagnostics, capacity planning, and service-level monitoring, Surveillance's Central Repository can store historical performance and utilization information from the entire enterprise.



Efficient diagnostics and effective problem identification with a real-time perspective.

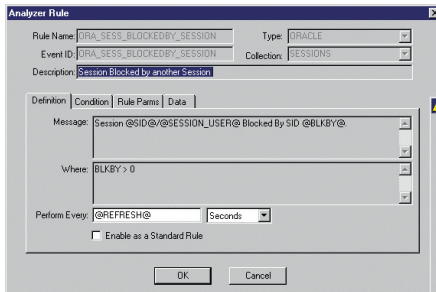
## Detect Problems and Notify Multiple DBAs with Event Management

The Surveillance *DB Event Management* is used to provide peace of mind by becoming the smoke detector whose sole purpose is to continually monitor the database for conditions which have a negative impact on performance and/or availability and alert technical professionals before a raging fire gets out of control. To accomplish this, Surveillance *DB* uses its extensive alerting and alarming facility that comes with a large set of predefined rules.

To begin monitoring, the DBA adjusts default threshold values and collection intervals before turning on the rules to be monitored. The DBA then defines how the alerts are to be sent when a violation occurs. NORAD Surveillance *DB* can be easily configured to notify multiple DBAs or technical professionals by e-mail, pager, HP Openview or Tivoli alerts, pop-up windows, or record the error in the Windows NT Event Log. The DBA can also execute a fix-it job by executing any operating system executable, including SQL\*Plus and ISQL.

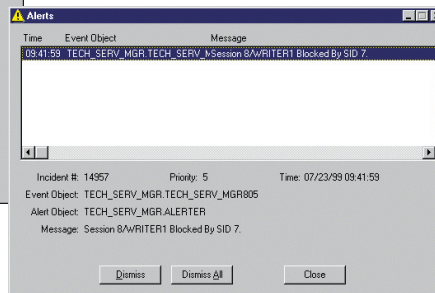
## Identify the Critical Issues with Unattended Monitoring

In most RDBMS environments, blocked users can cause performance to instantly degrade. Surveillance *DB* can be used to monitor for blocked users, and if a user is found to be blocking other users for an extended period of time, Surveillance *DB* can send the entire DBA staff an e-mail.



Surveillance *DB* will continuously monitor for rules violations and alert technical professionals before problems become critical.

If the problem is not resolved in a designated period of time, Surveillance *DB* can then page the entire DBA staff, e-mail DBA management, and execute SQL\*Plus to kill the offending user's process or session before it destroys system response time or prevents other users from entering data.



**Event Management** provides unattended monitoring. As long as the Surveillance *DB* Server Agent is running, continuous monitoring of the rules that the DBA has explicitly turned on occurs, even if the Surveillance *DB* console is not connected.

## Go Back in Time with the Historical Repository

Surveillance *DB Historical Repository* is used to obtain a historical perspective when the Surveillance *DB* Event Management Option detects and alerts technical professionals that conditions are occurring which are negatively impacting performance. Data from the Historical Repository can be used to trend performance and space utilization data to support system upgrades and/or additional disk space. DBAs can also use the data to establish baselines for threshold values in Event Management's rule definitions.

To accomplish this, Surveillance *DB* provides a facility for the DBA to store data from predefined and user-defined collections at user-specified intervals. The DBA specifies how much data to keep, (a day, week, month, year), while the Surveillance *DB Repository Manager* continuously purges data that falls outside the specified time frame. Any ODBC-compliant reporting tool can be used to query and/or graph the historical data.

## Support System Upgrade Planning

Most DBAs want to know the rate at which their databases are growing to ensure that sufficient disk space is always available and to estimate when a database might run out of space at the current growth rate.

Surveillance *DB Historical Repository* can be used to store the daily utilization for the database's data files or tablespaces. An ODBC-compliant reporting tool can then be used to query and/or graph the utilization, in addition to calculating the growth rate. This data will enable the DBA to estimate when additional disk space will be required and provide ample time for technical professionals to purchase and install that disk space. To ensure efficient performance, the Historical Repository Option is designed to query and save only the data that the DBA has requested.

## Extend Monitoring Capabilities to Application Data

Use the Historical Repository to track performance over time, and establish a baseline for performance expectations.

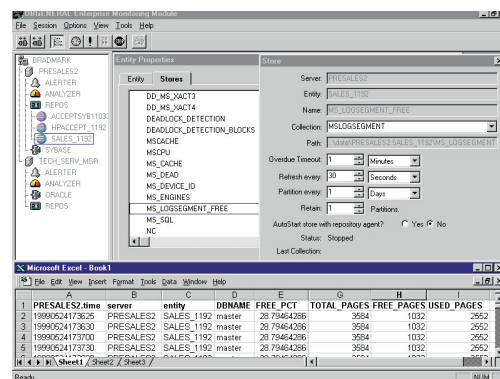
## View the Big Picture or the Details with a Real Time Perspective

## Reduce Downtime by Quickly Identifying Problems

### Key Point:

The value **Surveillance DB** provides to organizations today becomes even more significant if the DBA is unavailable for an extended period of time due to vacation, illness, or other performance problems.

User-defined collections (UDCs) are used to extend the Surveillance **DB Event Management** and **Historical Repository** capabilities to application data and data integrity. To accomplish this, Surveillance **DB** provides a facility for DBAs to easily write new data collections, which are the basis for new rules or repository stores. A user-defined collection is an easily configurable file that specifies



the SQL statement to be executed by Surveillance **DB**. Business executives might want to be notified when the number of orders being processed each hour falls below a certain number. The DBA can write a user-defined collection that queries the count of records in the **ORDERS** table. The Surveillance **DB** built-in statistics calculator can be used to derive the change in the numbers of orders since the last refresh interval. The Event Management Option can page or e-mail business executives when the hourly rate of orders processed falls below a certain number.

The **Historical Repository** Option can be used to store this hourly count over a period of time. This information could then be used to graph the growth rate of orders over the last week, month, quarter, etc., thus providing business executives with the necessary information. User-defined collections are not limited to application data and data integrity. They can be used in conjunction with the Surveillance **DB** standard, predefined collections to monitor additional performance data. The built-in statistics calculator can also be used to calculate averages, high water marks, and rate per second.

Surveillance **DB Real Time Diagnostics** Option is used during a crisis situation to determine exactly what is currently happening in the database. Data from Real Time Diagnostics is also used to obtain a real-time perspective when the Event Management detects and alerts technical professionals that conditions are occurring which are negatively impacting performance or availability. DBAs can also use real-time data to establish baselines for threshold values in Event Management's rule definitions.

Surveillance **DB** provides a facility to display an extensive set of predefined windows that provide an immediate global view of database activity and detailed performance metrics such as session/process activity, locks, batch contention, file I/O, and much more. Real-time data from multiple RDBMS can be viewed simultaneously. Data from each window can be sorted or filtered while most statistics can be graphed over time. In addition, each window or graph can be configured to refresh at either the default collection interval or its own refresh interval.

If Event Management alerts the DBA that a user is blocking other users for an extended period of time – causing a work stoppage, Real-time Diagnostics can be used to identify the user's session that is causing the problem. Drilling down to session details reveals that the user's session has issued an exclusive lock on the **LEDGERS** table that is preventing other users from entering general ledger records. The DBA is also able to determine that the user has selected data for update purposes, but has neglected to save or abort the update, causing other users to wait. The DBA can then request that the user save or abort the data. If the user can't be found, the DBA could decide to kill the user's session, allowing other users to enter general ledger records. If the DBA is not available, Event Management that's pre-configured, can kill the session automatically – the work stoppage will be eliminated without intervention from technical professionals.

Without Surveillance **DB**, work stoppage will continue until the DBA is notified by the user community that there is a performance problem. Once available, the DBA has to write and/or run scripts that query the multitude of performance statistics to determine the cause of the problem before the work stoppage can be eliminated.

## Product Summary

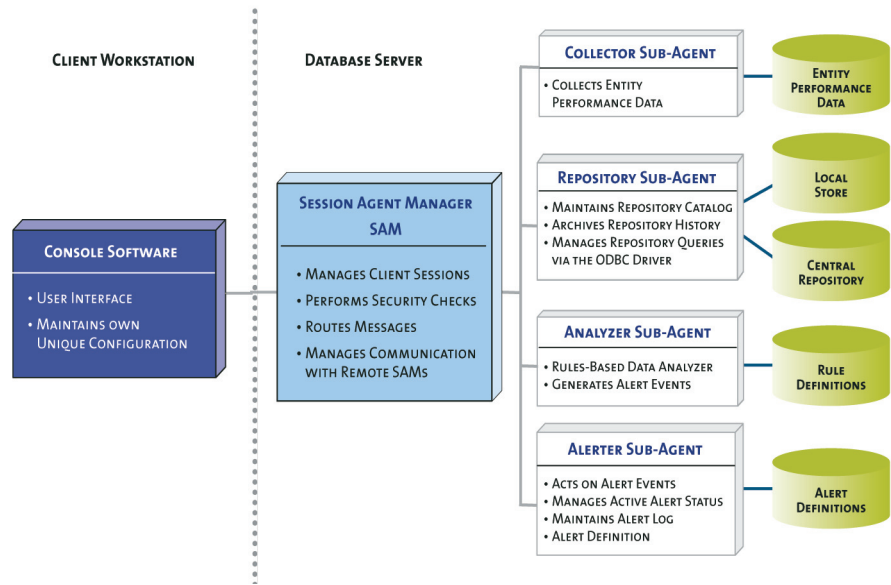
**Increase Availability...** Continuous evaluation of rules for violations combined with unattended alerting allows problems to be detected and resolved before a crisis can effect availability.

**Plan for the Future...** Use trend performance and space utilization data to support system upgrades and/or decisions regarding additional disk space.

**Maximize Scarce Resources...** The DBA can concentrate on improving performance and developing new databases rather than looking for problems.

**Monitor Business Objectives...** Alert business executives when objectives are not being met by extending alerting and alarming capabilities to application data.

**Reduce the Impact of a Crisis...** During a crisis, identify problems quickly with an immediate global view of database activity and detailed performance metrics without writing scripts.



*Surveillance is composed of two major components: the Server Agent and the Console. The Server Agent is the set of programs used to collect data and automate analysis of the database servers. The Console is the set of programs the end user runs to view real-time performance data, configure the connectionless monitoring, alerting, and historical collection of performance data.*

## System Requirements

### Console Requirements:

- Windows 2000 or later
- 600 MHz Pentium Processor
- 128 MB of RAM
- 100 MB free hard disk space

### Agent Requirements:

- Platforms: Windows 2000 or later, AIX, HP-UX PA-RISC, HP-UX Itanium, Linux x86, Solaris SPARC, Solaris x64, Tru64
- Full 64-bit support on UNIX and Linux
- TCP/IP
- 80 MB free hard disk space, more for repositories (Windows)
- 300 MB free hard disk space (UNIX)

### RDBMS Requirements:

- Oracle v 7.3.4, 8.0.x, 8i, 9i-9.2 and 10.1-10.2
- Sybase ASE v 11.0 or later
- Sybase Rep. Server v 12.1 or later
- Sybase IQ Server v 12.5 or later
- Microsoft SQL Server v 7.0, 2000-05
- DB2 UDB version 7.2, 8.1-8.2 and 9.1

## About Bradmark

Privately-held for more than 25 years, Bradmark Technologies, Inc. develops, markets, sells, and supports data management solutions that provide anytime — anywhere access to managing database, application and operating system components. In addition to a direct sales force, Bradmark has an established worldwide network of channel partners.

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