

RoboMon Oracle® Monitor

Overview

In many organizations the corporate data is held in Oracle™, one of the most popular databases in use today. In these cases it becomes necessary to monitor and manage Oracle itself.

Only by monitoring the Oracle database, the server it resides on and the network links to it can you be sure that your end users are able to carry out their work and that the business is able to run smoothly.

RoboMon

RoboMon is a well-established System Management software solution that monitors and manages many major computer systems, including Digital's OpenVMS, Unix (Digital, HP, IBM & Sun) and Windows NT/2000. Using a rule based architecture, RoboMon makes regular checks on key system parameters to ensure that no problems are occurring. If RoboMon spots a problem, it can take a variety of actions, which fall into two classes:

- Automatically fix the problem
- Provide a warning in real time using a variety of notification methods

RoboMon is designed as an open architecture to integrate with and work with other major System Management solutions such

as Network Managers, Help Desks and Enterprise Systems (Frameworks) such as Tivoli™ and CA Unicenter TNG™.

RoboMon - Oracle Monitor

Not only is RoboMon designed to monitor the computers and the network, now with RoboMon - Oracle Monitor you can also manage Oracle too. By looking inside each Oracle database, RoboMon - Oracle Monitor looks for and reports on key configuration and performance issues based on extensive advice and recommendations from Oracle themselves.

RoboMon - Oracle Monitor is an out-of-the-box rule based solution that just needs to be installed on any system running Oracle and then started. Using sensible defaults based on advice from experienced Oracle DataBase Administrators (DBAs) you will get useful information immediately. However if you find some of the information RoboMon - Oracle Monitor supplies is not appropriate for your environment, then you can switch off, add to or modify the default rules supplied.

RoboMon - Oracle Monitor is a solution developed using RoboMon's powerful rule engine and therefore has all the power you would expect from a leading event management system. Once potential problems are spotted, they can be forwarded and reported using a wide variety of notification mechanisms, including e-mail, paging, sending problems to Network

or Enterprise Managers and logging into helpdesks or databases. If automatic fixes are possible then you can modify rules to carry these out for you.

Requirements

Oracle V7.n or above running on any computer system supported by RoboMon i.e. OpenVMS, Unix (Digital, HP, IBM or Sun) or Windows NT/2000. Please see the RoboMon for NT/2000 Oracle datasheet for full requirements.

Technical Overview

Some of the issues addressed by RoboMon - Oracle Monitor:

Dict cache get hit ratio

System performance suffers as the dictionary cache hit ratio falls below 100%.

Dict cache getmisses

Transaction performance suffers as the dictionary cache GETMISSES increases.

The screenshot shows the RoboMon Event Monitor interface. At the top, it says "Open problems for Enterprise". Below that is a table of events:

EventDateTime	Class	SubClass	Computer	!	!	RuleName
10/28/99 04:02:58 PM	ORACLE	CLUSTER	VAULT	✖	!	CLUSTER_EXTENTS
10/28/99 04:00:18 PM	AUTOMATION	NETWORK	EAST	✖	!	UNREACHABLE_COMPUTERS
10/28/99 04:00:18 PM	AUTOMATION	NETWORK	EAST	✖	!	UNREACHABLE_COMPUTERS
10/28/99 02:01:32 PM	IIS	IIS CACHE	GLOBAL	✖	!	IIS_CACHE_ALERT
10/28/99 02:01:28 PM	IIS	IIS PROCESS	GLOBAL	✖	!	IIS_PROCESS_POOL_LEAK
10/27/99 11:00:09 PM	AUTOMATION	PAGE_FILE	EAST	✖	!	PAGE_FILE_LOAD
10/27/99 11:00:01 PM	IIS	IIS SERVICES	EAST	✖	!	IIS_SERVICES

Below the table, a detailed view of the selected event is shown:

```

Updated severity 1 problem for computer VAULT at 10/28/99 04:02:58 PM.
Generated by rule CLUSTER_EXTENTS of type CLUSTER in ORACLE.

Cluster FIN2 is nearly out of extents.

As of 04:02:57 PM on 10/28/99, Oracle database FINANCE
reported that cluster FIN2 is
nearly out of extents, with 97 percent of
allocated extents currently in use. To rectify this problem,
the cluster should be altered to add more extents.
    
```

RoboMon's Event Monitor can display Oracle problems from the whole enterprise

DB buffer cache hit ratio

If the DB Buffer Cache is not large enough, requests for data will have to be retrieved from disk.

DB buffer free list contention

Transactions should seldom wait on a free list.

Files needing recovery

Any data file used by Oracle may develop a problem.

Users with OPER DBA priv

Very few (almost none) users should have SYSOPER or SYS-DBA privileges.

Control file status

If one of the control files is corrupted then the other control files will continue working.

Used_tablespace_blocks

The number of used blocks in a tablespace should be monitored as the percent used approaches 100%.

Objects, Tables, Clusters or Indexes with many extents

These should be allocated in as few extents as possible.

Library cache fragmentation

If the library cache becomes too fragmented then users have to scan more library cache blocks in order to get their SQL executed.

DB block size

Blocksize should be minimally 4096 or 8192 with today's devices.

RBS minimum extents (RBS = Roll Back Segment)

A rollback segment should have at least 20 extents.

Redo log buffer waits

There should be no waits for a redo log buffer.

Redo allocation latch hit ratio

A low hit ratio for the Allocation Latch indicates the need for more Copy Latches.

Objects containing errors

Objects that are corrupt typically mean that (part of) the database needs to be recovered.

Sorts done in memory

Sorts are normally done in memory. If there is not enough free space for the sort, it is done on disk.

Users per RBS

Users that do updates need rollback segments to hold the before images of their data.

Locked objects

If the same user has a lock on the same object for an extended period of time, then the user may have been updating a row and then disconnected.

Control files on different disks

Control Files should be placed on separate devices.

Check status of Tablespaces

A dba may forget to alter a tablespace online after it is finished being backed up.

DB buffer latch contention

Transactions should seldom wait for a latch.

Sizing the redo log buffer

If the redo log buffer is too small, other user processes will have to wait for access to it.

Extent sizes

Extent sizes should be a multiple of DB_FILE_MULTIBLOCK_READ_COUNT to allow efficient use of blocks.

Tables, Indexes, Clusters or RBS's out of extents

If the actual number of extents for any of these is near the maximum then the object should be ALTERed.

Space for archive logs

The archived redo logs should be copied to tape daily.

Enough DML Locks

The number of DML locks should be at least 10 per concurrent online user.

Space for next extent

The next extent of an object must fit entirely into a contiguous set of free blocks in its tablespace. If there is not enough space the insert will fail.

Archive redo logs regularly

No archived redo log should be in the archive directory.

Redo log on same device

Placing Redo Log members on the same drive as other Redo Log members defeats the purpose of mirroring.

Tablespace free space

A tablespace should not run out of space.

Check Alert Log

This should be checked regularly.

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