CONFIO is now part of solarwinds

SolarWinds Database Performance Analyzer (DPA) or OEM?

The DBA Says the Answer Is Both!

By Confio Software

Confio Software
4772 Walnut Street, Suite 100
Boulder, CO 80301

www.confio.com

Did you know 90% of SolarWinds Database Performance Analyzer (DPA) for Oracle customers use both Oracle Enterprise Manager (OEM) and DPA to solve performance issues? This is not surprising. The combination of OEM and DPA provides the kind of help DBAs need to better understand database performance issues and save time, money and frustration.

Here are the three key reasons why you should considering using DPA alongside OEM to improve performance:

- Pinpoint quickly and directly the root source of the problem
- Obtain performance current and historical performance metrics with less than 1% load on production instances
- Get access to charts and graphs that managers and developers understand, so you can make the case about the source of a performance problem

Comparing apples and oranges

There are some very distinct differences between OEM and DPA. OEM (sometimes referred to as Grid Control) was created to help manage the Oracle database environment. According to Oracle's own documentation, "Enterprise Manager is a system management software that delivers centralized monitoring, administration, and life cycle management functionality for the complete Oracle IT infrastructure, including systems running Oracle and non-Oracle technologies."

In contrast, DPA is a tool that is focused on database performance monitoring using wait time analysis. DPA is a comprehensive database performance analysis and monitoring solution for DBAs, IT managers, and application developers. DPA identifies performance bottlenecks, improves application service and reduces overall cost of Oracle database operations.

Because DPA is dedicated to solving performance issues, it fills a niche that OEM does not. If a DBA is looking for the root cause of a performance issue, they can use DPA to identify the root cause in just four clicks.

Can't we all just get along?

DPA is a great collaboration tool. DPA is completely agentless and puts less than 1% load on the databases being monitored and their hosts. Since there is a very light load put on the monitored server from DPA, there is no worry about granting read only access (or more where appropriate) to developers and even management. This enables DBAs and developers to fight problems, not each other. The tool is easy to read and easy to use, so everyone can see the same the same information from the database thus helping to break down those not-so-invisible barriers—otherwise known as communication "silos" —between departments, management and worker bees. This is especially useful when I needed to articulate technical issues to management. With DPA's graphing capabilities, even less technical people can better understand the impact of performance related issues.

Standard Edition? No packs, no problem.

Another place where DPA fills a void is when a company has a combination of Oracle Enterprise Edition (EE) and Standard Edition (SE). You get OEM Grid with both versions; however the diagnostic and performance tuning packs are not available for the SE version. Using DPA with Oracle SE can be a lifesaver because DPA doesn't need the tuning pack tables so the monitoring will be the same for EE as it is for SE. DPA allows you to follow alarms to see problem queries, server resources, trends and sessions.

A comparison of common performance-oriented tasks in DPA and OEM

Which DBA performance tasks are better suited to OEM and which to DPA? This table compares the two options.

Performance task	DPA	OEM
Performance analysis based on wait events with historical trend analysis by: SQL, Waits, Programs, Machines, DB Users, O/S Users, Files, Plans, Objects, Modules, Actions	x	The data is kept in the OEM repository; however the default is only 7 days. The trend data is also not automatic in OEM, you have to build your own reports or screens if you want to see trending
Monitoring system resources	x	x
Recent wait event data detail	x	x
Monitoring across all tiers		x
Patching		x
One dashboard/point of entry for multiple db platforms out of the box	x	
Single dashboard provides performance health check for all monitored databases	x	
User wait time by Explain Plan	x	
User wait time by table and index	x	
Filter wait time by end user, program, and server	x	
Agentless architecture. Less than 1% load on monitored server	x	
Use of ASH/AWR tables		x

Performance task	DPA	OEM
Requires Tuning/Diagnostic Packs		x
Full functionality for 8i, 9i, 10g, and11g	x	
Performance diagnostics for SE	x	
Follow alarms to see problem by hyperlink in alarm email	x	
Monitor Data Guard health and log shipping statistics		x
Break CPU time into actionable info – what CPU is waiting on	x	
Assign names to SQL statements for management reporting	x	
RAT (Real Application Testing) analysis		x
Graphs for high-level analysis, understandable by non-DBAs	x	
Measure user wait time, not just wait events	x	
Point in time analysis	x	x
Analyze typical daily distribution of performance bottlenecks	x	
BI Analysis to identify trends, correlations, anomalies	x	

How do DPA and OEM really work together?

Below are three scenarios that help illustrate how DPA complements OEM.

Scenario 1

- A user receives an alert from OEM. The alert stats that the tablespace is 97% full for a particular database from OEM Grid.
- The user logs into OEM and add a datafile to the tablespace to get the percent full to go under 75%.

Scenario 2

- A user receives an alert from OEM. The alert states that the I/O is running very high.
- The user logs into OEM and confirms the I/O is high, The Performance tab shows there are several SQL statements running, but the user can't pinpoint exactly where the problem is.
- The user opens DPA and sees there is one query that is causing 90% of all the wait. After drilling into the SQL statement, it is found that this is new code that was put in the previous night, and it is returning 10 times the amount of data due to a mistake in the code migration.
- The user notifies the developer and the code is reverted, fixing the problem.

Scenario 3

- Every Monday morning, a user has a DPA report that lists the top 15 SQL statements across their databases. This morning there is a spike on the report for a particular database from Saturday evening.
- The user goes into DPA to find out more about what caused the spike and drills into the Saturday incident. The user sees that, because it's of end of month, the Accounting department was working over the weekend and ran a customized report that caused the spike.
- The user emails the graph that points this spike out with the SQL associated with it to management for the daily OPS meeting to explain what caused the performance incident. Since DPA is easy to read, it is easy to share this information among all the groups.

Better together: DPA and OEM

Some Oracle OEM users might assume they would use either tool but not both. However, most Oracle DBAs who also use DPA use OEM for database management (resource usage monitoring, user management, storage management, etc.) and DPA for end-user performance analysis, monitoring and problem resolution. This reduces time-consuming tasks a DBA has to perform, making them faster and more efficient, as well as saving money for the company. All DBAs are being asked to take on more tasks and management of more databases in their organization, and DPA is a critical tool in any DBA's toolbox.

About Confio Software

Confio Software, now a part of the SolarWinds family, builds award-winning database performance analysis tools for DBAs and developers. SolarWinds Database Performance Analyzer (formerly Confio Ignite) improves the productivity and efficiency of IT organizations. By resolving problems faster, speeding development cycles, and squeezing more performance out of expensive database systems, Database Performance Analyzer makes DBA and development teams more productive and valuable to the organization. Customers worldwide use our products to improve database performance on Oracle, SQL Server, Sybase and DB2 on physical and virtual machines.

For more information, please visit: http://www.confio.com/performance/oracle/ignite/