

# WHITE PAPER

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Oracle System Sizer™ for Compaq Windows NT Systems

## EXECUTIVE SUMMARY

*Determining the appropriate hardware configuration to purchase for hosting database applications has long been a challenging task. The traditional techniques and practices for sizing workloads have been resource intensive, complex and have not always provided accurate results. Compaq and Oracle have simplified this task with the Oracle System Sizer™ for Compaq Windows NT Systems. Using information readily available to the database administrator, the Oracle System Sizer™ will produce a recommendation that includes the server model, amount of memory, and the number of disks to purchase.*

*This paper explains the benefits of using the Oracle System Sizer™ for Compaq Windows NT Systems. It also describes the new features implemented in the Oracle System Sizer™ for Compaq Windows NT Systems, Release 2.8, the first Oracle System Sizer to support Oracle8.*



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## Oracle System Sizer™ for Compaq Windows NT Systems

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## INTRODUCTION

When the Oracle System Sizer™ for Compaq Windows NT Systems first came out, the industry was begging for an easy way to size a Compaq ProLiant server running Oracle7 OLTP applications in a Windows NT environment. Compaq and Oracle teamed up to provide the industry its first easy way to accomplish this task.

If you are looking for a tool to size your Oracle8 database on a Compaq ProLiant server, Compaq and Oracle have once again teamed up to provide the industry's first easy way to size Compaq ProLiant servers running Oracle8 OLTP applications in a Windows NT 4.0 environment. The Oracle System Sizer™ for Compaq Windows NT Systems, Release 2.8, is the solution for your Oracle8 sizing questions.

This paper discusses the benefits of using the Oracle System Sizer™ for Compaq Windows NT Systems. To assist users of the previous Oracle System Sizer, this brief also explains the changes that were made to the tool to add support for Oracle8 and Windows NT 4.0.

## WHAT IS THE ORACLE SYSTEM SIZER™?

The Oracle System Sizer™ is a value-add tool that provides hardware sizing of a database server without the need for detailed knowledge of the database engine, or how it interacts with the hardware and the operating system. Although this tool is generally used by Compaq resellers, database administrators, Oracle consultants and system engineers, it can also be used by anyone who knows the number of concurrent users, the database size, the fault tolerance level, the peak usage duration and the transaction descriptions.

Historically, sizing a workload was very resource intensive, complex and not very accurate. Together, Oracle and Compaq were able to simplify this process by creating a methodology which predicts the hardware required to run an Oracle7, and now an Oracle8, OLTP database server. This methodology was then customized for Compaq hardware allowing the Oracle System Sizer™ to recommend Compaq ProLiant servers, the number of CPU's, the amount of memory and the number and size of hard drives required to meet the user's needs.

## BENEFITS OF USING ORACLE SYSTEM SIZER™

The Oracle System Sizer™ provides an accurate and easy way to simplify what has generally been a complicated task. Further, with Compaq and Oracle working closely together to develop and maintain the tool, the user can be assured that he/she is getting access to an expert's recommendation.

To further understand the benefits of using the Oracle System Sizer™ to solve Oracle7 or Oracle8 configuration needs, we need to look more closely at the tool itself. The Oracle System Sizer™ was designed to allow both the novice and the experienced user to size a configuration. It therefore has four operating modes and extensive on-line help files to serve the needs of all users.

### Worksheet Mode

Although user input is very minimal, some information does need to be collected in order to achieve an accurate recommendation. The Oracle System Sizer™ provides worksheets for gathering this data which includes questions such as the number of concurrent users, database size, RAID level, time window and transaction loads. For the more advanced user, information on expected cache hit ratio, CPU utilization, and disk space and I/O utilization should also be gathered.

### **Interview Mode**

In Interview mode the user is guided through the sizing utility by a number of interview screens, which ask the user for the input that was collected in Worksheet mode. With version 2.8 of the Oracle System Sizer™, a screen has been added that asks the user for the Windows NT version (3.51 or 4.0), the Oracle version (Oracle7 or Oracle8), and server choices (density vs. expandability and hot-plug PCI vs. non hot-plug PCI). The end result is a recommendation of the appropriate ProLiant model, number of CPUs needed, amount of memory needed, and the number and type of disk drives needed to meet the user's input. Additional information including the Oracle INIT.ORA settings, predicted memory and processor and disk statistics is also available at the user's request.

### **Advanced mode**

The Advanced mode allows the user to compare and contrast various sizing scenarios by changing certain fields and viewing the results. In this mode the advanced user can modify requirements such as the cache hit ratio, maximum system usage and maximum drive usage. More details on the system, memory and disk statistics can also be viewed at this point; and INIT.ORA and transaction numbers can be changed. In this mode, the user can view side-by-side comparisons and detailed graphs of up to three systems, which allow for an easy comparison of alternative configurations. It is also possible to modify system options including NT and Oracle versions, as well as server choices in the Advanced mode.

### **Utilities Mode**

The Utilities mode allows the user to expand the abilities of the Oracle System Sizer™ to support additional disk drives, CPUs, and operating systems.

## **INTERPRETING SIZER RESULTS**

The Oracle System Sizer™ is a very valuable tool for sizing Compaq ProLiant systems for Oracle7 and Oracle8. As with all tools, the value of the output is dependent upon the accuracy of the input. Important considerations when sizing a system to meet users needs include:

- *Do your homework ahead of time.* Use the Worksheet mode to create worksheets to help you gather data on your Oracle7 or Oracle8 database requirements. Any information that is left off, guessed at or incorrect can result in an improperly sized system.
- *Use the Advanced mode compare multiple server configurations.* Maybe you are not sure whether you should get a dense or expandable server. What difference does hot-plug make? In the Advanced mode, you can make these changes and see the results immediately.
- *Why do I need so many drives for a small database?* By looking at the Disk Statistics in the advanced mode you can determine whether the Oracle System Sizer™ sized for size or speed. Under Disk Statistics, in the Advanced mode, there are listings for Data disks (I/O) and Data disks (Size). If the number of "I/O disks" is larger than the number of "Size disks", then the Oracle System Sizer™ recommends the number of I/O drives to increase performance, not because you need them to fit the capacity of your database.
- *What if I am only interested in a specific system or hard drive?* In the Advanced mode you can specify use of any particular system or drive. The Oracle System Sizer™ will then size only for the system and drives that you select. Note that you can also specify (lock) criteria including the number of drives, the amount of memory per user, usage and response time.

### CONCLUSION

The Oracle System Sizer™ is a tool that helps a database administrator or Authorized Compaq Reseller select a database server to meet specific computing requirements. When used properly, the Oracle System Sizer™ eliminates guess work and suggests a system that will not only meet the current needs of the customer, but will also allow room for future growth. To download the latest version of the Oracle System Sizer™, go to

<http://www.compaq.com/solutions/enterprise/database-oracle-sizer.html>.

To obtain more information on the Compaq/Oracle partnership, please visit the following websites:

- <http://www.compaq.com/solutions/enterprise/database-oracle.html> (Compaq/Oracle Partnership Database Solutions)
- <http://www.oracle.com/platforms/compaq> (Oracle for Compaq)