THE BOTTOM LINE

Oracle released the Oracle Database Appliance in September 2011 to bring enterprise-class database performance to small and medium-sized businesses. Nucleus found adopting the appliance enabled organizations to avoid complexity and cost while flexibly growing their businesses.

The Oracle Database Appliance, part of what Oracle calls its engineered systems family, is designed to be a simple, affordable, high availability cluster in a box. The appliance is pre-loaded with the full Oracle stack, running Oracle Linux, Oracle Database 11g Enterprise Edition, Oracle Grid Infrastructure with Oracle Clusterware and Oracle Automatic Storage Management, and Oracle Enterprise Manager Database Control. Customers may also choose to enable Oracle’s active-active HA solution, Oracle RAC, or Oracle’s active-passive HA solution, Oracle RAC One Node. The hardware is a 4-RU chassis with two server nodes, integrated networking, redundant power and cooling, and triple mirrored-storage for high availability.

In its assessment of Oracle Database Appliance, Nucleus found the appliance had other compelling features including:

- One-button automation for provisioning, patching, and system health checks reduces maintenance skill and time requirements.
- Automated storage subsystem monitoring rapidly identifies soft or hard failures and corrects them, reducing need for storage-related downtime or troubleshooting.
- Oracle Automated Service Requests automatically identifies potential hardware availability issues and initiates contact with Oracle Support to resolve them.

Customers who have already invested in Oracle software can transfer existing licenses onto the license, and customers can license as few as two cores on the server and increase their license investment over time with limited disruption.

KEY BENEFIT AREAS

Nucleus analyzed the experiences of a number of early adopters of Oracle Database Appliance to assess their initial and ongoing benefits, and found that customers achieved
a number of benefits from deploying Oracle Database Appliance, including reduced cost and complexity, faster time to value, and increased business flexibility.

**REDUCED COST AND COMPLEXITY**

Nucleus found that Oracle’s Engineered Systems approach made Oracle Database Appliance attractive to growing businesses because they could access processing and analytical power at a much lower initial cost and complexity than is traditionally associated with such technology. Because Oracle Database Appliance is prebuilt and preconfigured, companies can deploy a new database very rapidly, and one-click full stack patching including firmware, operating system, and database software means they don’t need the skills normally needed to architect, manage, monitor, and troubleshoot high availability systems. Users said:

- “The benefit for the database appliance is removing a lot of the integration and hassle. It’s one to two hours with the database appliance versus two to three weeks to build a comparable platform. If you have time to plan you can always find something cheaper than Oracle, but if you consider the labor and time involved, nothing would ever be better.”
- “You can get Oracle running on an X86 machine pretty quickly if you know what you’re doing; rack configuration is a little more time. That’s not as big a deal as the side-by-side HP-IBM-Dell versus ODA comparison. The upfront cost is legitimately different. And, if you buy a Dell box you have to license the whole box.”
- “When Oracle talks about push-button “phone home” capability it’s true. If you have three or four systems in a rack running Dell or HP you probably need three database administrators. With ODA you can get away with one or none and rely on a partner. It’s all the advantages of on-premise computing capability with a fraction of the maintenance costs associated with on-premise support.”

Nucleus found companies deploying Oracle Database Appliance could typically avoid 30 to 40 percent of hardware expense that would be needed to build a comparable platform; some avoided as much as 80 percent.

**Customer profile: Services firm**

A California-based services firm was rapidly growing and by late 2011 faced a need for a significant hardware upgrade: a key component of the service it provided for clients was a daily delivery of analytical reports, and the volume of data had become so cumbersome that it could no longer produce the needed reports on a daily basis given its existing hardware configuration. After reviewing its options, it determined that it could move to Oracle Database Appliance or else make a $250,000 investment in the server, storage, and network management technology that would be needed to build it in house. Key benefits of the project include:

- Avoided hardware and networking software costs. By deploying Oracle Database Appliance, it avoided approximately 80 percent of the hardware and software costs that would have been required for a similar on-premise alternative.
Improved performance. The company can now complete certain database queries in minutes instead of a day.

FASTER TIME TO VALUE
Nucleus found customers could accelerate deployment and execution of their software initiatives by using Oracle Database Appliance at a number of key phases: actual scoping of the required hardware footprint, planning and negotiating purchase of each component, configuration and connection of components, installation of device drivers, and standing up the database. As one customer said, “With ODA, there are a lot of decision points that you just don’t have to worry about.”

Customer profile: Manufacturer
Headquartered in Iowa with locations around the world, an agricultural equipment manufacturer Nucleus analyzed established better customer relationship management as a key objective for 2011 – and that meant building its first data warehouse. Given its growth goals, projected growth in customer data, and its desire to make one investment that could support it for at least three to five years, the manufacturer selected Oracle Database Appliance in October 2011.

“We got the unit and it took us 52 minutes from opening the box to building the first database, which we are using today. We have a SQL DBA on staff and it’s simple enough that he can go in and create tables. On an ongoing basis, we have two transactional racks but the majority of his time is spent on other systems.”

Today, the manufacturer is using Oracle Database Appliance to support its data warehouse and master data management (MDM) efforts. Key benefits of the project include:
• Reduced technology costs. In considering its other options, the company knew that a similar environment would have cost approximately 10 percent more had it acquired the hardware separately, but would have required significantly more time and services to build and configure the databases and interconnections between racks and storage.
• Accelerated time to benefit. The reduced complexity of Oracle Database Appliance allowed the company to be up and running quickly. On an ongoing basis, as its needs change, it can simply apply new software license keys, reboot the box, and access more capacity from its existing investment.

INCREASED BUSINESS FLEXIBILITY
Nucleus found that the greater flexibility Oracle Database Appliance provided was an attractive selling point for many customers, especially those in growing businesses that had experienced the disruption caused by outgrowing software platforms.
Customer profile: Online business
An online business with a rapidly growing site started running on MySQL and SQL server and found that it was rapidly outgrowing its existing server and database investment. It decided to move to the Oracle Database Appliance for two main reasons. First, the business disruption associated with increasing capacity was unacceptable for the demands of an online business. Second, it evaluated the work associated with managing the complexity of a similar distributed environment and determine it would require twice the number of DBAs to keep it running.

"You really save from speed and scalability in terms of time to market and productivity of your resources. If you want to double your capacity all you have to do is apply your licenses instead of waiting weeks to order hardware. It's huge compared to lost time in business. If you have one piece software wrong and not working, it's a mess. We should be able to handle three to four times the volume of traffic that we have today if it's fully unlocked."

Oracle Database Appliance offers customers increased flexibility in a number of areas:
- Power consumption. Purchasers can power down any CPU cores in the appliance that aren’t being used and easily turn them on.
- Licensing. Customers that already have Oracle licenses can apply them to Oracle Database Appliance and buy and launch additional licenses as they need them with limited disruption to the business. Additionally, Oracle Database Appliance is the only platform where a customer can license databases on a subset of CPU cores, as opposed to other platforms that require all CPU cores to be licensed, resulting in higher initial license purchase regardless of whether all cores are being utilized.
- Growth. Because companies can flexibly scale up or down over time, and the initial entry cost is relatively low, decision makers don’t have to overbuy to ensure they won’t reach capacity limits that impact business performance.
- Resources. For small and medium-sized businesses, recruiting and retaining database administrator talent can be a challenge. The automated troubleshooting and management capabilities of Oracle Database Appliance mean fewer DBAs with a lower skill level are needed to support the platform than would otherwise be needed, so decision makers can plan for growth in data processing and performance without an analogous growth in IT staff. At the same time, DBA resources can be devoted to application development and delivery instead of day-to-day platform maintenance.

CONCLUSION
High availability, high performance database servers have traditionally been costly and time-consuming to configure, deploy, and support. The Oracle Database Appliance reduces both the cost and complexity of reliable, high-performance computing. In analyzing the experiences of Oracle customers using Oracle Database Appliance, Nucleus found they could significantly reduce the cost and complexity of high-availability database solutions while increasing business flexibility.
Business and IT decision makers are constantly challenged to rapidly respond to business needs while controlling capital expenditures. Oracle Database Appliance helps them to achieve those goals by providing a powerful computing platform without the complexity traditionally associated with such systems, and the ability to pay as they scale up rather than making one large up-front capital investment. Nucleus found this was most valuable for data-intensive small organizations whose growth path was largely determined by their ability to process and analyze data. Organizations with similar growth plans should consider Oracle Database Appliance as a means to cost-effectively invest in a high performance computing platform that can support future growth with limited business disruption.