



A Prescription for Growth

Intel® Solution Services Helps New South Wales Health Find Best Price/Performance

In order to drive better value for spending, the IT team at the New South Wales Health Department (NSW Health) plans to migrate their IT infrastructure to a shared services model using Intel® architecture-based servers that deliver industry-leading price/performance and scalability. To validate their capacity predictions, the IT staff asked consultants from Intel® Solution Services to conduct a pilot test, demonstrating the scalability of one application—Oracle Financials*—running on Intel architecture-based servers. The tests showed the Intel/Oracle platform achieving near-linear scalability, which gave the IT team the data it needed to accurately predict the capacity necessary to meet growth projections.

“We are delighted by the quality of the work done by the Intel® Solution Services consultants. These people are expert at setting up mobile testing labs and conducting scale and performance tests.”

The Challenge:

- Establish confidence that the proposed servers can cost-effectively accommodate growth by measuring the scalability of Oracle Financials* running on Intel® architecture-based servers

Meno Schilling
Assistant Director, Architecture and Standards
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New South Wales Health Department

The Solution:

- Intel® Solution Services migrated Oracle Financials from legacy servers based on the UNIX* operating system and conducted a pilot test, which demonstrated near-linear scalability on Intel architecture-based servers
- These findings gave NSW Health’s IT team a basis for accurate estimates of capacity to meet future user requirements as well as confidence that an Intel architecture-based platform would deliver superb price/performance for many years to come



For the NSW Health IT team, a strong dose of price/performance was definitely what the doctor ordered.



Assessing the Situation

With healthcare costs spiraling upward, healthcare organizations must make each budget dollar go farther. And perhaps nowhere is this squeeze felt more keenly than in IT departments where “do more with less” has become a driving objective.

The IT team at NSW Health knows this fact of life well. Overall, NSW Health has initiated multiple programs to reduce costs and maximize return on investment. They include consolidating infrastructure, eliminating duplication and adopting other efficiencies. With Intel Solution Services, the IT team embarked on two important initiatives. The first was to move to a more cost-effective shared services model by consolidating NSW Health’s IT infrastructure into a central data center that will serve the organization’s area health services through a broadband network. The second was to migrate from legacy UNIX* operating systems to new, more cost-effective systems with attractive price/performance and the scalability to meet growth requirements for many years to come.

New IT platform must deliver assured performance

As the IT team began the process of selecting the best server foundation for the future, Intel architecture-based servers soon became the obvious choice, since they are widely recognized for excellent price/performance, scalability and compatibility with a wide range of software. Availability

Spotlight: Department of Health for New South Wales

- Tracing its roots to 1788 when the first group of English settlers set foot in Botany Bay, NSW Health manages the entire public health system for this Australian state of 6.7 million people
- The statewide public healthcare system includes eight area health services, a statewide ambulance service, a children’s hospital, justice health and the NSW Institute for Clinical Excellence

from multiple system suppliers ensures many configuration choices and competitive pricing.

To complete the cost/benefit analysis, the team needed to determine how much Intel architecture-based server capacity would be required to replace its existing systems. Says Meno Schilling, assistant director of architecture and standards for the Strategic Information Management Branch of NSW Health: “We needed to be absolutely certain about sizing before making the investment choice. We did not have the staff or financial resources to change directions if our choice actually required more servers than we predicted.”

Intel® Solution Services brings expertise, objectivity and vast resources

To gain confidence in their sizing predictions, the NSW Health IT team decided to bring in consultants with extensive expertise with Intel architecture-based servers. This quickly led to the selection of consultants from Intel Solution Services. In particular, the team was impressed by the following capabilities of the Intel group:

- A vendor-neutral position in the industry helps keep recommendations objective
- Unique proximity to Intel® software and engineering groups gives consultants access to a vast knowledge base
- Extensive worldwide sizing experience enables the consultants to make the best recommendations
- Strong relationships with other IT suppliers gives Intel access to outside resources to help define the best path of migration

Summing up the decision to use Intel Solution Services, Schilling says, “The consultants gave us a complete sense of how Intel architecture-based servers will perform with various applications. On this project, for example, we felt that Intel’s close relationship with Oracle and Red Hat would be quite helpful.”

The IT department and Intel Solution Services’ consultants decided that the best way to gain assurance of system performance and scalability was to build a pilot test. A 450-user application based on the Oracle Financials suite was chosen

Key Technologies and Services

- Intel® Xeon® processor–based servers running the Oracle 11i* Financials* suite
- Intel® Itanium® 2 processor–based database servers running Oracle9i* Real Application Clusters* software and the Red Hat Linux* Advanced Server operating system
- Intel® Solution Services Enterprise Migration Practice

for the test. The goal of the pilot test was to design the best scaling path and determine sizing information for the Intel architecture–based servers.

Delivering the Solution

Intel Solution Services consultants began the pilot test by migrating the Oracle 10.7 Financials application from legacy UNIX-based servers to Oracle 11i Financials on Intel® Xeon® processor–based servers. The existing Oracle database was moved from the existing legacy servers to Oracle9i* Real Application Clusters* software on Intel® Itanium® 2 processor–based database servers. Once the whole environment was in place, the consultants conducted a series of tests to measure performance and gather data, ultimately extrapolating scalability up to 2,250 users.

Testing on the Intel® Reference Architecture provides a baseline

To avoid any bias from selecting a given server vendor, Intel Solution Services used Intel® Reference Architecture–based servers, generic servers with none of the extra features often added by system providers. “Using these servers was a great confidence builder,” notes Schilling. “They deliver a generic level of performance, giving us a baseline to work from. Because server suppliers often add features that enhance performance, we knew that the systems we eventually purchased would give us performance as good as or better than the systems we tested.”

Accurate testing methodology assures high-quality data

Testing was based on a closed-loop performance testing methodology, which Intel Solution Services consultants

Integral Answers

- Intel Solution Services’ vendor-neutral consulting approach helps clients make objective decisions without a bias toward one system vendor or another
- Experienced consultants can provide a clear analysis of alternative systems and help configure them for optimal price/performance

developed to help ensure that results map as closely as possible to real-world conditions. In Intel Solution Services’ testing methodology, each test begins with a baseline configuration. Then various scenarios are run, results are evaluated and incremental adjustments are made. At NSW Health, for example, the Oracle software was tuned in this consistent, well-documented manner to perform better on the Intel architecture–based systems. “We wanted test results we could count on when we made our purchasing decision,” says Schilling. “The Intel methodology produced excellent data.”

Optimizations yield best price/performance

After the server and software configurations were optimized for performance, 16 performance tests were conducted over 15 days. Scalability tests showed that each additional application server supported 270 additional users and that each new database server accommodated 950 more users. In both cases, scalability of 80 percent was achieved. Schilling notes, “The tests prove that Oracle Financials and the Red Hat Linux* Advanced Server operating system running on Intel architecture–based servers can scale in a near-linear fashion to meet our future requirements. That gives us assurance that we can provide cost-effective IT services as computing needs increase over time.”

“They helped us select the best price/performance platform, and they helped us predict our future IT investment needs. We are delighted by the quality of the work done by the Intel® Solution Services consultants.”

Meno Schilling

Assistant Director, Architecture and Standards
Strategic Information Management Branch
New South Wales Health Department





Intel® Solution Services' expertise, objectivity and broad resources proved to be the right medicine for NSW Health.

During the testing process, Intel Solution Services consultants demonstrated a unique combination of capabilities that greatly helped the NSW Health IT team. Schilling notes, "The test results were the basis for all of our decisions. They helped us select the best price/performance platform, and they helped us predict our future IT investment needs. We are delighted by the quality of the work done by the Intel Solution Services consultants. These people are expert at setting up mobile testing labs and conducting scale and performance tests. They are also objective—they didn't try to push us toward one server supplier or another. And they can quickly access valuable resources both from inside Intel and from other IT suppliers. As its name implies, Intel Solution Services brought us a complete consulting solution."

Intel® Solution Services is Intel Corporation's worldwide professional services organization, helping enterprise companies capitalize on the full value of Intel® architecture through consulting focused on architecture transitions. For more information, visit intel.com/go/intelsolutionservices or contact us at intel.com/info/intelsolutionservices.

Solution provided by:

Intel®
solution
services

Return on Investment

To help the NSW Health IT team obtain the greatest possible return on its investment, consultants from Intel® Solution Services performed the following services:

- Optimized Oracle software for Intel® architecture-based servers
- Projected how Oracle software on Intel architecture-based servers would scale so NSW Health could accurately budget future IT investments
- Proved near-linear scalability of Oracle applications, confirming the cost-effectiveness of the platform as usage grows
- Performed tests on generic Intel® Reference Architecture servers so NSW Health could be confident that the predictions were conservative



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