

# AIRLINE SOARS WITH BLADES

Garuda Indonesia reduces energy consumption by 40 percent and optimizes space by 50 percent with Dell PowerEdge blade servers



Garuda Indonesia is Indonesia's flag carrier. Founded in 1949, the national airline flies to 21 domestic destinations and 19 cities in Asia, the South-West Pacific and the Middle East. The airline has signed joint service agreements for passengers and freight with eight other international airlines. Garuda Indonesia is based in Jakarta and transports 12 million passengers annually.

## SOLUTIONS

- SERVER CONSOLIDATION
- MIGRATION
- MANAGEMENT



## CUSTOMER PROFILE

**COMPANY:** PT Garuda Indonesia

**LOCATION:** Indonesia

**INDUSTRY:** Transportation

**FOUNDED:** 1949

**EMPLOYEES:** 6,000

**WEBSITE:** [www.garuda-indonesia.com](http://www.garuda-indonesia.com)

## CHALLENGE

Garuda Indonesia wanted to boost the efficiency of its business operations by developing its IT infrastructure further and running key front-end applications on high-performance servers.

## SOLUTION

Garuda Indonesia deployed a series of Dell™ PowerEdge™ blade servers paired with Dell PowerEdge enclosures. The blades has helped the airline reduce energy consumption, optimize data center space, and provided a reliable and scalable IT infrastructure to run its applications.

## BENEFITS

### Get IT Faster

- Dell consultants helped optimize deployment of the server solution, which was completed in 3 months

### Run IT Better

- Dell FlexAddress technology provides a reliable system to deploy and manage blade infrastructure
- Dell ProSupport provides custom IT support and services to meet Garuda Indonesia's requirements

### Grow IT Smarter

- Blades equipped with Intel® Xeon® quad-core processors help reduce energy consumption by 40 percent
- Dell blade servers and modular blade enclosures help reduce data center footprint by 50 percent
- Dell/EMC SAN arrays deliver expansive scalability

In recent years, Garuda Indonesia has faced a number of challenges from competing international airlines and budget carriers as well as changing economic conditions. In 2003, the Association of Southeast Asian Nations (ASEAN) endorsed Open Sky, a policy targeted to be implemented in 2015. Open Sky is designed to promote competition in the airline industry and to give all airlines from ASEAN the scope to compete on intra-ASEAN routes, which have been traditionally monopolized by local airlines. Industry challenges and heightened competition have placed pressure on Garuda Indonesia to maximize its efficiency and effectiveness, and as a result, the company increasingly relies on their IT infrastructure.

Garuda Indonesia runs a range of applications that require reliable and secure high-performance servers. These applications include: An enterprise resource planning (ERP) system; business accounting applications; the airline's automated reservation system; the



## **“AS BUSINESS EXPANDS, WE WILL HAVE TO SCALE OUR IT INFRASTRUCTURE TO MEET NEW DEMANDS, AND WE KNOW DELL WILL BE THERE FOR US.”**

M. Ismed Arifin, VP Information System Solution, Garuda Indonesia

### **HOW IT WORKS**

#### **HARDWARE**

- Dell™ PowerEdge™ M600 blade servers with Intel® Xeon® quad-core processors
- Dell PowerEdge M1000e enclosure
- Dell/EMC CX3-20c SAN arrays
- Dell OptiPlex™ desktops

#### **SOFTWARE**

- Dell OpenManage™ Systems Management Suite
- Altiris® Deployment Management Software
- Microsoft® Exchange Server 2007
- SAP® Business Suite

#### **SERVICES**

- Dell ProSupport

Garuda portal; and an Internet booking and payment application, Garuda Online Booking. The Internet booking and payment application integrates other applications such as inventory management, and the Internet booking and payment gateway.

Improving application performance is critical for Garuda Indonesia's automated reservation system for travel agents and the airline's international offices. "Each passenger must be served in less than three seconds, regardless of whether the system is accessed from Jakarta, Surabaya, Tokyo or Riyadh. We need a solid IT infrastructure in place to run our reservation system," stresses M. Ismed Arifin, VP Information System Solution, Garuda Indonesia.

While the airline's backend systems remain running on mainframe computers, Garuda Indonesia is focusing on middleware and front end applications that will run on Intel® platform servers. Garuda Indonesia runs a mixed application environment, which includes the SAP® Business Suite and a number of Microsoft® products.

To boost the effectiveness of the airline's business operations, new servers were needed to run key front-end applications. Garuda Indonesia held an open tender for the new server solution, inviting top-tier vendors to compete in an online auction. From the tender process, Dell's Intel-based platform was selected as the supplier of the servers, standing out amongst the competition due to the performance and features of its proposed servers, outstanding overall value, and supporting services.

The airline was pleased to continue its relationship with Dell, with Dell having provided Garuda Indonesia with a number of hardware solutions. "We've been using Dell hardware for over 15 years. When we first implemented the SAP Business Suite, we had 600 Dell™ OptiPlex™ desktop clients. Today, the number of OptiPlex desktop computers in Garuda Indonesia has grown to over 1,000," says Ismed.

Dell solution architects made an assessment of Garuda Indonesia's requirements and recommended a suitable hardware solution



**“BASED ON OUR EXPERIENCE WITH DELL, WE ARE ASSURED THAT DELL WILL BE COMMITTED TO INVEST THEIR TIME TO PROVIDE ALL THE CONSULTING AND SUPPORT SERVICES WE MIGHT NEED.”**

M. Ismed Arifin, VP Information System Solution, Garuda Indonesia

for the airline. Garuda Indonesia deployed a series of Dell PowerEdge™ M600 blade servers, housed in PowerEdge M1000e modular blade enclosures. The M600 blades are equipped with the latest Intel Xeon® quad-core processors. The blades connect to a set of Dell/EMC CX3-20c SAN arrays and were deployed to replace Garuda Indonesia's existing tower servers and host its business applications. The Dell solution was deployed within three months.

#### **ENERGY CONSUMPTION REDUCED BY 40 PERCENT**

Garuda Indonesia has achieved a substantial reduction in energy consumption due to its blade server solution, which is paired with the M1000e enclosure. The enclosure takes advantage of thermal design efficiencies such as efficient power supplies and dynamic power efficient fans, which have an optimized airflow design to

efficiently cool the chassis and enable better performance in a lower power envelope.

The Dell blades are based on the Intel Xeon processor 5400 series and the Intel Core™ microarchitecture, helping Garuda Indonesia maximize its data center performance and density, as well as improve energy performance. Intel's second-generation quad-core technology makes it easier to condense the airline's applications for more efficient operations at a lower total cost of ownership. Ismed asserts, "We found that our blade solution reduced energy consumption by as much as 40 percent."

#### **RELIABLE APPLICATION PERFORMANCE AND MANAGEABILITY**

A variety of servers are running in Garuda Indonesia's data center, but Dell blades are entrusted with running the most critical front-end applications for the airline. One such

application is Microsoft® Exchange Server 2007. Used by 2,000 employees across Garuda Indonesia's global operations, the messaging and collaborative software plays a key role in collaboration and communication.

In addition to the Microsoft application, Garuda Indonesia is currently developing a Business Intelligence application from SAP. The application will run on blade servers and provide airline management with the latest data on the company's performance, which is vital due to increased airline competition and an evolving industry landscape.

The Dell blades are packaged with management tools that simplify deployment and management of the airline's server solution. "The Dell blades have a range of tools including Dell OpenManage™ to ease management. These tools alert us on issues so we can act quickly to resolve them," says Ismed.

# “THE COMPACT AND MODULAR DESIGN OF THE BLADES HAS ALLOWED US TO GET THE MOST OUT OF OUR DATA CENTER SPACE, REDUCING OUR DATA CENTER FOOTPRINT BY 50 PERCENT.”

M. Ismed Arifin, VP Information System Solution, Garuda Indonesia

## BLADES REDUCE DATA CENTER FOOTPRINT

Deploying the blades into Garuda Indonesia's data center was a simple process, with 16 blades able to be housed in the M1000e modular blade enclosure. The M1000e can support future generations of blade technologies regardless of processor/chipset architecture, helping to secure Garuda Indonesia's future investment. “The compact and modular design of the blades has allowed us to get the most out of our data center space, reducing our data center footprint by 50 percent,” says Ismed.

## FLYING HIGH WITH DELL PROSUPPORT

Garuda Indonesia has received positive feedback from users of applications that run on blades and from IT staff benefiting from improved ease of management.

Garuda Indonesia is confident in Dell's enterprise capability and is interested to explore new ways in which its partnership with Dell can keep the airline at the forefront of technology. Virtualization is being considered, and Garuda Indonesia is confident of the committed support

services that the airline will receive from Dell ProSupport. “Based on our experience with Dell, we are assured that Dell will be committed to invest their time to provide all the consulting and support services we might need,” says Ismed.

Looking ahead, Garuda Indonesia wants to further enhance its operations with new customer-facing applications such as the Garuda Frequent Flyer loyalty program. The airline will be taking delivery of new fleets including the Boeing 777-300ER for long-haul flights to Europe and the Boeing 737-800 aircraft. “As business expands, we will have to scale our IT infrastructure to meet new demands, and we know Dell will be there for us,” concludes Ismed.

**For more information on this case study or to read additional case studies, go to [www.dell.com/casestudies](http://www.dell.com/casestudies) and [www.dell.com](http://www.dell.com)**

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