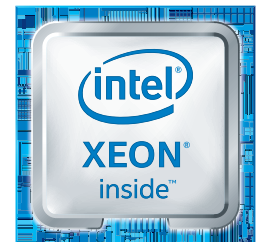


# Case Study

## Lembaga Ilmu Pengetahuan Indonesia

“Fujitsu’s family of PRIMERGY servers delivered a powerful and flexible data center solution that allows us to perform complex scientific calculations, reduce the risk of critical data loss and lower our overall TCO.”

Laksana Tri Handoko, Deputy Head of Department of Engineering Science, Lembaga Ilmu Pengetahuan Indonesia



Intel Inside®.  
Powerful Solution Outside.



### The customer

Lembaga Ilmu Pengetahuan Indonesia (The Indonesian Institute of Sciences or LIPI) is a non-departmental research institution, established on August 23, 1967. LIPI is one of five non-ministerial Government Institutes under the State Ministry of Research and Technology of Indonesia. With a goal to become a world-class scientific institution, LIPI is responsible for carrying out national scientific research to enhance Indonesia’s national economic competitiveness and to develop innovations that strengthen the growth of governance and civil society that is built on the foundation of science principals and a code of ethics. LIPI also acts as an independent source of advice and information on topics related to national policies in science and technology.

### The challenge

Due to budget constraints and a lack of funding, LIPI was limited by its available resources, which in turn impacted its capacity for scientific research. LIPI thus faced a huge challenge in optimizing its existing ICT resources in a way that could help the organization become a world-class scientific institution, and to improve its global competitiveness. Identifying the need for a high quality, cost-effective IT infrastructure, LIPI decided that building a system that worked with the existing in-house custom-built IT infrastructure, would be the best approach.

As a scientific institution with a high rate of IT literacy among the personnel, the issue was not in their ability to use IT. The challenge remained in ensuring the IT infrastructure could support the increasing processing demands of complex scientific calculations and data management. LIPI also needed to make sure the new environment was reliable enough to maintain system continuity, inclusive of data backup services, and could provide a high level of expandability and compatibility for future implementations.

With the increasing need to run complex calculations for various research projects, in areas such as physics, bio-informatics, and IT, the system often experienced downtime. Unfortunately this significantly increased the risk of losing critical data and also resulted in delaying the ability of the researchers to provide scientific-based recommendations. LIPI was in need of a high performance computing (HPC) data center solution that could help them overcome these challenges.

### The customer

Country: Indonesia  
Industry: Government, Scientific  
Founded: 1967  
Employees: 5,000  
Website: [www.lipi.go.id](http://www.lipi.go.id)



### The challenge

- Limited ICT budget encouraged LIPI to build a customized ICT infrastructure that fit their specific needs in regards to quality and price performance
- High compatibility with the existing custom-built system
- High performance infrastructure for processing complex scientific calculations and effective data management
- Reliable ICT environment to improve continuity when processing scientific calculations, including data backup services
- Reduced ICT complexity and downtime which increases overall length of research studies
- Reduce risk of critical data loss

### The solution

The family range of Fujitsu Server PRIMERGY systems underpin a powerful and flexible data center solution that allows LIPI to perform complex scientific calculations, reduce the risk of critical data loss, offers high scalability and a low TCO.

### The benefit

- Increased reliability and data security for high-speed scientific calculations and processing, and greater system performance for faster research results
- Improved compatibility and scalability to accommodate future expansion of the rapidly changing IT environment, achieved with Fujitsu's family range of PRIMERGY servers
- Eliminated downtime following implementation
- Reduced TCO utilizing the compact Fujitsu Server PRIMERGY, saved space in the data center and improved power efficiency

### The solution

LIPI decided to develop a customized HPC and data center solution that could meet their specific scientific processing needs. With the support of Fujitsu, LIPI successfully built and configured a customized HPC system that meets their requirements.

The data center based solution implemented by LIPI utilizes strengths from the Fujitsu Server PRIMERGY RX family including PRIMERGY RX200 S7, PRIMERGY RX300 S7, and PRIMERGY RX350 S7. This provided LIPI with a versatile range of rack-optimized servers that deliver best-in-class performance and energy efficiency. Furthermore with extremely low failure rates, LIPI achieved high system reliability, essential for completing their complex scientific calculations. LIPI also implemented PRIMERGY CX400 S1 and PRIMERGY CX270 S1 which is a Multi-Node Scale-Out server system, to form the basis of the HPC environment and improve expandability. These servers can also be leveraged for cloud computing, service providers and large server farms.

### The benefit

LIPI's IT department was very impressed with Fujitsu's line of servers as they offered agility and the ability to support their existing legacy environment.

"From the beginning Fujitsu have offered comprehensive products at a competitive price with specifications to meet our specific data center needs. With the best price performance, Fujitsu's servers deliver high availability that also supports our existing legacy systems," explained Laksana Tri Handoko, Deputy Head of Department of Engineering Science, Lembaga Ilmu Pengetahuan Indonesia.

Upon implementation of the new solution, LIPI successfully achieved several business improvements. Not only did LIPI directly benefit from higher reliability when processing scientific calculations, at the same time, the higher performance meant more complex research could be handled and results obtained faster. This ensured LIPI was able to accelerate a number of scientific research projects in physics, Bio-informatics, and IT, without experiencing any downtime.

### Products and services

- FUJITSU Server PRIMERGY RX200 S7 with Intel® Xeon® Processor
- FUJITSU Server PRIMERGY RX300 S7 with Intel® Xeon® Processor
- FUJITSU Server PRIMERGY RX350 S7 with Intel® Xeon® Processor
- FUJITSU Server PRIMERGY CX400 S1 with Intel® Xeon® Processor
- FUJITSU Server PRIMERGY CX270 S1 with Intel® Xeon® Processor

Furthermore, the new PRIMERGY based solution not only met all requirements for LIPI's rapidly changing IT environment, it offered a high level of compatibility and scalability for future system expansion.

### Conclusion

Fujitsu Server PRIMERGY systems have helped LIPI improve global competitiveness by facilitating a powerful data center solution that offers high flexibility and a lower TCO. The cost effective solution has enabled LIPI to execute faster and more reliable scientific studies that have led to advancements in science and innovation.

Laksana Tri Handoko, Deputy Head of Department of Engineering Science, LIPI, stated, "We are very satisfied with the performance of Fujitsu's family of PRIMERGY servers and the data center solution that was implemented. As a result we reduced our overall IT spend, while at the same time, we achieved the performance, scalability and expandability we needed to process complex scientific calculations, now and in the future. Fujitsu PRIMERGY servers also strengthened the security and reliability of our environment, thereby reducing the risk of losing critical data during operation. We take great pride in the fact our IT implementation has since become the benchmark for other departments within the government."

Following the successful implementation of the Fujitsu Server PRIMERGY, and its ability to enhance LIPI's research in various scientific areas, LIPI is excited about working with Fujitsu in the future.

**"As our need to efficiently process complex scientific calculations grows, we will have to expand our data center environment by filling up the available rack space with more of Fujitsu's high performance servers. We look forward to Fujitsu's continued support for LIPI in the future."**

Laksana Tri Handoko, Deputy Head of Department of Engineering Science, Lembaga Ilmu Pengetahuan Indonesia

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