



Case Study:  
CERN LHC Project

BIOS IT provides the accelerated enterprise technology that supports the biggest discoveries in particle physics.

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[www.bios-it.com](http://www.bios-it.com)



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## SUMMARY

BIOS IT provides the accelerated enterprise technology that supports the biggest discoveries in particle physics, delivering over 50PB of storage to CERN for the Large Hadron Collider (LHC) project and over 20K CPU cores based on Supermicro® Twin architectures. As a long standing contributor to the CERN project and their centralised IT infrastructure, we have provided a wide range of systems and have become a key strategic partner that has introduced significant changes in CERN's technology. The CERN Large Hadron Collider is the largest, most powerful particle accelerator, and is one of the biggest and most complex experimental facilities ever built.

## THE GOAL

Facing budget limitations and energy efficiency initiatives alongside growing demands for greater processing power and capacity in the datacentre, organisations like CERN, seek solutions that help lower their power consumption and operational costs while enhancing the scalability of their IT infrastructure.

## THE SOLUTION

Supermicro® Twin servers are a smart, yet affordable investment for enterprises and institutions that need to build, expand or future-proof advanced computing infrastructures. Twin architecture is the foundation of the most advanced server platforms in HPC. These high performance, high density systems feature optimum airflow for energy efficient cooling, easy maintenance and high availability with hot-swappable nodes and redundant power supply modules.

BIOS IT's custom built solutions are tailored to particular application and environment requirements, allowing research companies such as CERN to rapidly adapt its infrastructure to changing needs and service delivery models, accelerating deployment in a demanding and ever-evolving industry.

## ABOUT CERN

At CERN, the European Organization for Nuclear Research, physicists and engineers are probing the fundamental structure of the universe. They use the world's largest and most complex scientific instruments to study the basic constituents of matter – the fundamental particles. The particles are made to collide together at close to the speed of light. The process gives the physicists clues about how the particles interact, and provides insights into the fundamental laws of nature.

To read CEO Magazine's feature interview with CERN Director General Fabiola Gianotti visit [www.bios-it.com/case-study/cern](http://www.bios-it.com/case-study/cern)

## KEY FIGURES

50PB

STORAGE INSTALLED

20,000

CPU CORES DELIVERED

"IF WE NEED TO BUILD  
A CUTTING-EDGE  
SUPER CONDUCTOR,  
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WE WORK TOGETHER,  
WE GROW TOGETHER."

FABIOLA GIANOTTI  
CERN DIRECTOR-GENERAL

