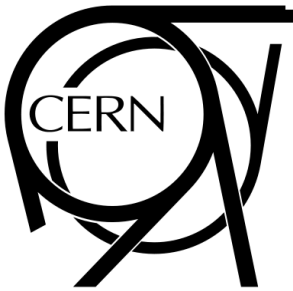


Case Study

Safe Host Services

SafeSuite • Redundant Power •
Support Services



High Power Density Collocation Service for CERN

CERN extends its data centre into Safe Host's facility to meet demand for critical power.

Challenges

- Provide a high power density collocation environment
- Create cooling efficiencies during the design phase
- Balanced power distribution across phases

Solution

- An optimal power & cooling design
- Dedicated SafeSuite™ data centre collocation service
- High-density redundant power service
- 24x7 monitoring portal for live power & environmental parameters

Benefits

- Proof that outsourcing the data centre collocation is a viable option for CERN
- Capacity to continue to extend CERN's critical power footprint outside of its premises
- Effective capacity management through real-time monitoring of racks

"...they offered us meaningful service level agreements for power and temperature and the ability to track power and cooling metrics in real-time."

CERN

Challenges

CERN turned to Safe Host when it needed to find a secure and reliable data centre facility, one with the capacity that met its ever-expanding data storage requirements and its demand for critical power.

One of CERN's largest projects, the Large Hadron Collider (LHC), studies particles and the forces that bind them together. This is done by firing protons round a 27km circuit that exists 150m below ground.

1,000 bundles of 100 billion protons are fired by each beam, whose direction is curved around the circuit by supercooled (-271°C) superconducting magnets, and is made to collide at the centre of four detectors. The resulting interactions between the protons are measured millions of times per second.¹

To sort the data down to a few hundred "good" events per second they rely on computers, but even this generates between 100 and 1,000 megabytes of data each second. The result is that CERN's scientists manage more than 15 petabytes of new data each year.

Solutions

Working closely with CERN's data centre engineers, Safe Host designed an optimised layout for power and cooling. The installation was completed within budget.

The solution involved configuring and installing dedicated power boards in a redundant configuration, fully-integrated into Safe Host's building alert system. This gives CERN the ability to monitor in real-time its power-loading across each phase, allowing a clear picture of their capacity usage.

Benefits

The successful outcome of the project is proof-positive that outsourcing the data centre is a viable option for CERN. Safe Host provides an ideal secure environment for the continued growth in data expected over the coming years.

About CERN

CERN, the European Organization for Nuclear Research, is one of the world's largest and most respected centres for scientific research. Its business is fundamental physics, finding out what the Universe is made of and how it works. At CERN, the world's largest and most complex scientific instruments are used to study the basic constituents of matter — the fundamental particles. By studying what happens when these particles collide, physicists learn about the laws

of Nature.

Founded in 1954, the CERN Laboratory sits astride the Franco-Swiss border near Geneva. It was one of Europe's first joint ventures and now has 20 Member States.

About Safe Host SA

Safe Host SA provides a complete range of data centre infrastructure services in its state-of-the-art Data Centre in Geneva, Switzerland. Safe Host's four service lines – Colocation, Connectivity & Security, Business Continuity and Managed IT Services – provide a secure, reliable and cost-effective way to ensure the continuous availability of business systems and applications.

Safe Host SA's management system has been awarded ISO 9001:2008 certification by Société Générale de Surveillance SA. The company has been successfully recertified annually since 2003.

"Safe Host was able to meet the service and environmental needs of CERN comfortably, including the provision of high-density power supply... they offered us meaningful service level agreements for power and temperature and the ability to track power and cooling metrics in real-time."

Wayne Salter

IT Computing Facilities Group Leader, CERN

¹ CERN Website