



Case study

NFrance modernizes sovereign data center cooling with Vertiv™ thermal management solutions and services



Background

NFrance is a leading French provider of cloud hosting, colocation, and managed services, specializing in the secure and high-performance operation of critical digital infrastructures. For nearly 30 years, the company has supported organizations in their digital transformation, with high standards for availability, security, and data sovereignty.

NFrance operates a self-owned data center, certified ISO 27001 and HDS, providing direct oversight of the value chain and protection of sensitive data. Data center operational reliability is at the heart of its business model, supported by critical services management combining monitoring, performance, and business continuity.

In a context of growing cloud usage and increased criticality of hosted services, NFrance needed to support high levels of availability, resilience, and lower environmental impact for its data center infrastructure, while optimizing operational performance and improving energy efficiency.

Challenge

To support the evolution of its data center, NFrance needed to modernize its data center cooling infrastructure, while maintaining continuous availability for hosted customer services. The upgrade had to reduce power consumption, optimize footprint, preserve thermal stability, and eliminate cooling-related water use without introducing operational risk during the transition.

NFRANCE

professional cloud management

Company Profile:

NFrance is a leading French provider of cloud hosting, colocation, and managed services, specializing in the secure and high-performance management of critical digital infrastructures. Based in France, the company supports organizations in their digital transformation with strong requirements for security, availability, and data sovereignty.

Industry: Data Center, IT Infrastructure & Hosting / Cloud & Managed Services

Region: Toulouse, France

Solution

To address this dual challenge, Vertiv helped NFrance modernize the thermal chain as an integrated operating system: precision cooling, intelligent unit coordination, commissioning and lifecycle support, by deploying a high-performance cooling solution.

Vertiv and NFrance worked together to design a precision cooling architecture combining:

- **Vertiv™ Liebert® PDX:** a direct expansion (DX) system equipped with variable-speed scroll compressors. This architecture enables fine modulation of cooling capacity between 25% and 100% of maximum capacity, adapting in real-time to the data center's thermal fluctuations.
- **Vertiv™ Liebert® HPA-HCR:** a high-performance condensing unit featuring new generation EC fans that modulate from 30% to 100% of maximum speed to optimize airflow. This enables efficient heat dissipation without water usage, while supporting precise temperature control, reduced power consumption and lower acoustic impact.
- **Vertiv™ Liebert® iCOM™ Cooling Unit Control:** optimizes overall performance through its advanced algorithms and 'Teamwork' mode, enabling intelligent coordination of all deployed units to help maintain stable operating conditions.
- **Vertiv™ Project Services:** The project was completed with Vertiv's commissioning and project management services, enabling optimal operation from day one and anchoring the solution over the long-term within NFrance's energy performance and business continuity plans.
- **Vertiv™ Lifecycle Services:** a Vertiv™ Services Preferred Warranty contract including two annual preventive visits, 24/7 support with an eight-hour on-site intervention time, as well as the purchase of an emergency kit containing critical spare parts intended to support rapid restoration of cooling capacity following a potential incident. The support of Vertiv's qualified service technicians accompanies the continuity of NFrance's data center operations, supporting its zero-interruption objective.



Vertiv™ Liebert® PDX

The system was designed around optimized equipment sizing, dual refrigeration circuits, independent condensers, and N+1 redundancy to support reliable operation under demanding conditions. Vertiv project and commissioning services supported operational readiness from day one, while a Preferred Warranty contract, preventive maintenance, 24/7 support, and critical spare parts helped reinforce long-term continuity objectives.



Outcome

Since deployment, NFrance has achieved approximately a 20% reduction in power consumption, and eliminated water use for cooling operations, achieving a cooling WUE (water usage effectiveness) of 0. The modernization is expected to support continued PUE (Power Usage Effectiveness) improvement, with NFrance targeting a PUE of 1.3 in 2026 based on current operating conditions and consolidated data expected in 2027.

The dual-circuit architecture with two independent condensers means that, in case of loss of one refrigeration circuit, half of the cooling capacity remains available. The rapid restart logic (less than [40 seconds](#)) and automatic failure management help support resilient thermal performance, energy efficiency and lower operational risks.

“The performance of our hosting services depends on the stability of our infrastructure. By choosing Vertiv precision cooling solutions, we not only secured 99.99% availability for our servers, but we also significantly reduced our PUE. Since installation, we’ve observed absolutely precise thermal regulation, even during peak loads. Less energy consumption, more computing power: a winning choice for our profitability and for the planet.

Moreover, Vertiv supported NFrance throughout the project with great professionalism, distinguished by the technical quality of qualification, the proximity of commercial and technical teams, as well as rigorous monitoring during implementation.”

— **Julien DAL,**
Data Center & Infrastructure Manager,
NFrance



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