

Fortune 500 ICT Provider Improves Data Center Cooling to Add Computing Capacity Without Physical Expansion



A Vertiv Case Study

Background

Focused on the changing requirements of the emerging digital economy and the resulting demands on businesses of all sizes, this ICT provider's infrastructure comprises the largest Multiprotocol Label Switching (MPLS) network and 10 data centers requiring concurrent manageability.

Challenge

While its 5.7 megawatt (MW) data center had space for more racks, there was no more cooling capacity available to support increased customer and partner demand. Older thermal management systems were leading to very high electrical power consumption and a power usage effectiveness (PUE) level above 2.0.

Legacy condensers placed on a terrace were creating a heat island effect with a low level of cooling output, requiring personnel to regularly sprinkle water on the condensers to avoid unit tripping in the peak summer months. Lack of containment led to recirculation of heat that also caused the tripping of computer room air conditioning (CRAC) units.

Solution

The ICT provider sought to improve its data center cooling and PUE by deploying the highly efficient [Vertiv™ Liebert® PDX](#) system using variable capacity digital scroll compressor and coupled it with the [Vertiv™ Liebert® LVC](#) V-shaped condensers fitted with electronically commutated (EC) fans. For added energy efficiency, the company also deployed the [Vertiv™ SmartAisle™](#) solution, which provided needed cold aisle containment.

Outcome

Not only did the deployed data center cooling solution allow the ICT provider to have a non-disruptive phased approach to retrofitting its data center, but it also helped maximize availability by eliminating the short-cycling of the condensers and tripping of the CRAC units.

Staff no longer had to invest manhours for water sprays in the summer. The controls and containment of the Vertiv SmartAisle solution helped reduce energy consumption through variable cooling that matches airflow to rack load.

Ultimately, the ICT provider was able to realize the full potential of its 5.7 MW IT load without building out additional space and achieved a mechanical PUE of 1.25.

Company Profile

Fortune 500 India company with cloud services at the core of its portfolio

Industry

Information and Communications Technology (ICT)

Region

Mumbai, India

"While this ICT provider was seemingly poised to meet customer demand for data center space, it was faced with maturing thermal management technology that was not meeting business needs. Working with our team of experts to retrofit one of its data centers ensured a cooling system architecture that was both energy efficient and future-ready."

— Ashok Yadav, Director of Thermal Management Offering, Vertiv