

Protecting Valuable Compute and Digital Business Processes in Harsh Industrial and Edge Environments



A Vertiv Application Brief



Vertiv™ SmartCabinet™ ID Offers Fully Sealed Cabinet with Integrated Cooling for Critical Applications

Data centers are pristine environments where servers, storage, and other IT devices are safeguarded with leading environmental controls. This mission-critical technology is protected by purpose-built racks which keep airborne contaminants out and provide precision cooling to keep equipment performing at peak levels.

Not so at factories, warehouses, distribution and fulfillment centers, and other edge sites. Here IT equipment, which also powers critical processes, may be in an unmanaged environment. However, dust, humidity, rising and falling temperatures, and liquids can wreak havoc on technology, putting operations at risk. In manufacturing, that could mean compromising automated production processes. In healthcare, daily operations, including clinician-patient telemedicine sessions, depend on reliable local compute. Telecommunications providers must deliver constant connectivity to businesses and individuals. And in retail, technology powers innovative customer experiences, such as automated stores or interactive shelves or dressing rooms.

As a result, data center, IT, and facility managers need to protect these vital operations at all costs. However, they may face some challenges to accomplishing this goal, including:

Overview

Industrial and demanding environments require a different approach to data center compute, storage, and cooling. Vertiv™ SmartCabinet™ ID is an IP54-rated IT cabinet with integrated cooling solution that's fully sealed, protecting equipment from challenging environmental conditions. The solution also provides local and remote environmental monitoring, so that teams can evaluate site conditions and take action when needed. Finally, SmartCabinet ID provides optional intelligent electronic locks for stronger physical security, alerting teams to all access attempts.

Providing high availability of equipment

Obviously, uptime is everything, no matter what the industry or business. As a result, teams typically won't deploy technology unless they have a plan for protecting it.

Vertiv SmartCabinet ID is a fully sealed cooling solution that's custom-designed for demanding environments. It's IP54-rated, ensuring that the equipment is protected from environmental conditions that could otherwise harm performance.

SmartCabinet™ ID also provides both local and remote environmental monitoring, so that teams can monitor operating conditions at all times. The solution deploys with a variety of sensors, including temperature, humidity, flood detection, and more, enabling teams to maintain constant situational awareness of any issues that could impact equipment performance. In addition, an emergency backup fan ensures proper airflow, preventing equipment from overheating.

Maintaining adequate cooling of technology

Cooling compute is a science that data center teams have perfected. In demanding environments, teams may not have the luxury of standardizing temperatures, but still need to protect equipment. So, it's essential that they place technology in a cabinet that offers integrated and controlled cooling.

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Vertiv™ SmartCabinet™ ID provides 3.5 or 7 kW of integrated cooling capacity and outdoor heat rejection, ensuring that equipment is kept at the ideal temperature. Recognizing that many industrial environments experience high heat, the solution protects equipment up to 113 degrees Fahrenheit. As IT demands rise and fall over time, the SmartCabinet™ ID adjusts its cooling output to match the heat load in real time, providing 0-100% scalable cooling capacity.

Ensuring the physical security of systems

Not all data breaches are cyber in nature. Some attackers subvert weak physical controls to access data at its source. In addition, industrial and other environments often have staff who have mobile workstyles, meaning that physical attacks may be less easy to detect than at dark edge sites. As a result, it's essential to secure servers and storage with strong physical controls.

The SmartCabinet ID provides optional intelligent electronic locks at both its front and rear door to protect technology from unauthorized access. In addition, door sensors alert teams to all access attempts, so that they can confirm users are authorized to access equipment – or take immediate action.

Finding space for equipment

Space can be at a premium at healthcare, retail, and manufacturing sites. Server rooms or bulky technology cabinets can take up space needed for other operations – or simply not fit where they're needed. Vertiv's innovative design for the SmartCabinet ID results in a small form factor, with an integrated cooling unit that takes up zero rack U-space. That means the SmartCabinet ID can be placed in more locations and accommodate more compute. As a result, it's a flexible solution for many different industrial and commercial use cases and provides teams with higher ROI. They can add the cabinets they truly need, rather than provisioning new solutions due to an inability to fully utilize the internal space of the cabinets they already possess.

Providing speed to market

Organizations often stand up edge sites rapidly to fulfill new customer demand or enable new digital services. As a result, they can't wait for long provisioning timeframes or navigate supply chain delays.

Vertiv harnesses its global manufacturing capacity to keep solutions always in stock. As a result, SmartCabinet ID can be ordered and then installed in as little as one day, allowing for quick deployments and turn-on of new compute capacity. And since the SmartCabinet ID is a stand-alone cabinet with integrated cooling, scaling the IT deployment is made even easier by deploying more units as your business grows over time.

Conclusion

For many organizations, business is growing—and there's no end in sight. As a result, data center, IT, and facilities teams are standing up more edge sites and deploying more compute to support digital processes. However, protecting compute performance in any and every condition is of utmost importance. SmartCabinet ID provides teams with an intelligent, solution that's built to withstand punishing environmental conditions: protecting equipment and delivering the high availability businesses, employees, and customers crave.

Learn more about
Vertiv™ SmartCabinet™ ID today.

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