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5 best practices for edge infrastructure management

ACCORDING TO Gartner, more than 75% of all enterprise-generated data will be created and processed outside of the traditional data center or cloud by 2025. Instead, much of this data will be handled by edge data centers.

As the volume of data from transformative technologies like AI, IoT, and 5G grows, there will be an increased demand for more edge data centers to process and store that data locally. However, managing edge infrastructure poses unique challenges compared to a traditional data center, requiring remote management tools.

ASHRAE advises that "the disparate nature of edge data centers makes the role of remote management and monitoring not only central, but ever more critical, to their operational performance. Tools such as DCIM play a key role in ensuring that all the relevant parameters can be remotely monitored."

To reduce the complexity of edge infrastructure management, you should follow these proven best practices:

Get the most out of space and power resources
Edge sites are small, so it is critical to maximize the utilization of available capacity. Use DCIM software to visualize and correlate common capacity constraints like cabinet weight, percentage full, budgeted power, and actual power. What-if analysis can be conducted to understand the potential impact of installations and decommissions on capacity, enabling you to identify stranded capacity and defer capital expenditures.

Issue visual work orders to remote hands
Moves, adds, and changes must be completed accurately and quickly, but directing remote technicians on what to do in an edge site can be difficult. Leverage 3D visualizations to see where your cabinets are located and rack elevation views that provide the exact U-position and other details of your assets. Then, you can show technicians exactly where data and power ports are located so that connections are made correctly.

Monitor data center health of all locations
Leverage an enterprise health dashboard that provides an at-a-glance view of the health and capacity of every single data center and edge site in a single pane of glass. Be the first to know of potential issues that can cause downtime such as power capacity limitations, hot spot formation, loss of redundancy, and other power or environmental alerts.

Accurately track and manage all assets, parts, and connections
Edge sites are difficult to manage, with complex and distributed deployments spanning many sites and multiple business applications. Keep an accurate, real-time inventory of all assets like servers, networking equipment, rack PDUs, patch panels, cabling, and parts and spares. Use visual circuit trace diagrams to avoid overloading circuits, decrease latency, and quickly troubleshoot connections to reduce downtime.

Protect all sites and assets
Securing remote equipment can be difficult without the right tool. Deploy a solution that provides centralized security management including the ability to remotely control electronic cabinet door locks for remote hands, restrict access with role-based permissions, ensure compliance with real-time audit logs, and monitor video surveillance feeds. Edge infrastructure management is a challenge when you have no onsite personnel, no visibility into what's happening, and potentially harmful environmental conditions near IT equipment. However, by following best practices and using the right software tools, you will improve visibility, uptime, efficiency, and people productivity across all your sites.