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Author:

Moises Levy, Principal Analyst

Manoj Sukumaran, Principal Analyst, Data center IT

On the Radar: Vertiv simplifies remote management of IT devices

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Summary

Catalyst

Data center infrastructure and information technology (IT) equipment needs to be monitored across an entire facility to reduce downtime and streamline operations. Remote management and real-time data collection are challenging, especially in data centers without adequate instrumentation.

Vertiv™ Avocent® ADX brings to the market an IT management solution, comprising hardware and software, to remotely manage and monitor data center infrastructure of any scale. The vendor has emphasized security, scalability, and resiliency. The software leverages open standards, hardened binaries, and APIs and addresses key challenges in managing and monitoring granular performance parameters of the IT equipment, improving system administrators control.

Omdia view

The COVID-19 pandemic has accelerated the global digital transformation, making businesses and consumers more reliant on cloud services, online content, and connected devices. With a growing number of remote workers, the need to access business applications remotely and securely has also increased. Remote maintenance, support, and management of IT devices is the new norm. Remote management of IT devices is highly encouraged in all organizations to guarantee 24/7 operations with minimal disruption, as technical issues and human errors have an increasingly significant impact on business continuity.

The market opportunity for Vertiv Avocent ADX Ecosystem is significant and wide in scope. Deployments can include large centralized and edge data centers operated by businesses of any size in various market sectors such as manufacturing, engineering labs, education, healthcare, banking and insurance, and retail stores.

Why put Vertiv Avocent ADX Ecosystem on your radar?

The ubiquitous need for IT devices across all organizations has highlighted the importance of automation and remote management. Organizations need to catch up. IT and data center leaders, directors, managers, engineers, and operators constantly seek new solutions to improve management and performance while reducing downtime and risk.

Market context

The way data centers are built and managed has evolved over time, with operators making use of new hardware and software technologies. However, with the advent of edge computing, IT resources are becoming more distributed, creating new operations and management challenges.

Many enterprises pioneered edge computing, having distributed business models with application support required at multiple levels, branches, offices, or stores. Today, enterprises are running more and more latency-sensitive workloads, including healthcare and industrial applications, on-site data consolidation, data sharing, analytics, and retail store management.

Remote management and monitoring of IT resources is unavoidable as edge computing proliferates. Even centralized data centers need granular control and monitoring to make operations more efficient while reducing risk. Equipment monitoring and optimization that leverages artificial intelligence techniques can help improve energy efficiency and operations in data centers.

A key challenge is that the technologies for managing and monitoring IT assets closely are not always accessible to most enterprise customer segments or even to cloud service providers. Although hyperscale cloud service providers (SPs) have developed customized tools and technology in house, smaller operators do not have the expertise or resources to do so. This is the gap Vertiv is trying to fill with the Avocent ADX ecosystem.

Product overview

The Vertiv Avocent ADX solution has three main devices.

- **Avocent ADX management platform:** The management server runs the Avocent management software, which logs data and provides secure remote monitoring and control of the IT equipment.
- **Avocent ADX rack manager:** This PoE switch aggregates data from the management ports of various IT equipment. It also provides power and connectivity to the interface modules in case the IT equipment does not have an Ethernet management port and uses other interfaces such as a serial or USB port.
- **Interface modules:** These connect the IT equipment or PDUs to the PoE switch in case there is no Ethernet interface on these systems. These are primarily protocol converters. The interface modules can also provide keyboard video mouse (KVM) features and serial connectivity to IT devices.

Avocent Core Insight (ACI) firmware is a hardened implementation of the OpenBMC Linux distribution, which was developed first by Facebook to manage its data center infrastructure and has now been adopted widely by other hyperscale cloud SPs and colocation SPs. Leading hardware vendors (e.g., Dell, HPE, and Lenovo) also use OpenBMC on their baseboard management controllers (BMCs).

The combination of interface modules, management server, and software enables the Vertiv Avocent ADX ecosystem to automate IT device management, configuration changes, and status reporting. The Avocent product portfolio also supports a wide variety of out-of-band connectivity options (e.g., LAN, wireless LAN, and cellular) to ensure connectivity, especially at remote sites.

The software stack is compatible with a variety of management protocols used by various IT equipment vendors and uses the Redfish standard, providing a RESTful interface for management. Vertiv plans to incorporate data analytics and AI in the future to improve the user experience.

Company information

Background

Vertiv Holdings Co (NYSE: VRT) is a US-based mission-critical infrastructure provider with global presence, founded in 2020, through a business combination with GS Acquisition Holdings.

Vertiv’s history began in 1946 when Ralph Liebert founded Capitol Refrigeration industries. In 1965, Liebert Corporation formed as the first manufacturer of computer room air conditioning (CRAC), and in 1983 it acquired Programmed Power Corporation, expanding the UPS business. In 1987, Emerson acquired Liebert Corporation, and in 2000 Emerson Network Power was formed, followed by various acquisitions including Avocent in 2009. In 2016, Vertiv was launched as a standalone business as part of the acquisition by affiliates of Platinum Equity Advisors of the Emerson Network Power group of businesses.

Current position

Vertiv is one of the leaders in data center infrastructure. Its products and services include critical power, thermal management, rack enclosures, monitoring, and management. The following brands are part of the portfolio: Alber™ (battery monitoring), Avocent (IT management), Chloride® (industrial power), Cybex™ (IT management), Energy Labs (commercial and industrial thermal), Geist™ (Rack PDU), Liebert® (AC power and thermal), and NetSure™ (DC power).

Avocent is a business unit within Vertiv. It formed in 2000 from the merger of Apex and Cybex Computer Products Corporation, two large manufacturers of KVM equipment.

Future plans

The goal is to bring in best practices from across the industry, including hyperscale cloud SPs, and make them accessible to a wider market. The future software enhancements are expected to improve user experience and ease of deployment. The vendor also plans to leverage data collection, analytics, and artificial intelligence to optimize and automate various management functions. Vertiv is committing important resources and engineering talent to R&D.

Key facts

Table 1: Data sheet: Vertiv

Product/Service name	Vertiv™ Avocent® ADX Ecosystem	Product classification	High availability
Version number	-	Release date	August 2021
Industries covered	All	Geographies covered	All
Relevant company sizes	All	Licensing options	-
URL	www.vertiv.com	Routes to market	Mixed
Company headquarters	Columbus, Ohio, US	Number of employees	20,000+

Source: Omdia

Analyst comment

Remote management and monitoring of IT resources will be imperative as more compute resources move to the edge to support latency-sensitive workloads such as artificial intelligence techniques. A key challenge for IT operations teams is to have a mechanism to securely manage and monitor distributed IT resources. Customers are always looking for reliable partners, a stable software suite, and continuous updates in software and hardware that include security vulnerabilities and challenges.

Vertiv is well positioned to take advantage of this opportunity, and the Avocent ADX solution with Avocent Core Insights open architecture has the key elements necessary to cater to the needs of customers. Vertiv has built strong expertise in OpenBMC and is a key supplier of hardened OpenBMC binaries to leading server OEMs. A single vendor supplying the end-to-end software stack from the device firmware to the management platform would enable a seamless integration and ease of deployment.

Appendix

On the Radar

On the Radar is a series of research notes about vendors bringing innovative ideas, products, or business models to their markets. On the Radar vendors bear watching for their potential impact on markets as their approach, recent developments, or strategy could prove disruptive and of interest to tech buyers and users.

Author

Moises Levy, PhD, Principal Analyst, Data Center Power and Cooling

Manoj Sukumaran, Principal Analyst, Data Center Compute and Networking

askananalyst@omdia.com

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CONTACT US

[omdia.com](https://www.omdia.com)

askananalyst@omdia.com