Vendor Profile

Scale Computing: Taking Software-Defined Architectures to Enable Edge Use Cases

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IDC OPINION

The impact of digital transformation (DX) is felt the most at the edge where brands touch their customers. With digital transformation, companies want to deliver engaging, flexible, trusted, and personal customer experience (CX) to build brand loyalty and business opportunities. This makes edge transformation strategic to success. By 2022, IDC estimates that 40% of enterprises will have doubled their IT asset spending in edge locations and nearby colocation facilities versus core datacenters to deliver digital services to local users and things.

As the Internet of Things (IoT), sensors, real-time analytics, cloud, and software-defined infrastructure become mainstream, edge computing is moving beyond being a tech buzzword to becoming a business strategy that has the potential to transform an organization's IT architecture beyond core datacenter and cloud.

IDC estimates that the datasphere will grow five times in size by 2025 in Europe, the Middle East, and Africa (EMEA) alone, driven by growth in video surveillance, signals from IoT devices, metadata, and entertainment data. The percentage of data emanating from or replicated in the edge will nearly double — from 11% to 21% — as IoT devices increasingly drive processing and analytics closer to the point of origin of data.

Unprecedented data growth and opportunities at the edge are creating imperatives for organizations to develop a fitting data storage, compute, management, and capitalization strategy. This lends edge transformation as a viable use case for hyperconvergence and software-defined infrastructures. Hyperconverged infrastructure (HCI), with its software-defined hallmarks and simplicity of management, has proven disruptive in datacenters and remote offices — even as hybrid cloud infrastructures. One hyperconverged vendor, Scale Computing, is engineering its solutions for edge transformation and thus differentiating itself from the rest of this red-hot yet crowded market segment.

Scale Computing's software-defined HC3 Edge and HE500 systems, where "E" represents edge, deliver hyperconverged platforms for edge workloads (point-of-sale or POS systems, analytics, parking barrier applications, etc.) that require modern platform features such as low latency, automation, and high performance delivered in edge-friendly form factors and cheaper costs.

In IDC's opinion, the edge computing revolution has only just started to unfold with big opportunities ahead for vendors with the right solution, form factor, price, security, and ecosystem of analytics, cloud, and application vendors.

Scale Computing, with its technology alliances, software innovation, and customer wins is carving a niche for edge use cases. How it keeps up the momentum as the dominant players of HCI accelerate their edge game plans will determine its future success. But today, it has an early mover advantage, experience, and customers to demonstrate its credibility as a viable solution for edge transformation.

IN THIS VENDOR PROFILE

This IDC Vendor Profile analyzes products, engineering efforts, ecosystem, and go-to-market strategies from Scale Computing, a hyperconverged platform vendor. This document reviews how Scale Computing's hyperconverged technologies address pain points in edge IT infrastructures and help modernize them as part of enterprisewide DX initiatives.

SITUATION OVERVIEW

Until now, edge IT — be it in retail units, oil rigs, or Formula 1 centers — has seen little IT investment, tighter local budgets, and limited IT staff with generic skills. But the explosive growth of data and the need for real-time analytics where data is generated are game changers for competitive differentiation. As a result, organizations are seeing the value in transforming edge IT.

Edge computing is a physical computing infrastructure that sits outside the core datacenter, so storage compute resources can be deployed where they are required for distributed industries such as manufacturing, healthcare, retail, and financial services. Run on tiny hardware footprints with highly software-defined architectures, edge infrastructure collects and processes data from local applications such as POS systems or sensors. They can be further migrated to cloud or the core datacenter. A hallmark of the modern edge computing platform is its high-performance capability, automation for easy management, and a gateway to core or cloud to create an edge-to-core-to-cloud IT continuum.

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This unprecedented data growth and opportunities at the edge are creating imperatives for organizations to develop a fitting data storage, compute, management and capitalization strategy. This lends edge transformation as a viable use case for hyperconvergence and software-defined infrastructures. HCI, with its software-defined hallmarks and simplicity of management, has proven disruptive in datacenter modernization and remote offices/branch offices (ROBO), and even as hybrid cloud infrastructures.
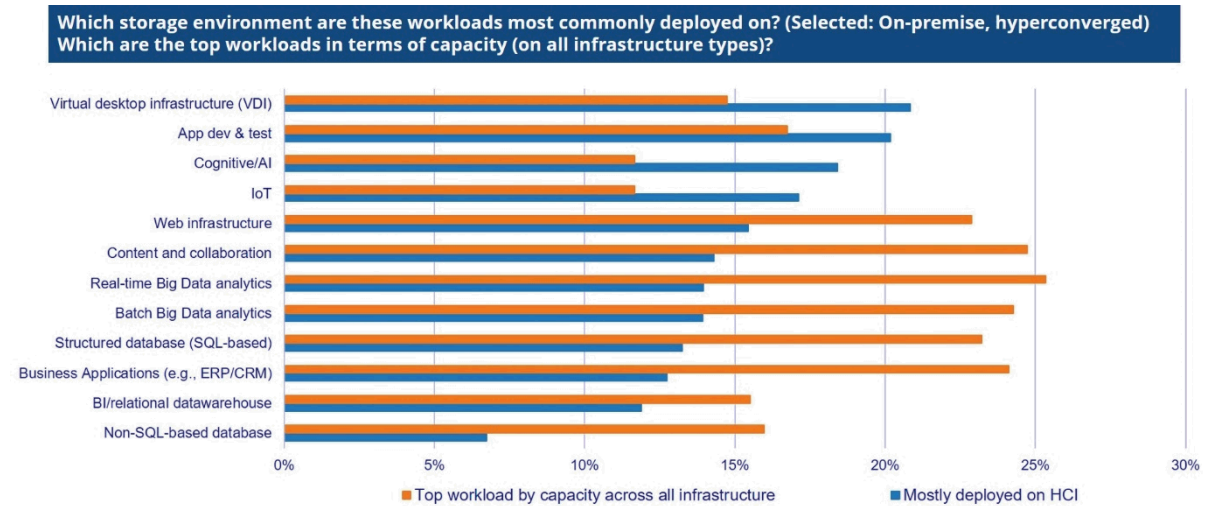
According to IDC's European Integrated Systems' Tracker, the HCI market segment will grow at a 17% compound annual growth rate (CAGR) between 2018 and 2022, while integrated platforms will shrink at a 6% CAGR. In 3Q18 alone, hyperconverged systems registered a 70.9% year-over-year growth in EMEA. The remarkable growth and adoption of HCI has resulted in many vendors launching HCI solutions. IDC observes that most HCI vendors, including Nutanix, Cisco, and Dell, are approaching HCI as a key pillar of modern on-premise infrastructures and are focusing on integration with public cloud, high availability, enterprise-grade features, the ability to run mixed workloads, and so on.

Scale Computing is carving a niche for itself in the HCI space by making its HCI products edge-ready and acquiring edge use cases from the retail, manufacturing, government, and financial services segments. Scale's strategy to depart from the conventional use of HCI is bold and astute as IDC senses significant opportunities in this space.

Our 2018 *European Multicloud Survey* showed how European enterprises see HCI as a suitable platform for modern and edge-oriented applications such as virtual desktop infrastructure (VDI), IoT, cognitive/AI, and real-time analytics over more traditional applications.

FIGURE 1

Results from the 2018 European Multicloud Survey

Which storage environment are these workloads most commonly deployed on? (Selected: On-premise, hyperconverged)
Which are the top workloads in terms of capacity (on all infrastructure types)?

[Horizontal bar chart showing workloads compared across two series: "Top workload by capacity across all infrastructure" (orange) and "Mostly deployed on HCI" (blue). Workloads listed top to bottom: Virtual desktop infrastructure (VDI), App dev & test, Cognitive/AI, IoT, Web infrastructure, Content and collaboration, Real-time Big Data analytics, Batch Big Data analytics, Structured database (SQL-based), Business Applications (e.g., ERP/CRM), BI/relational datawarehouse, Non-SQL-based database. X-axis ranges from 0% to 30%.]

■ Top workload by capacity across all infrastructure   ■ Mostly deployed on HCI

Source: IDC, 2019

The survey also revealed that manufacturing, financial services, retail, and service providers stood out as the top verticals that consider HCI as part of their IT modernization initiatives.

Company Overview

Scale Computing is a private company that has been providing virtualization services, hyperconverged solutions, and edge computing platforms globally since 2012. It has approximately 3,000 customers. HC3, its HCI technology, integrates storage and compute capabilities along with data services such as disaster recovery, dedupe, replication, and backup.

Company Strategy

A significant way that Scale Computing distinguishes itself in the crowded hyperconverged marketplace is focusing its engineering efforts and innovation to solve edge computing use case challenges. Scale's patented technology called HyperCore, which monitors, analyzes, and corrects infrastructure issues in real time and is used in its HCI platform, brings high availability and uptime for applications. Its automation and orchestration capabilities make it a strong consideration for edge innovation where organizations need reliable, highly available systems for their newly developed modern customer-facing digital applications. Another way Scale Computing differentiates is how its software-defined storage sits outside the hypervisor, making its platform lightweight and freeing up more space for applications. This level of optimization makes it edge-friendly where every bit matters when companies tries to scale their edge innovation.

Hyperconvergence certainly lends itself to edge use cases, thanks to its simplicity and ease of management. But in conversations with businesses, IDC observed that the physical size of the solution, high-availability features, and the total cost of ownership can become deal breakers for deploying HCI. Scale leverages Lenovo as its OEM for edge solutions; it uses Lenovo's shoebox-sized SE350 edge server and Lenovo's "Tiny" workstation. IDC also notes that many HCI vendors

focus on storage more emphatically while Scale Computing highlights compute or storage features per applications' demands, helping customers see business outcomes rather than just technology features.

Scale Computing is also part of an alliance with Microsoft and Lenovo to run Azure IoT Edge stack on Scale's software-defined platform inside Lenovo hardware. Scale is also working on integration with hyperscalers such as Google and other cloud providers.

Beyond its concerted effort to solve edge use cases, how its customers are using its solutions is Scale Computing's biggest advocate. A Netherlands-based multinational floriculturist company has IoT initiatives for humidity control, as well as cameras and sensors for its greenhouses, and it relies on Scale's platform and automation capabilities to augment its IoT use cases. European supermarket Ahold Delhaize is modernizing its edge computing infrastructure to improve its customers' shopping experience. Ahold Delhaize required a cloud-like automated platform but in very small systems — the platform at a small retail edge would be the same as the one in its bigger stores, so it can have a unified centralized management approach.

FUTURE OUTLOOK

Success in digital transformation requires new thinking about IT resource consumption in increasingly "smart" edge locations. These are the urban cores, hospitals, factories, transportation hubs, and a wide range of spaces where local people or "smart" things demand optimal digital experience. Such local edge environments are where innovation tied to augmented/virtual reality, IoT, robotics, autonomous vehicles, 3D printing, cognitive/AI, and rapid image processing will occur. They are where IT, operational technology (OT), and CX intersect.

IT organizations and their technology partners are beginning to develop strategies for how to extend cloud-like services to edge locations in cases where very low latency, continuous operation despite network degradation, and data privacy/control are paramount. At the service delivery edge, physical compute, storage, and network hardware (integrated in a hyperconverged system) may be owned/operated by a cloud service provider or an IT hardware partner of the cloud service provider. However, assets will reside in customers' datacenters, other customer facilities, or nearby colocation spaces leased by customers.

This use of service delivery edges to extend the delivery of IT-, OT- and CX-centric digital services to edge locations is what most clearly distinguishes HCI from many companies' existing enterprise private clouds and will be a major force reshaping their technology investment priorities.

With 5G networks becoming mainstream in a few years, more businesses developing front-end composite applications, and growing demand for real-time analytics where data is generated, edge computing will be a hotly contested market segment.

ESSENTIAL GUIDANCE

Over the next three years, 70% of enterprises will adopt dynamic software-defined branch and network solutions that deliver security and flexibility across cloud, datacenter, and edge interactions. IDC believes that deploying more storage and compute assets at remote locations will require solutions that minimize operational support through automation.

Scale Computing should highlight its edge-friendly platform features:

- Small form factor
- Ease in scaling

- Simplicity of deployment and management
- Automation and software-defined
- High availability for all types of edge workloads

The vendor is well positioned to capitalize on upcoming edge innovation opportunities in Europe, but it must overcome perception around the traditional use of hyperconverged infrastructures. However, a majority of its business growth comes from expanded deployments at its existing customer base, which indicates that users see value in its HCI platform.

Advice for Scale Computing

Edge computing transformation is by no means a single vendor play. It requires evolution across all components including network, compute, storage, analytics, security, and workload modernization in a somewhat aligned fashion.

Scale Computing should consider the following:

- Look at alliances with graphics processing unit (GPU) vendors as GPUs play a significant role in enabling analytics workloads at the edge.
- Continue to build your ecosystem from hardware infrastructure through to application management with deep integrations.
- Take a use case-based approach to position its platform. Edge computing conversations are as much about business outcomes, economics, and DX as they are about technology prowess.
- Double down on European industries that are most amenable to edge computing (e.g., manufacturing, retail, oil and gas, and the public sector). Capitalize on the experience and feedback from existing users to further enhance solutions and maintain early-mover advantage.
- Leverage the expertise of local industry-specific partners to cope with requirements of enterprises in different regions. The channel will be critical for success in vertical use cases.

LEARN MORE

Related Research

- *The Technology Impacts of Edge Computing in Europe* (IDC #EUR245277019, June 2019)
- *IoT at the Edge in Europe: A Vendor Landscape* (IDC #EUR144674219, June 2019)
- *Which European Industries are Leveraging Edge Computing the Most?* (IDC #EUR244996019, April 2019)

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