



Vendor Profile

Datacenter Colocation Service Vendor Profile: Digital Realty

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IDC OPINION

Demand for third-party colocation facilities services that provide enterprises and cloud and network service providers with state-of-the-art, efficient, sustainably built, and professionally managed datacenter facilities is increasing rapidly, in large part due to the space, power, and cooling demands being made by high-performance accelerated computing systems for AI, as well as related storage and networking equipment. Furthermore:

- Whether they are migrating from established datacenters or launching new systems and workloads, enterprise and service provider customers are seeking rapid access to facilities that are ready to go in terms of power, cooling, floor space, support for high-capacity racks, and access to robust networking connectivity.
- Colocation providers offer scalable, secure facilities on a global and regional basis in many strategic commercial markets.

IN THIS VENDOR PROFILE

This IDC Vendor Profile offers an overview of Digital Realty Trust, one of the major global providers of datacenter facilities, colocation, and interconnection services.

SITUATION OVERVIEW

Company overview

Digital Realty Trust is a global datacenter, colocation, and interconnection services provider. The company has been in existence for 21 years and has over 310 datacenters in over 55 metro centers spanning 28 countries on 6 continents. The company serves over 5,500 customers, network providers, cloud and IT providers, and enterprises. Digital Realty leverages over 232,500 cross-connects and owns 87% of its datacenters. It owns and operates a combined total of 57.6 million sq ft of active and planned raised space.

The company services a broad range of customers, including cloud providers, content providers, enterprises, and network providers. The company derives most of its revenue in North America and the EMEA markets but also has a presence in the Asia/Pacific and Latin America regions.

Company strategy

Digital Realty's strategy centers on the company's ability to build and operate its datacenter assets as a global, standardized, and integrated platform capable of providing efficient and secure distributed data workflows on a worldwide basis. It is proactively expanding coverage and capabilities to support the demands of accelerated AI computing and other emerging high-performance datacenter requirements.

Specifically, the company is actively investing to build out a new class of datacenter facilities designed using the company's standardized High-Density Colocation (HD Colo) framework to address AI workload requirements. These HD Colo facilities feature:

- Multi-megawatt scalable capacity blocks and support for ultrahigh rack densities
- Advanced cooling technologies, including direct liquid cooling (DLC) and integrated rear-door heat exchangers (RDHx), to bring liquid directly to customers' infrastructure
- Cloud-adjacent deployment models, including the ability to deploy AI clusters adjacent to hyperscale cloud on-ramps
- Secure, private interconnection options to bypass public internet routing when required for data sovereignty and other regulatory requirements
- Software-defined interconnection through ServiceFabric, a proprietary global platform for interconnection and cross-connect management
- Large contiguous power availability within campus environments, advanced electrical and mechanical redundancy, and grid engagement strategies for long-term capacity planning

The HD Colo framework builds on the company's foundational PlatformDIGITAL strategy, which supports interconnection across the Digital Realty's worldwide datacenter footprint. PlatformDIGITAL specifies the company's standardized architecture and operating models related to providing secure space, power, and environmental controls as well as high-speed, low-latency interconnection and networking connectivity provided through cross-connects and peering arrangements with hundreds of cloud and service providers worldwide. By creating an infrastructure abstraction layer, PlatformDIGITAL allows customers to manage physical resources flexibly while providing continuous monitoring of infrastructure status and environmental metrics.

Service offerings

Digital Realty also offers a range of customizable build-to-suit services for hyperscale, networking, and enterprise clients, providing flexibility in facility design, space allocation, and power scalability and giving customers significant control over layout, compliance zoning, and future expansion capacity, which can be particularly critical for AI clusters and regulated industries.

Many Digital Realty sites are part of multibuilding campuses that provide contiguous space and power for long-term growth, enabling customers to scale without migrating workloads or redesigning infrastructure. This model supports seamless cross-connects, shared services, and operational consistency across large, private footprints.

Digital Realty provides a comprehensive suite of datacenter services including the following:

- **High-density colocation (HD Colo) services:** As noted previously, Digital Realty is prioritizing the build-out of high-density colocation sites to support AI-driven requirements; it currently has 170 HD Colo sites in 33 markets with high-density capability. Additional sites are in development. These HD Colo sites offer services that support ultrahigh-density power deployments, including scalable configurations up to 70kW/rack utilizing air-assisted liquid cooling (AALC). Digital Realty's advanced high-density deployment support includes the ability to leverage a wide range of mechanical solutions, such as rear-door heat exchangers and DLC, enabling the efficient management of power densities ranging from 30kW/rack to 150kW/rack and beyond.
- **Traditional colocation services:** Colocation environments range from single racks to fully customized private suites for large-scale solutions. The company offers what it terms *Powered Base Buildings* located on pre-provisioned power and fiber, with redundant power and cooling capabilities. Digital Realty claims a power usage effectiveness (PUE) of 1.2–1.5 average, <1.3 in newer/AI-ready builds, and offers a global SLA of 99.999% available (uptime). The company also offers on-demand services, including remote hands at all sites, and offers tailored support for specific vertical industries, including financial services, healthcare, life sciences, manufacturing, and AI-driven sectors.
- **Datacenter Architecture (PDx) Solution:** The firm's Pervasive Datacenter Architecture Solution provides a step-by-step road map that helps customers implement digital transformation leveraging Digital Realty's datacenters to configure "data exchange zones" by facilitating the most efficient workflows between the customer sites. It includes an interconnection strategy as well as a transparent dashboard for managing performance and security requirements.
- **ServiceFabric Connect:** It is an SDN-based, virtual, and global interconnection layer spanning clouds, partners, and datacenters, including connecting metropolitan (metro)

sites, interconnecting to geographical (intercity) locations, private point-to-point interconnects, direct connections via on-ramps and peering access to cloud and network services providers, and connecting an open ecosystem of partners.

Structured Solution Architecture (SA) and Sales Engineering (SE) workshops are available to assist customers in designing AI and hybrid IT deployments. Workshops are available to assist with AI infrastructure planning and density strategy, hybrid workload placement modeling, interconnection topology design, power and cooling alignment, and migration and modernization road maps.

The company also recently launched its Digital Realty Innovation Lab (DRIL), which serves as a proving ground for next-generation infrastructure solutions. The DRIL ensures that Digital Realty's AI-ready infrastructure is validated, future-proofed, and adaptable to evolving AI demands.

The company has a strong focus on ensuring support for enterprise-grade compliance and customization for regulated industries, including financial services, healthcare, and government. Certifications include ISO 27001, SOC 2, and PCI-DSS across its global footprint, which offers the flexibility to meet data residency, zoning, and audit requirements.

Sustainability

Digital Realty is focused on sustainable datacenter operations, with a strong commitment to achieving science-aligned carbon emission reduction targets (Scope 1 and 2) by 2030. The company reports it has surpassed 93% of renewable energy usage. The company has 204 datacenters leveraging 100% renewable energy in multiple regions around the world. It has increased solar and wind projects with 1.7GW of new contracts and has 1.8 million sq ft newly certified under green building standards in 2025. The total portfolio now has 18.7 million sq ft certified green buildings as of 2025.

Technology partners

Digital Realty partners include an array of networking and IT vendors, including a number of technology partners and co-development relationships focused on facilitating support for high-performance AI networking and computing. These include:

- **NVIDIA:** DGX-Ready Colocation for AI infrastructure
- **HPE:** HPE GreenLake private cloud platforms available in Digital Realty datacenters
- **Zayo:** Partnering to offer software-defined open interconnection fabric in North America and Europe
- **Vapor IO:** Offering edge-to-core low-latency integration through Vapor IO's Kinetic Grid platform
- **Oracle:** Fully managed OCI Dedicated Region and Exadata deployments

- **Dell:** Partnership to integrate Dell Data Lakehouse with PlatformDIGITAL

Service Directory, a central marketplace, is available to help Digital Realty's partners highlight their offerings. Over 100 members have joined the directory and listed more than 175 services, including secure and direct connections to over 200 global cloud on-ramps, creating an ecosystem for interconnection and collaboration.

FUTURE OUTLOOK

Digital Realty is proactively addressing many of the top concerns facing enterprise and service provider colocation customers via its ongoing and expanding investments in building out AI-ready datacenters supporting the HD Colo architecture. Combined with development of capabilities for automated software-defined interconnection and cloud-adjacent, hybrid support, the company demonstrates its ongoing commitment to helping customers rapidly deploy and securely operate mission-critical infrastructure and workloads.

The success of this strategy hinges on the firm's ability to acquire and permit land, secure power generation commitments, maintain and sustain capital funding reserves, and capture a significant share of demand for third-party AI infrastructure colocation demand. These are the same challenges facing most global and multiregional colocation providers amid a challenging global economic environment, supply chain uncertainty, and power constraints. Community pushback in some areas related to decisions about local datacenter locations, size, power requirements, and water usage is also a challenge that will need to be considered as the company continues to invest and build.

Digital Realty plans to address these challenges in a number of ways, including:

- Ownership-driven long-term expansion planning
- Multiphase development pipelines
- Ensuring availability of large contiguous capacity blocks
- Flexibility across retail colocation, wholesale, and hyperscale deployments
- Continued investment in the optimization of PlatformDIGITAL and ServiceFabric to support the evolving needs of accelerated computing and AI networking services

As enterprises, hyperscalers, and specialized high-performance cloud service and AI platform providers increase investment in AI infrastructure, Digital Realty's integrated model that combines PlatformDIGITAL orchestration and ServiceFabric interconnection positions the company to be a long-term infrastructure partner for distributed AI and hybrid IT environments.

ESSENTIAL GUIDANCE

Advice for Digital Realty

While Digital Realty has a global datacenter footprint, it should continue to grow its MEA and Asia/Pacific business share of the overall business as demand expands in those geographies. The company will need to maintain CapEx investment to bolster its AI-ready datacenter build outs, despite today's challenging investment environment. As more and more colocation and specialized datacenter facilities service providers target AI workloads and AI service providers, Digital Realty will need to continue to innovate with advanced software and services to further optimize power efficiency, environmental resiliency, and data and network security.

LEARN MORE

Related research

- *IDC Survey: Global Datacenter Facilities Owner and Operator's Investment Drivers and Plans* (IDC #US54436826, March 2026)
- *IDC Survey: Power and Cooling as Strategic Priorities for Global Datacenter Operators* (IDC #US54436726, March 2026)
- *Key Implications from NVIDIA's GTC 2026 Influencing the Future of Datacenter Infrastructure* (IDC #lcUS54463426, March 2026)
- *IDC MarketScape: Worldwide Datacenter Colocation Services 2025 Vendor Assessment* (IDC #US52983725, August 2025)

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