

Succeeding in today's business environment requires new approaches to deploying and operating resilient IT resources in critical locations. Using local, dedicated cloud solutions to speed the delivery of IT anywhere is the key to greater business operational agility.

Maintain a Competitive Edge with Enterprise Cloud Transformation

February 2022

Written by: Richard Villars, Group Vice President, Worldwide Research, and Dave McCarthy, Research Vice President, Cloud and Edge Infrastructure Services

The Next Phase of Cloud Transformation

Digital is now a permanent, yet dynamic fixture in our world. Consumers and employees are always seeking ways to improve their lives through digital means. Every industry wants to intelligently leverage data to their advantage and can do so because they have faster access to digital technologies.

Cloud is the leading operating model for digital transformation. To compete in this digital-first world, many IT organizations seek to extend the benefits and capabilities associated with as-a-service infrastructure even deeper into their enterprise at the edge and in the corporate datacenter.

While investments in traditional IT remain important to sustain the business, enterprise spending on subscription, cloud-based IT infrastructures (dedicated/hosted private cloud services and public cloud IaaS) increased in 2021, up 31% from 2020. In response to remote operation, cybersecurity, and business disruption challenges, a new product category has emerged: dedicated cloud infrastructure as-a-service (DCIaaS), solutions that deploy supplier-owned and supplier-managed compute, storage, and network hardware (hyperconverged systems) into customer or colocation facilities.

Dedicated Cloud Infrastructure as a Service: The Foundation for a Modern Cross-Clouds Environment

DCIaaS is a model in which organizations consume hardware and software via a subscription and/or a pay-as-you-use model. For internal datacenters and edge locations, end customers are responsible for delivering floor space, power, cooling, and sufficient network connectivity. Alternatively, they can choose to deploy with leading colocation operators to provide pre-certified "DCIaaS ready" datacenter capacity, often at no additional charge to the end customer.

Access to turnkey DCIaaS rather than curating, purchasing, and setting up IT hardware can dramatically reduce time to initial deployment and time to service for end customers and, in parallel, address the latency and control requirements. It can also reduce asset, deployment, and service costs for the provider.

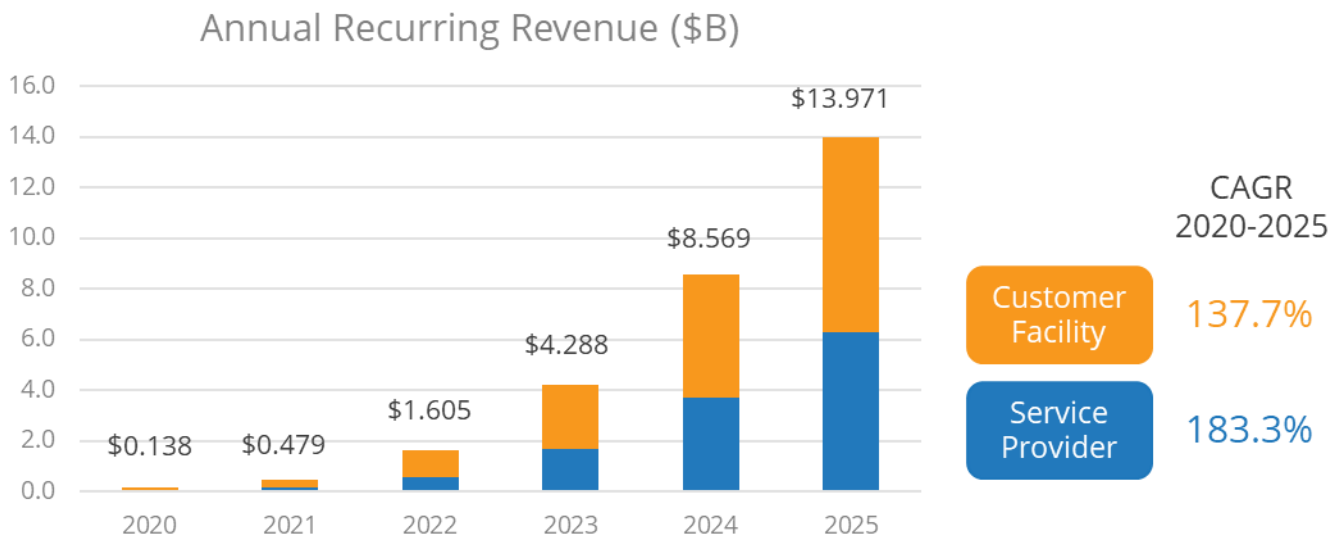
AT A GLANCE

WHAT'S IMPORTANT

The effective use of dedicated cloud infrastructure as a service, in conjunction with other IT resources, either traditional or public cloud based, is at the heart of the modern hybrid cloud environments that enterprises will depend upon to deliver greater business resiliency and drive the next wave of digital transformation.

The broad availability of DCIaaS solutions is reshaping many organizations' existing private cloud environments and spurring the expansion of urgently needed digital services. In 2021, IDC's forecast was that annual payments on DCIaaS subscriptions for assets deployed in corporate datacenters and managed service provider facilities would approach \$500 million and then more than triple to over \$1.6 billion in 2022 (see Figure 1). Over the next five years, IDC expects payments to increase at a CAGR of 151.8%.

FIGURE 1: **Worldwide Dedicated Cloud Infrastructure as-a-Service Annual Recurring Revenue**



Source: IDC, 2021

This rapid growth is supported by several market drivers:

- » Line-of-business (LOB) application developers have an increasing influence on IT decisions. While developers heavily utilize public cloud services, when possible, they also recognize that organizational policies and desired workload performance requirements make it necessary to use on-premises infrastructure resources for critical applications.
- » Demand for consumption of rapidly deployable but consistently managed compute and storage resources as a service will increase as organizations shift their budgets and efforts to growing revenues and boosting customer satisfaction.
- » Utilization of infrastructure resources deployed and delivered in a variety of ways, including traditional on-premises, private cloud, and public cloud services, is becoming a commonly adopted model for serving IT needs.

In short, DCIaaS delivers on-demand compute, network, and storage resources as a service, which can be used to power a wide variety of LOB applications that must remain on premises. This flexibility, together with the scalability and reliability of the service, is attracting increasing numbers of customers.

Advantages of a Standardized Dedicated Cloud Platform

The advantages of a standardized DCIaaS platform include its closer integration (and pre-bundling) of modern hyperconverged hardware with a fully software-defined infrastructure and cloud orchestration software stack. This standardization addresses most of the inconsistency and upgradability challenges of heterogeneous infrastructure while dramatically reducing the time to deploy resources in dispersed locations.

Cloud service providers retain custodianship of and responsibility for all pre-bundled cloud platform software, including patching and upgrading. This "control" must be accomplished by regular connection to a central control plane that can manage multiple DCIaaS systems across multiple locations as a single environment.

DCIaaS solutions can reduce the complexity of private cloud deployments for enterprises and also enable a closer alignment of cloud service provider IT resources with critical business operations

Leveraging Dedicated Cloud Infrastructure as a Service to Drive Innovation

DCIaaS solutions create a flexible cloud environment under enterprise control, enabling IT teams to align infrastructure requirements more easily with business demands and processes. They can deliver value by shifting focus from traditional deployment and management activities to rapid provisioning of resources via a cloud operating model to accelerate implementation of innovative business solutions and simplify capacity management for targeted workloads under distress from changing business conditions.

Adoption of DCIaaS solutions enables IT teams to focus on application development and delivery including extending innovative SaaS and digital services applications to deliver unique value.

Three critical elements will speed time to adoption, ensure consistency across the organization, and provide a framework for maintaining control of enterprise assets. These elements are at the core of the next wave of local cloud adoption, bringing cloud-like assets and innovative services to dedicated locations. They rely upon the following:

- » A subscription-based cloud operating model to rapidly deliver a standard dedicated cloud platform upon which application developers can deliver new digital business services
- » A ubiquitous multicloud platform that spans public cloud, on-premises datacenters, and edge locations, while maintaining business application mobility and resiliency
- » An operational transformation across multiple business and IT functions to gain the simplicity and agility of the cloud while maintaining security and compliance of application data that can only be delivered on premises

The real value from DCIaaS solutions is emerging as companies embrace the cloud operating model on premises in response to current business changes. Examples of dedicated cloud use cases in the datacenter include:

- » IT and application modernization initiatives requiring a shift from a capex to an opex economic model, IT resource upskilling, and improved business agility
- » Transactional and critical business data that is under stringent sovereignty or security regulation and ultimately mandating IT control over sensitive enterprise and customer information
- » Latency-sensitive workloads where applications that are tightly integrated to back-end, legacy systems or providing sensitive customer information to front-line workers must deliver against performance requirements

Extending Cloud to the Edge of the Enterprise

The business environment will remain challenging. One constant will be the need to adopt new thinking about the deployment and operation of IT resources outside of the datacenter in distributed edge locations. Some DCIaaS solutions are tuned to address existing and new edge workloads that have latency, availability, and/or data control specifications that require the use of dedicated cloud infrastructure in a specific building, campus, or metro area – places where the public cloud does not exist.

These assets are located in the customer's localized datacenters, a customer facility like a server room, a carrier's multi-access edge computing (MEC) site, or colocation space leased by the customer.

Examples of edge use cases include the following:

- » Collection, processing, and onsite viewing of electronic images and records in hospitals as well as high-definition video streams used for security, in-store customer tracking, or factory process monitoring
- » Management and coordination of activities for fleets of autonomous vehicles such as cranes, robots, or drones in a container port, warehouse, or mine
- » Short turnaround downloads and analysis of supply chain and sensor data during the unloading and loading of logistics data and other IoT streams

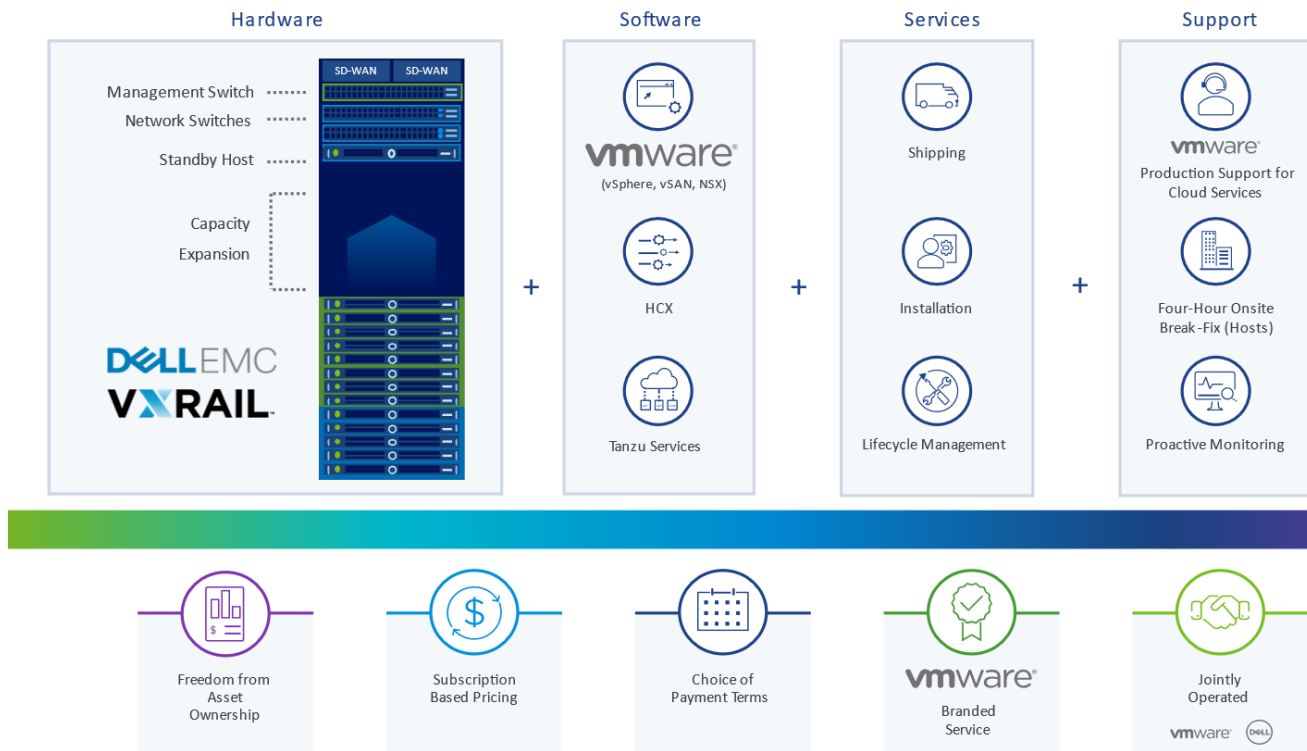
Preparing for delivery of IT to edge locations via DCIaaS solutions enables faster response to rapidly changing business requirements and will serve as a foundation for boosting business resilience, facilitating dynamic business scaling, and ensuring greater operational flexibility where it matters most.

Considering VMware Cloud on Dell EMC

VMware Cloud on Dell EMC combines the simplicity and agility of the public cloud with the security and control of an on-premises infrastructure, delivered "as a service" to customers. The service integrates VMware's broadly deployed multicloud infrastructure software with Dell EMC VxRail hyperconverged infrastructure hardware to provide an innovative IT infrastructure platform delivered as a fully managed cloud service. Enterprises can consume infrastructure

resources in datacenter and edge environments on demand. Solutions are available in full-rack footprints as well as different node options to support a variety of customer workloads (see Figure 2).

FIGURE 2: *Overview of VMware Cloud on Dell EMC*



Source: VMware, 2022

The key benefits of VMware Cloud on Dell EMC are as follows:

- » **Organizations are freed from the burden of managing infrastructure** by adopting a cloud operating model for on-premises workloads. VMware delivers a fully managed service, including simplified ordering, activation, and consumption from the VMware Cloud Console. Ongoing patching and upgrades of the software and hardware, health monitoring and remediation, and a global view of all infrastructure across multiple datacenter and edge locations is handled by VMware in partnership with Dell.
- » **Application delivery is accelerated** by running and managing the growing number of modern applications more effectively. VMware Cloud on Dell EMC with Tanzu services enables operators to easily deliver Kubernetes as a Service through the VMware Cloud Console, while centrally managing all Tanzu Kubernetes clusters across datacenters and clouds securely and efficiently.

- » **IT can maintain the appropriate control** and satisfy stringent data sovereignty, security, cost, and performance requirements. VMware Cloud on Dell EMC provides a simple, secure, and scalable infrastructure for on-premises datacenter and edge use cases. It empowers IT teams to drive any business-critical workload using proven and familiar VMware tools with Dell enterprise-class infrastructure.

This DCIaaS offering is designed to combine the speed, flexibility, and expandability benefits of public clouds while providing the low latency, security, and control of on-premises infrastructures. IT teams utilize the same VMware software skills and tools, which is a major advantage.

Challenges

VMware Cloud on Dell EMC is well positioned to address the emergence of a wide range of customer experience, digital workforce, and data-enhanced operational services built on a fully managed dedicated cloud infrastructure service. However, its success is dependent on how well it can connect customers to its increasingly diverse portfolio of compatible on-premises and public cloud-based IaaS offerings (from VMware and its partners) while maintaining consistency across heterogeneous environments. VMware Cloud on Dell EMC has reached a maturity milestone where the product can now address both edge and enterprise-scale on-premises deployments providing a wider solution breadth.

VMware is confident that providing physical onsite infrastructure, VMware Cloud software, and full management and support of the infrastructure for a predetermined monthly subscription price will resonate with existing and new customers. As a standalone company, VMware must continue to build on the strength of VMware Cloud on Dell EMC while expanding partnerships with other infrastructure partners to meet the diverse needs of customers developing a multicloud strategy.

Conclusion

As enterprises undergo digital transformation, they must be able to extend the value of their cloud investments to on-premises workloads and the outer reaches of the organization for edge applications.

Solutions like VMware Cloud on Dell EMC are in line with the dedicated cloud infrastructure as-a-service construct defined in this paper, and they'll be the foundation of the next wave of innovation as they enable the extension of cloud values across on-premises environments and tens, hundreds, or even thousands of local sites.

IDC believes that this multicloud approach, in which IT resources are not limited to a single deployment model, whether on-premises private cloud or public cloud, will be the standard operating environment for organizations in the future. In addition, the propensity to acquire and operate these dispersed assets via a cloud-operated subscription model will drive dramatic changes in enterprise IT over the next few years.

A core value from dedicated cloud solutions emerges as companies use this platform to more rapidly develop and extend their base of on-premises and edge SaaS and digital services.

Enterprise IT teams looking for such dedicated infrastructure as-a-service solutions will need a partner that can help them:

- » Quickly adopt flexible IT resources delivery through on-premises consumption-based models closely linked to major public cloud environments.
- » Develop tools for the migration, integration, and automated management of IT resources across on-premises and off-premises cloud deployments.
- » Establish governance and asset management best practices to ensure optimal use of the right IT resources for specific workloads.

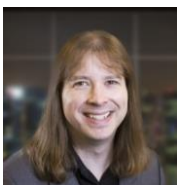
The two most important differentiators for selecting a DCIaaS infrastructure solution provider will be the provider's ability to enable easy, consistent cloud connectivity and its established infrastructure software portfolio. While offering a fully managed IT IaaS platform is a recent undertaking for VMware, Dell EMC and its major partners have years of experience providing managed service offerings to customers. VMware and Dell EMC are well positioned to meet the challenges outlined in this document and should be on the short list for any enterprise looking to extend digital transformation to the entire organization on a cloud-first foundation.

About the Analysts



Richard L. Villars, Group Vice President, Worldwide Research

As Group Vice President, Worldwide Research, Rick Villars guides IDC's research into broad ICT industry trends, particularly the strategic adoption of technology by Global 2000 businesses and the industries in which they compete. He is a member of IDC's worldwide management team, as the leader of IDC's Future of Digital Infrastructure research practice.



Dave McCarthy, Research Vice President, Cloud and Edge Infrastructure Services

Dave McCarthy is a Vice President within IDC's worldwide infrastructure practice, where he leads a team of analysts covering shared (public) cloud, dedicated (private) cloud, and edge strategies. Benefitting both technology suppliers and IT decision makers, Dave's insights delve into how hybrid cloud platforms provide the foundation for next-generation workloads, enabling organizations to innovate faster, automate operations, and achieve digital resiliency.

MESSAGE FROM THE SPONSOR

Today, many organizations continue to run critical workloads in their on-premises environments due to complex regulatory, security, latency and performance needs.

VMware Cloud on Dell EMC combines the simplicity and agility of the public cloud with the security and control of an on-premises infrastructure, delivered as-a-service to data center and edge locations. VMware's industry standard compute, storage, and networking software is integrated with enterprise-class Dell hyperconverged hardware, empowering you to drive any enterprise workload. This unique approach empowers customers to focus on business innovation and differentiation, while VMware operates the entire infrastructure end-to-end.

Learn how VMware is changing the way Enterprises consume and manage their Infrastructure at:

www.vmware.com/products/vmc-on-dell-emc.html



The content in this paper was adapted from existing IDC research published on www.idc.com.

This publication was produced by IDC Custom Solutions. The opinion, analysis, and research results presented herein are drawn from more detailed research and analysis independently conducted and published by IDC, unless specific vendor sponsorship is noted. IDC Custom Solutions makes IDC content available in a wide range of formats for distribution by various companies. A license to distribute IDC content does not imply endorsement of or opinion about the licensee.

External Publication of IDC Information and Data — Any IDC information that is to be used in advertising, press releases, or promotional materials requires prior written approval from the appropriate IDC Vice President or Country Manager. A draft of the proposed document should accompany any such request. IDC reserves the right to deny approval of external usage for any reason.

Copyright 2022 IDC. Reproduction without written permission is completely forbidden.

IDC Research, Inc.
140 Kendrick Street
Building B
Needham, MA 02494, USA
T 508.872.8200
F 508.935.4015
Twitter @IDC
idc-insights-community.com
www.idc.com