

Dell Technologies

Company set to become a leader in cloud and edge computing

MarketLine Case Study

Report Code: MLCS0001-014
Published: August 2020



1. Overview

1.1. Catalyst

In 2020, cloud computing services are the leading strategic front of Dell Technologies (Dell), but its strength in this area is underpinned by its foundational hardware business. This long-running and reputable arm of its holdings serves as a strong base from which to build competitive cloud solutions through its other subsidiaries. Whilst it has made major strides to bring cloud computing into the center of its commercial strategy, Dell has also made it clear that the future of the business lies in edge computing. This new market is opening up for all players in the cloud computing market, and Dell has an opportunity to get ahead.

1.2. Summary

Dell has made significant moves to reorganize its portfolio over the past year, including its latest announcement in July 2020 that it will explore ways to divest its majority stake in its most valuable cloud computing asset, VMware, to create an independent spinoff company. The emerging portfolio of cloud services assets puts Dell in a very strong position to be the one-stop shop for private cloud requirements. The spinoff of VMware is expected to be completed in 2021, and is likely to be a decisive final step towards Dell's edge computing strategy.

Dell's focus on hardware has in the past prevented it from keeping pace with public cloud providers, as the public cloud market has exploded during the last decade. However, Dell is in a relatively strong position to catch up to these major players in the emerging marketplace of edge computing, where data handling and computing power is being localized away from the cloud.

The market for edge computing infrastructure is in the early stages of development, both in terms of vendor strategies and solutions and with regard to use cases and end user adoption. As such it represents an opportunity which Dell has space to take advantage of, and the company has some considerable competitive advantages to pitch it against big tech rivals.

Table of Contents

1. OVERVIEW	1
1.1. Catalyst	1
1.2. Summary	1
2. BROAD PORTFOLIO AND CORPORATE STRENGTH UNDERPINS DELL TECHNOLOGIES' CLOUD STRENGTH	1
2.1. Latest stage of reorganization leaves Dell primed for efficient cloud solutions	1
2.2. Client Solutions Group (CSG) strengthens Dell's cloud services	1
2.3. Infrastructure Solutions Group (ISG) is Dell's digital transformation powerhouse	1
2.4. VMware is the company's most valuable asset	1
2.5. Other majority-owned businesses give Dell a rounded offering	2
2.6. A likely spinoff of VMware will benefit Dell's cloud and edge strategies	2
3. DELL IS ALSO PRIMED FOR EDGE COMPUTING	3
3.1. Edge computing presents an enormous opportunity	3
3.2. Dell can win at edge computing where it fell behind with public clouds	4
3.2.1. Dell has failed to keep pace with public cloud providers	4
3.2.2. The company has major advantages in the edge computing sphere	5
3.2.2.1. Networking prowess is founded on leading hardware business	5
3.2.2.2. Dell has a strong client base	5
3.2.2.3. Dell is particularly strong in environment integration	5
3.2.2.4. Flexible consumption offering is more extensive than Microsoft's	5
3.3. So far Dell's edge strategy is building momentum	6
3.3.1. Dell is already showcasing a wide range of edge solutions in 2020	6
3.3.2. Partnerships and services have come with vulnerabilities	6
4. APPENDIX	7
4.1. Abbreviations and acronyms	7
4.2. Further reading	7
5. ASK THE ANALYST	7

6. ABOUT MARKETLINE

7

List of Figures

Figure 1: Dell's major edge competitors and their cloud offerings as of July 2020.

4

List of Tables

Table 1: Glossary of cloud terminology	3
--	---

2. Broad portfolio and corporate strength underpins Dell Technologies' cloud strength

In 2020, cloud computing services are Dell Technologies' (Dell) leading strategic front, but its strength in this area is underpinned by its foundational hardware business. This long-running and reputable arm of its holdings serves as a strong base from which to build competitive cloud solutions through its other subsidiaries.

2.1. Latest stage of reorganization leaves Dell primed for efficient cloud solutions

Dell has made significant moves to reorganize its portfolio over the past year, including its latest announcement in July 2020 that it will explore ways to divest its majority stake in its most valuable cloud computing asset to create an independent spinoff company. The emerging portfolio of cloud services assets puts Dell in a very strong position to be the one-stop shop for private cloud requirements.

2.2. Client Solutions Group (CSG) strengthens Dell's cloud services

Dell's founding strength was in IT hardware and infrastructure, an area where it is still a market leader for enterprise clients in 2020. Dell's USP has always been its go-to-market offering, utilizing supply chain integration to build clients' IT infrastructure from the ground up and then maintain it. The divisions which perform this function make up the CSG.

In FY2020, Dell reported revenue of \$92,154m as compared to \$90,621m in FY2019, posting growth of 1.7%. This growth in revenue was primarily attributable to the increase of 6.1% in the sales of CSG services, and by this group's strong execution of the Microsoft Windows 10 operating system refresh cycle.

2.3. Infrastructure Solutions Group (ISG) is Dell's digital transformation powerhouse

Outside of its VMware subsidiary, ISG is the main proponent of Dell's digital transformation services. These include cloud and big data as well as traditional physical storage solutions, optimization of enterprise-scale IT infrastructure for artificial intelligence and machine learning and virtualization. Virtualization is the process of migrating clients' physical IT infrastructure to cloud or hybrid cloud servers, and organizing operations over multiple clouds.

The most significant recent development for ISG was the launch of Dell Technologies Cloud, a consolidated and improved product specializing in hybrid clouds, that is, 'edge' computing whereby computing processes are shared between the cloud and local hardware. This product includes a Data Center-as-a-Service offering, an important pillar of Dell's ongoing efforts to attract more customers with subscription options.

2.4. VMware is the company's most valuable asset

VMware is a full-stack cloud service provider in itself, which was acquired by Dell in 2016. VMware's services include the full range of hybrid and multi-cloud solutions, from cyber security to managing digital workspaces across multiple devices. Recent

activities of this division have included the acquisition of Pivotal Software, another cloud-services provider that was previously majority-owned by Dell. This followed its acquisition, in Q3 2019, of the cloud-native endpoint protection developer Carbon Black.

2.5. Other majority-owned businesses give Dell a rounded offering

Dell has a majority stake in four other businesses that help to maintain the comprehensiveness of its cloud services. These businesses are not counted as reportable segments in Dell's financial reports. They are as follows:

- Secureworks, a cybersecurity firm
- Virtustream, an Infrastructure-as-a-Service provider
- Boomi, a cloud-integration service for connecting on-premise applications with cloud-based ones
- RSA Security, another cybersecurity firm, which as of February 2020 is due to be sold to an investor consortium led by Symphony Technology

2.6. A likely spinoff of VMware will benefit Dell's cloud and edge strategies

In July 2020 it was announced that Dell will explore options for divesting itself of the VMware business, creating an independent spinoff company that will likely be owned by a consortium of shareholders. Whilst at first glance it may be unexpected that a company which is hoping to bolster its position in the cloud services market is dropping its greatest cloud asset, a spinoff would be beneficial to both companies.

Dell's stake in VMware was valued at \$47bn, around \$11bn more than the implied valuation of the rest of the group. Selling that stake will allow Dell to pay off significant debts, which have historically hurt its attractiveness to investors and its market cap. VMware, meanwhile, will have greater financial freedom to focus on its cloud services without the weight of a huge and indebted IT conglomerate. CEO Michael Dell has indicated that the two company's shared clients will maintain the strong ties between them, and that the mutually-beneficial partnership will continue when the two are separate. The spinoff is expected to be completed in 2021, and is likely to be a decisive final step towards Dell's edge computing strategy.

3. Dell is also primed for edge computing

Whilst it has made major strides to bring cloud computing into the center of its commercial strategy, Dell has also made it clear that the future of the business lies in edge computing. This new market is opening up for all players in the cloud computing market, and Dell has an opportunity to get ahead.

3.1. Edge computing presents an enormous opportunity

Edge computing refers to the deployment and use of computer processing, data storage and analytics capabilities close to the places where data is collected, and where digital content and applications are consumed. The benefits of edge computing over fully-migrated cloud computing include the higher performance and cost-savings that can be achieved when developing, hosting and powering applications closer to points of consumption. Decisions about data collected from internet-connected sensors on factory floors, transportation networks, retail outlets and many other locations can be made more quickly with edge computing, making it an Internet of Things (IoT) enabler.

The market for edge computing infrastructure is in the early stages of development, both in terms of vendor strategies and solutions and with regard to use cases and end user adoption. As such it represents an opportunity which Dell has space to take advantage of, presenting a new market where it could become a leading player. The segment is already attracting interest and investment from a wide arena, including data center and telecoms infrastructure vendors, cloud service providers, telecoms network operators, CDNs, IT service providers, and systems integrators.

The COVID-19 crisis has created new sets of requirements for businesses and societies, some of which will accelerate transitions to edge computing. New and emerging IoT and edge computing use cases will emerge to help governments, health authorities, and businesses manage their response to the crisis and its aftermath.

Table 1: Glossary of cloud terminology

<u>Term</u>	<u>Definition</u>
On-premises Storage	Private storage using on-site servers in an office or other place of work.
Cloud Storage	A system of storage using remote servers, where the majority of complex computing and data handling also occurs remotely.
Public Cloud	Cloud storage that is hosted by a hyperscale cloud provider (e.g. AWS, Google, and Microsoft) which can be accessed by anyone, usually for the running of applications.
Private Cloud	Cloud storage that is rented by an enterprise for its private use, but which is still entirely off-site.
Edge Computing	A combination of cloud storage and local storage, where computing processes are migrated wholly or in part to be physically closer to the user.

3.2. Dell can win at edge computing where it fell behind with public clouds

Dell's focus on hardware has in the past prevented it from keeping pace with public cloud providers, as the public cloud market has exploded during the last decade. However, with new opportunities around the corner thanks to edge computing, Dell is in a relatively strong position to catch up to these major players in an emerging marketplace.

3.2.1. Dell has failed to keep pace with public cloud providers

In the arena of cloud computing, Dell has begun to excel at providing private cloud infrastructure to its clients where it used to provide on-premises IT infrastructure. However, it has been less involved with the public cloud market that has made fertile ground for tech giants like Amazon, Apple, Google and Microsoft. These companies have excelled at providing consumer-level cloud access as the basis for powerful consumer technology. Google's laptops and phones, for example, use cloud computing to outsource much of their computing power over the internet, whilst Microsoft has moved its flagship Office suite to a cloud-based subscription service with updates automatically.

In the new phase of edge computing, these companies will be direct competitors to Dell. Edge computing will reduce latency and improve security for consumer use cases as much as business ones, and in some cases it will mean that less personal data from consumers needs to be passed to the cloud. Dell is unlikely to break into the consumer market and the hybridization of public clouds for these purposes, but it will almost certainly see these formidable opponents trying to break further into its own market of enterprise IT solutions. Dell is now in the position of making up lost ground in the more level playing-field of edge computing.

Figure 1: Dell's major edge competitors and their cloud offerings as of July 2020.

	Edge Offering*	Azure Stack Partner?
	VMware Cloud	Yes
	AWS Local Zones AWS Wavelength	
	Azure Edge Zones	Yes
	Google Cloud IoT Edge	
	Edgeline Converged Edge Systems	Yes
	HyperFlex Edge	
	Lenovo ThinkAgile	Yes
	Red Hat	

* Most companies have a broad range of edge offerings. Those shown are the central or flagship product.

Source: MarketLine

© MarketLine

3.2.2. The company has major advantages in the edge computing sphere

Competition will be intense in the edge computing market. In addition to its highly-diversified tech giant competitors, Dell faces threats from more comparable IT solutions companies which also excel with B2B clients. These include Cisco, Hewlett Packard Enterprise (HPE) and IBM. It shares some competitive advantages with all of these, but could be argued to be slightly stronger on some points than the rest.

3.2.2.1. Networking prowess is founded on leading hardware business

Dell has one particularly competitive element versus some of its competitors in the edge computing market, namely its expertise and reputation in enterprise-scale networking solutions. Its long-serving on-premise IT business (ISG) has given it a strong foundation for integrating cloud solutions with pre-existing hardware, and the supply chain integration of its own hardware business (CSG) means that it can offer those solutions as part of a comprehensive IT offering for its clients. Dell EMC remains among the top vendors of enterprise infrastructure hardware and continually ranks among the top three server vendors in the US for shipment units and revenue.

3.2.2.2. Dell has a strong client base

Along with direct competitors like Microsoft, Cisco and HPE, Dell also has a strong base of pre-existing clients which know the company and can be transitioned to edge computing as and when they require. More consumer-oriented companies like Apple and Google could have a harder time doing this. Dell's brand legacy can be attributed to its almost three decades of market leadership and perhaps the consistent vision of CEO and founder Michael Dell.

3.2.2.3. Dell is particularly strong in environment integration

Dell's chief strength over its most challenging tech giant competitors is likely to be its integration of cloud solutions with physical environments. Many clients will evaluate edge solutions partly for the ease with which they can be deployed and integrated with an existing physical environment. These environments include any existing building infrastructure that is used to house the edge technology, as well as the availability of reliable or continuous power and connectivity.

Again because of its strength as a hardware provider and experience with on-premise infrastructure, Dell arguably has an upper-hand over the likes of Microsoft and Amazon in this essential area. Those companies have very strong edge computing divisions for enterprise clients – Azure and AWS Edge Solutions, respectively – but have been built primarily on cloud-only services, as opposed to Dell's sustained leadership in on-premise hardware.

3.2.2.4. Flexible consumption offering is more extensive than Microsoft's

Compared with Microsoft in particular, Dell's offering has recently come to include options for flexible consumption, likely to become another essential pillar of edge solutions. Faced with budget and time constraints, many enterprises will require more flexible ways of consuming edge computing, which include pay-per-use and SaaS-based consumption models and outsourced management. Competitive edge solutions will prioritize flexible consumption, thereby appealing to customers that want to avoid the responsibility of owning and managing on-premises equipment and maintaining software updates. Despite its historical strengths in these very areas, Dell arguably has a more fully-developed flexible offering thanks to VMware and its Data Center-as-a-Service solution.

3.3. So far Dell's edge strategy is building momentum

Whilst Dell's edge computing offerings are relatively young compared with its traditional strengths, it is actively moving its strategy forwards with new products and partnerships. The range of its edge computing portfolio is already notably broad, demonstrating the single-mindedness with which the company is betting on this market. However, there are vulnerabilities in its strategy which it will need to address as its competitors make their own significant strides in 2020 and 2021.

3.3.1. Dell is already showcasing a wide range of edge solutions in 2020

Whilst Microsoft is a key competitor for Dell, it is also an important partner. The two companies are targeting new edge use cases with various solutions including Dell EMC Tactical Microsoft Azure Stack. Dell's partnership with Microsoft extends to VMware, offering VMware customers a consistent operational experience within their own data centres and in the Microsoft Azure public cloud. Announced in April 2019, the new Azure VMware Solutions gave customers the ability to seamlessly migrate, extend and run existing VMware workloads from on-premises environments to the Azure cloud without the need for operational upheaval.

The Microsoft partnership builds on Dell's numerous other services, including:

- VMware Cloud's Data Center-as-a-Service, an offering that gives customers a flexible way of consuming IT at the edge.
- An NFVI platform that hosts virtualized network functions on-premises, directly addressing telcos' needs for edge networking.
- A partnership with Orange for the development of edge technology use cases, business models, and proof of concepts.
- VMware IoT Pulse, which provides users with an open, vendor-neutral platform for managing their edge infrastructure and IoT devices.

3.3.2. Partnerships and services have come with vulnerabilities

Dell's partnership with Microsoft is awkwardly shadowed by the fact of the intense competition between the two companies. Dell will certainly find a strong challenger in Microsoft's Azure Edge Zones offerings, which bring their own innovations. The companies may have allowed interoperability of their services to an extent, but Microsoft has its own offering that could stand alone with the help of Dell. Other vulnerabilities in Dell's armor include the following:

- The breadth and complexity of Dell's edge solutions portfolio could distract from its utility and undermine efforts to win business. When compared, for example, with HPE's offerings, Dell gives potential clients a lot more to think about before purchasing.
- Dell's edge solutions business would benefit from a stronger articulation of actual use case/deployment examples, which have not yet been fully-elaborated.
- The broad scope of Dell's collaboration with Orange to find use cases could nonetheless slow progress towards achieving specific goals – a similar problem to that of its complex offering.
- VMware IoT Pulse faces strong competition on all sides from rival IoT management platforms, including IBM and the tech giants Amazon Web Services, Microsoft and Google.

4. Appendix

4.1. Abbreviations and acronyms

Client Services Group (CSG)

Infrastructure Services Group (ISG)

Internet of Things (IoT)

Amazon Web Services (AWS)

Hewlett Packard Enterprise (HPE)

4.2. Further reading

Dell Technologies Inc, MarketLine SWOT Analysis

United States IT Hardware, MarketLine Industry Profiles

5. Ask the analyst

We hope that the data and analysis in this case study will help you make informed and imaginative business decisions. If you have any questions or further requirements, MarketLine's research team may be able to help you. The MarketLine Research team can be contacted at ReachUs@MarketLine.com.

6. About MarketLine

At MarketLine, we deliver accurate, up-to-date insights on over 100,000 companies, 3,500 industries, 215 countries, and 3,000 cities as well as the latest news and financial deal information from within your market and across the globe.

Established in 1997 when the Internet was in its infancy, we recognized the need for a convenient and reliable data service to help our clients understand local and global markets and the companies operating within them.

In today's information-rich world, sifting fact from fiction to pick out what's relevant and what's up to date has become the new 'holy grail' in business information provision.

Hundreds of dedicated research professionals aggregate, analyze, and cross-check facts in line with our strict research methodology, ensuring a constant stream of new and accurate information is added to MarketLine every day.