Vendor Spotlight

How Digital Transformation Disrupts the OEM Model and What it Means for Vertical Solution Providers

Sponsored by: Dell EMC

Kamil Gregor
March 2017

IDC OPINION

Vertical solution providers (VSPs) such as a medical systems supplier or a provider of video surveillance, play a crucial role in supporting commercial and public sector organizations with mid- and high-technology for specific use cases. The process of digital transformation (DX) disrupts the business models of VSPs' customers, which in turn spills over to VSPs themselves. VSPs that are quick to embrace DX-related technologies are predicted to outgrow their competition and VSPs that are too slow will eventually have a hard time surviving at all.

DX presents an unprecedented opportunity to harness value generated by rapid advancement of technologies such as cloud, the Internet of Things (IoT) or Big Data analytics. But at the same time, DX means accelerated technological progress. To stay competitive, enterprises including VSPs should focus on constantly innovating around their key differentiators and shed as much of other aspects of their business as possible, such as manufacturing, shipping, and support.

The rapid pace of innovation also means that VSPs have to reduce their time-to-market, even in verticals with very long solution life cycles (e.g., in building automation). This can be achieved by deploying software remotely via cloud or by delivering black-box solutions with pre-installed software, operating systems, and other dependencies.

DX-related technologies bring not only new opportunities, but also new challenges (e.g., network security issues in the case of IoT or compliance with regulatory policies in the case of cloud). VSPs cannot afford to also become experts in overcoming these challenges and nor should they be attempting do so. As a major point of guidance, IDC believes that partnering with a strong OEM with a DX-ready portfolio will be crucial for VSPs' survival in the DX era.

IN THIS SPOTLIGHT

This Vendor Spotlight examines how digital transformation (DX) impacts the OEM model, an IDC conceptualization of a business model in which a vertical solution provider (VSP) incorporates hardware, software, and services building blocks supplied by an original equipment manufacturer (OEM) into a solution delivered to its end customer. The first section of the spotlight describes the OEM model and then outlines general impacts of DX on IT, enterprises, and society in general. The second section explains how the OEM model specifically is predicted to be impacted by DX. In the third section, there is a brief description of Dell EMC's strategy and offering in this space. The fourth section outlines challenges for Dell EMC as an OEM and the fifth section gives guidance to VSP in their digital transformation journey.

SITUATION OVERVIEW

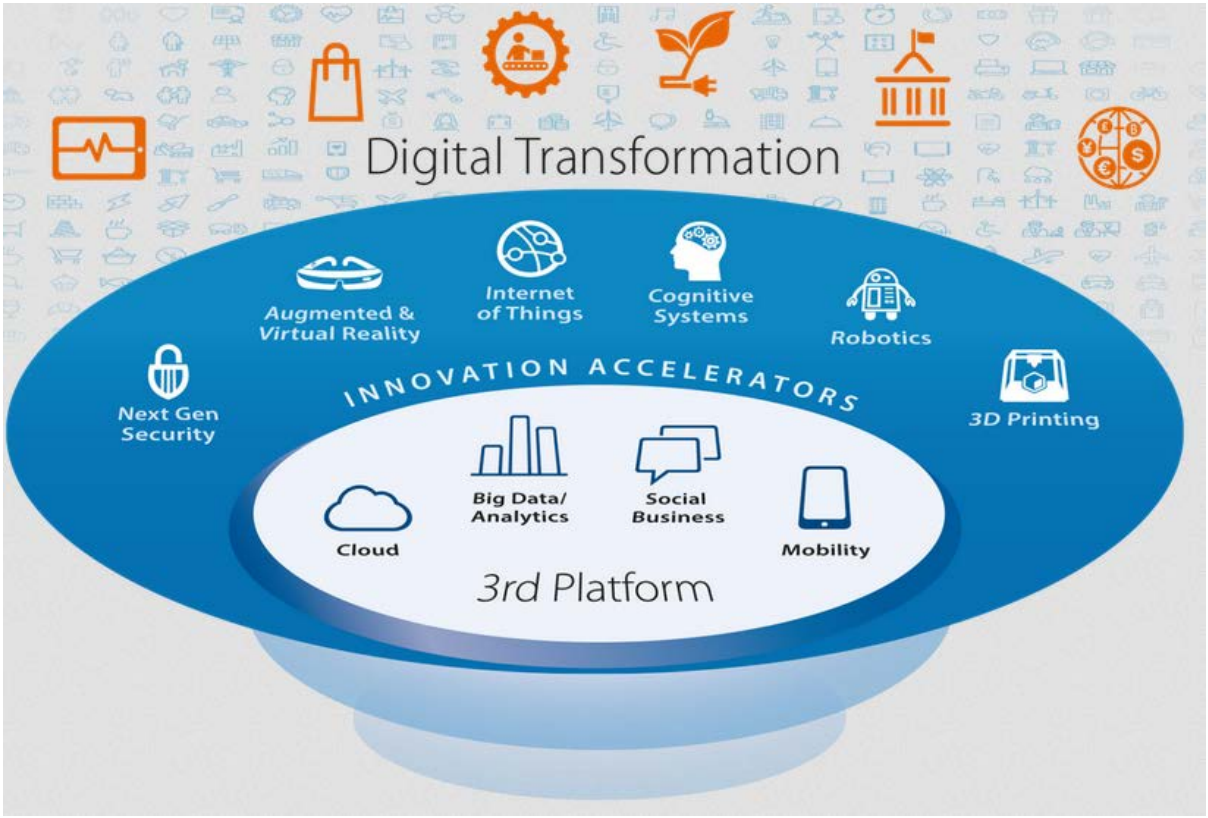
The OEM model is defined as a business model in which a VSP incorporates technology building blocks supplied by an OEM; i.e., a horizontal IT supplier into a solution delivered to its customer (which may or may not also be the end user). The building blocks usually include, but may not be limited to, hardware and related services (e.g., training, technical support). A VSP (e.g., a medical solution supplier) typically adds value by incorporating the components into a larger piece of hardware (e.g. a storage array in a magnetic resonance imaging scanner) or by stacking them with its own software and services (e.g., in the magnetic scanner case, the software to manage digital imaging).

Key differentiators of VSPs typically include proprietary hardware and software, customer reach, and an ability to customize to fit specific needs. OEMs often offer customization of their building blocks to fit VSPs' needs. In some instances, OEMs not only supply solution components, but also manufacture, package, and ship the solution itself.

IDC defines digital transformation as "the continuous process by which enterprises adapt to or drive disruptive changes in their customers and markets (external ecosystem) by leveraging digital competencies to innovate new business models, products, and services that seamlessly blend digital and physical and business and customer experiences while improving operational efficiencies and organizational performance." (*IDC's Worldwide Digital Transformation Spending Guide Taxonomy, 2016*).

FIGURE1

IDC's Vision of Digital Transformation



Source: IDC, 2017.

DX is enabled by rapid advancements in 3rd Platform technologies (cloud, Big Data, social, and mobile, as opposed to the 2nd Platform of client/server computers and the 1st Platform of mainframe computers), as well as innovation accelerators that build on top of them (next-gen security, virtual and augmented reality, the Internet of Things (IoT), cognitive computing, robotics, or 3D printing) and a set of impacts that these processes have on IT, enterprises, and society in general.

IDC has produced a large amount of research on DX (e.g., a series of *FutureScape* documents providing a holistic view on DX) and it would be impossible to fully describe its impacts here. However, the key consequences of digital transformation include:

- A need to unlock the value of unprecedented amounts of actionable data
- The digitalization of previously analog spaces (think wearables, digital imaging, or digitalized medical records in healthcare, industry 4.0 and data-driven manufacturing, digital cameras and IoT sensors in surveillance, etc.)
- Continuing commoditization of hardware, which generally means moving differentiation up the solution stack from hardware to software and services
- The growing complexity and modularity of IT systems and increasing importance of seamless interoperability and orchestration
- A shift from product-based consumption models to as-a-service delivery of complete solutions
- The growing importance of scalability and speed of deployment.

The main trends of DX in business involve, for example:

- The growing importance of IT in enterprises and a shift of its role from business-enabling to value-generating (think DevOps).
- New means of communication between consumers (think online channels, social media, for example).
- The transformation of interactions from a supplier-customer model to an ecosystem of partners in business environments.

A major impact of DX on society is chiefly the emergence of the so-called DX economy centered around unlocking value in data rather than in resources, focused on expert skills rather than labor, and revolving around intangible rather than fixed capital.

FUTURE OUTLOOK

DX is predicted to have a cascade effect on the OEM model. It disrupts the business models of VSPs' customers, which in turn spills over to VSPs themselves. Enterprises that are quick to embrace DX-related technologies are predicted to outgrow their competition.

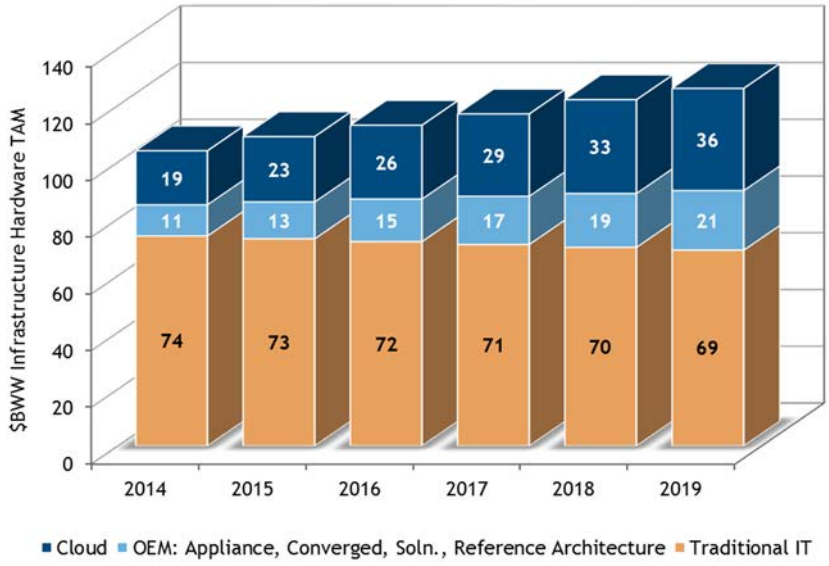
For example, in cloud appliances and converged infrastructure hardware, spending on OEM appliances, converged solutions, and reference architectures is predicted to grow by a CAGR of 13.3%, while traditional IT infrastructure is predicted to decline by a CAGR of 1.4% in 2014–2019, according to the *IDC Worldwide Cloud IT Infrastructure Hardware Spending Forecast* (see Figure 2).

Figure 2 shows that while DX-related technologies are predicted to grow by high margins, this does not mean there is no room for VSP-manufactured appliances in the market. On the contrary, they are predicted to grow as well. However, these appliances are expected to be much smarter and fit seamlessly into new and more complex architectures – hyperconverged, hyperscale, and software-defined architectures. What this means specifically is discussed below.

Enterprises that are too slow to harness this growth opportunity will eventually have a hard time surviving at all.

FIGURE 2

Growth in Cloud, Appliance, and Converged Infrastructure Hardware Spend Offsetting Declines in Traditional IT



Source: IDC Worldwide Cloud IT Infrastructure Hardware Spending 2014-2019

The impacts of DX are all-permeating, leading to an acceleration in adoption of 3rd Platform pillars. For example, IDC predicts that by 2020, at least 50% of net-new IT spending will be cloud-based, shrinking non-cloud applications by 20%. In software and services, the share of cloud-based spending will reach 70%. Moreover, 40% of compute, storage, and networking infrastructure core and edge spending will go towards IoT solutions.

In some verticals, this impact will be even higher. In healthcare, for example, IDC believes that 60% of applications will collect clinical IoT device data by 2019, which is predicted to free up 30% of clinicians' time. In manufacturing, 75% of large enterprises will update their operations with IoT and analytics-based situational awareness solutions at the same time.

Digital Transformation Means Unprecedented Growth Opportunity

Although some of the most disruptive technologies are still in their nascent stages, they already have a profound impact across many verticals. IDC predicts that by the end of 2017, revenue growth from information-based products will double that of the rest of the product/service portfolio for one-third of the G2000. By 2020, 60% of the G2000 will have doubled their productivity by digitally transforming a number of processes from human-based to software-based. And there are already specific examples of VSPs successfully harnessing the value that DX promises:

- EML Energy, a US manufacturer of distributed energy systems partnered with Dell EMC to develop a web-based management console that monitors and controls various assets of a micro-grid system in real-time. Their solution combines the benefits of IoT (e.g., the ability of compute-equipped sensors to filter relevant data locally, and to work in low-connectivity and low-power environments) and of cloud (e.g., the ability to remotely analyze data from multiple sites). This significantly reduces the company's time-to-market because previously

components in a micro-grid system required dedicated control panels built on top of different technologies, highlighting the importance of interoperability.

- Similarly, US manufacturing company Emerson integrated Dell EMC's servers, workstations, storage arrays, and thin clients into a process control system that simplifies complex industrial and manufacturing processes. One of its customers, a pharmaceutical company faced with a shortage of factory capacities due to growing demand for a new anesthetic drug, increased its productivity after adopting the system to such an extent that it was able to delay the expansion of its factories by three years.
- Another example is SynerScope, a Dutch Big Data company which delivers advanced GPU-based data visualizations in a variety of verticals (e.g., health monitoring using bracelets, telematic data analysis in car insurance and leasing, tracking radio-frequency identification parts in airplane manufacturing). In order to do so, SynerScope embeds its special software on a custom hardware configuration based on the Dell PowerEdge server line. This is an example of not only increasing productivity but also of a completely new business avenue that would not exist without the need of SynerScope's customers to transform themselves digitally.

Digital Transformation Means Focusing on Innovation

DX is not only about new growth opportunities. It is also about accelerating technological progress and its impact on business and society. This means that to stay competitive, enterprises including VSPs should evolve quickly, which in turns mean focusing their efforts on innovating around key differentiators. IDC predicts that by the end of 2017, over 70% of Fortune Global 500 will have dedicated DX innovation teams.

A focus on innovation also means outsourcing non-differentiating parts of the solution delivery (e.g., components manufacturing, shipping, component support). This is where partnering with a strong OEM with a DX-ready portfolio comes into play. For example, the abovementioned SynerScope offers its data visualization software in a custom hardware configuration delivered by Dell EMC. Due to the specific requirements of its software, the company would otherwise have to configure an entirely new hardware and software stack, which would significantly slow down execution. Moreover, the company does not have to keep a stock of spare parts or replacements for sudden orders, as Dell EMC supports and maintains the physical box as part of the OEM contract.

By delivering its solution via an OEM, SynerScope also does not directly deal with regulatory challenges. This allows a midsize company based in the Netherlands to offer shipping, on-site deployment, and technical support within several hours almost anywhere in the world. Such a level of support frees the company to focus on innovating around its core proposition – delivering the best data visualization software possible.

The same is true of EML Energy. Without a partnership with an OEM, it would not be able to build hardware for its IoT solutions of comparable price and quality. This includes, for example, the ability to survive harsh climates with wide temperature swings, extremely limited network connectivity, and low levels of energy. Moreover, partnering with Dell EMC allowed the company to offer its customers a choice of sending data from IoT devices either to an on-premise device or to the cloud.

A third example of how a strong OEM partner is crucial in DX era is IndigoVision, a UK security and surveillance company that delivers video recording systems assembled in Dell EMC factories, complete with pre-installed company software, branding, packaging, and documentation. This means that the company saves the costs of manufacturing and shipping and does not have to deal with other time-consuming processes such as RAID testing.

The company also partnered with Dell EMC to broaden its range of storage options for video recordings. This allowed it to develop new solutions enabled by DX-related technologies, such as wearable cameras for the police that compress video files and send them to cloud storage.

A faster pace of innovation also means that VSPs will have to significantly reduce their time-to-market. Not only VSPs but also their customers will be busy innovating to stay competitive in the rapidly evolving digital world, which means they will expect their VSPs to deliver turnkey, easy-to-access, and ready-to-use solutions. The growing complexity of IT solutions means a larger space for appliances and reference architectures in the market.

This is true even of verticals in which technology has advanced only modestly in the past several years. A typical example is building automation, where end customers have demanded functionalities such as remote monitoring of energy usage, temperature, equipment run times or occupancy schedules for some 20 years now, but technological progress brought about by DX finally caught up only recently.

US building-control company KMC Controls used this opportunity and partnered with Dell EMC to create an integrated building-control system that combines IoT and cloud to generate real-time actionable insights from multiple locations. This allowed them to cut time-to-market from 12–18 months down to only nine.

Digital Transformation Means Facing New Challenges

Embracing DX solutions also means that VSPs will be faced with DX-specific challenges that they did not have to face before. This includes issues around seamless interoperability and orchestration of components in increasingly complex IT systems that often combine multiple DX-related technologies (e.g., Big Data analytics of IoT data in a cloud environment) delivered by several partners, data ownership, and security, or compliancy with regulatory policies.

VSPs will be expected to offer DX-ready solutions, but that does not mean they will also have to become experts on overcoming DX challenges, and nor should they be. For example, the adoption of IoT in sub-verticals such as building automation is tied to new types of security concerns, such as around network breaches. IDC predicts that by 2020, 10% of all attacks will target intelligent IoT systems.

A VSP such as KMC Controls cannot be expected to develop and maintain the set of skills necessary to also become experts in next-gen security. This can be avoided by having the hardware part of a solution stack, as well as related DX-enabling solutions (e.g. cloud storage, next-gen security of IoT components) delivered by a DX-ready OEM.

DX brings about structural challenges as well. One of the most significant is a general lack of next-generation business and IT skills, which is a result of high and ever growing demand coupled with scare supply. Even in developed countries, education systems do not produce DX-related expertise at a pace at which enterprises would like to consume it. Moreover, scarce skills tend to concentrate generationally, which could potentially threaten the viability of older IT architectures (mainframe computers come to mind).

IDC's *Services Innovation: Future of IT Spending* research report showed that the talent that was identified as needed most urgently included expertise in business intelligence (BI), analytics, mobile development, social development, security, and business analysis. Not surprisingly, these are the skills necessary to drive DX. This, coupled with a trend of declining IT budgets, is a yet another factor contributing to the growing need to deliver turnkey, easy-to-access, and ready-to-use solutions.

HOW DELL EMC SUPPORTS VERTICAL SOLUTION PROVIDERS

Dell EMC Global OEM Solutions is an organization unit that has operated within Dell Technologies since 1999. It currently has 4,000 customers in over 40 verticals, consisting of mostly mid-market VSPs up to the global 500 companies. Its team of over 600 includes a dedicated product and customization group.

Dell EMC's OEM business started by mostly selling components for proprietary purpose-built appliances, but has since evolved into integrating a wide range of hardware (e.g., servers, storage array, networking equipment) and software. Most of its business is still in core compute (servers, workstations, desktops, etc.), but delivering software-defined technology (e.g., virtualized pools of storage) and the integration of cloud into its solution is quickly becoming crucial, as VSPs need those building blocks in their solution set.

Currently, the key differentiation of Dell's OEM business is its supply chain. Dell EMC is generally known for operational advantages that stem from advanced logistics, mainly an ability to deliver solutions quickly and scale them easily, and its technical support, which is rapid (e.g., a dedicated OEM support queue) and global (operating in over 180 countries, including remote locations and/or harsh climates).

The Dell EMC OEM business is based on Dell EMC's product line of infrastructure and Dell's client device array. This includes Dell EMC PowerEdge servers, Dell EMC storage arrays, Dell EMC Networking switches, or Dell EMC Precision workstations, among others. Thanks to its relatively recently introduced Dell EMC Edge Gateways, the Dell EMC OEM business has gained important leverage in the rapidly evolving area of IoT, which is still extremely fragmented by a large number of hardware vendors, often very small and only emerging from the start-up phase. Dell EMC's IoT appliance is reported to connect well with its other infrastructure. This constitutes a significant headway in delivering a back-to-back IoT solution.

The Dell OEM group offers customization of its components, including of hardware, as well as custom changes to BIOS configuration. In the case of many VSPs, Dell EMC takes over some or all of their solutions delivery, including manufacturing, preinstalling operating systems, drivers, virtual environments, and VSPs' proprietary software, packaging, branding, and shipping. Dell EMC also offers extended life cycles for many hardware components (in some cases over 10 years).

Being a large and established vendor, Dell EMC has built a sizeable ecosystem of partners in various IT areas. This also constitutes an important asset of its OEM business, as Dell EMC can facilitate partnerships and co-innovation between a VSP and its other partners with expertise that the VSP is looking for.

CHALLENGES FOR THE VENDOR

- Major immediate challenges for Dell EMC come with a recent merger, the largest technology deal in history. The Dell EMC OEM business had been primarily a Dell play – EMC had only a small OEM division targeting a limited set of large customers. So there are no direct impacts of factors such as issues around team integration, mismatch of corporate cultures, or overlap of activities and salesforce (although there was an overlap of certain products before the merger, particularly in storage). In the DX era, dispersed multicloud environments will be the rule. IDC research shows that by 2018, 50% of enterprise IT assets will be housed off-premises. But unless cloud security and compliance tools undergo significant improvements (e.g., via blockchain), the trend to push workloads and operations to cloud will flatten. This means that traditional appliances and engineered

solutions will never be pushed away by as-a-service models. However, new appliance architectures will emerge, and VSPs need to think how to make their products fit seamlessly into these hyperconverged, hyperscale, and software-defined architectures. For example, their solution stacks will have to include much thicker software layers and accommodate multiple cloud platforms.

- **Focus on innovating around your key differentiation.** DX means faster technological progress. This puts enterprises, including VSPs, under unprecedented pressure to avoid being replaced by their more innovative competition. VSPs should commit themselves to innovation around what their key differentiators are.
- **Consider transferring other parts of your business**. IDC surveys show that enterprises, including VSPs, still spend up to 80% of their resources on other parts of their business, draining significantly from their innovation potential. VSPs should therefore consider transferring tasks such as manufacturing or shipping to their OEM, especially if the OEM can handle them more effectively.
- **Reduce time-to-market**. Not only VSPs but also their customers will be busy innovating. In a rapidly evolving world of DX, this means they will expect their VSPs to deliver turnkey, easy-to-access, and ready-to-use solutions. In many cases, this is identical to DX-powered solutions because DX-related technologies enable the deployment, maintenance, and scaling of solutions at an unprecedented pace.
- **Find a strong OEM with a DX-ready portfolio**. IDC predicts that 3rd Platform and innovation accelerator technologies and solutions built around them will experience significantly higher growth than traditional solutions. Embracing those pillars enables VSPs to broaden their portfolios, reduce time-to-market, or even discover completely new sources of revenue. This means partnering with an OEM capable of delivering cloud services or offering top IoT hardware, for example.
- **Look for an OEM with a strong ecosystem of partners**. DX brings about substantial changes in B2B interactions from a pure supply-demand model where an enterprise offers a commoditized product to a partner-partner model where various players (usually specialized in delivering a very specific service) co-innovate to unlock value that none of them would be able to unlock alone. In this environment, being well connected to a large ecosystem of top innovators becomes a crucial asset. In the case of VSPs, this means being connected to an ecosystem facilitated by their OEM.

CONCLUSION

The DX era is a turbulent one. Both VSPs and their customers are facing an unprecedented series of changes that impact not only their own business, but also the environment in which they exist. Moreover, these sweeping changes take place at an ever-growing pace. IDC strongly believes that carefully picking the right OEM will be crucial to survive this process and emerge as leaders in their respective markets.

RELATED RESEARCH

- *IDC FutureScape: Worldwide Cloud 2017 Predictions* (IDC #US41863916, November 2016)
- *IDC FutureScape: Worldwide Digital Transformation 2017 Predictions* (IDC #US40526216, November 2016)
- *IDC FutureScape: Worldwide Internet of Things 2017 Predictions* (IDC #US40755816, November 2016)
- *IDC FutureScape: Worldwide Manufacturing 2017 Predictions* (IDC #US41837317, November 2016)
- *IDC's Worldwide Digital Transformation Spending Guide Taxonomy, 2016* (IDC #US40894315, January 2016)
- *Comparing Traditional OEMs Versus ODMs (White-Box Manufacturers): Services Matter!* (IDC # 256604, June 2015)
- *Services Innovation: Future of IT Spending* (IDC # 256556, January 2015)

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

About Dell EMC OEM Solutions

Dell EMC OEM Solutions helps companies in more than 40 industry verticals go to market faster and more efficiently by building Dell technologies' hardware, software, and services into their solutions.

IDC U.K.

IDC UK
5th Floor, Ealing Cross,
85 Uxbridge Road
London
W5 5TH, United Kingdom
44.208.987.7100
Twitter: @IDC
idc-community.com
www.idc.com
