INNOVATION ACCELERATED

Unleash innovation with multicloud-by-design

D∕ELL Technologies

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Unleash innovation with multicloud by design

As discussed in our recent eBook, *"Innovation Accelerated: How to turn ideas to impact faster"*, innovation drives growth and puts organizations in positions of strength in any macroeconomic environment. Technology, even in its early rudimentary forms, has enabled these leaps forward.

One monumental step-change in technology provision is cloud computing. In its various forms it continues to play a leading role in accelerating ideas to impact by enabling organizations to gain the agility they need to innovate and scale quickly (organizations can immediately spin up resources, build and scale applications, etc.).

Successful cloud computing requires:
1. Thoughtful planning—some clouds are better suited to certain purposes, so you want to identify the right cloud for the right purpose upfront
2. Close management—to maintain consistency across a heterogenous environment and pre-empt silos

Savvy organizations will strategically implement a multicloud environment (more than one cloud service, from more than one cloud vendor, with a potential mix of public, private clouds, on-prem software, co-location) and place specific workloads where it makes the most sense (i.e., in relation to their growing storage needs, how often they need to pull down data etc.). This is as discussed in our recent eBook, '*Innovation Accelerated: How to turn ideas to impact faster*'.

Unfortunately, this thoughtful planning isn't as commonplace as you might think. Many organizations arrive at a multicloud environment by happenstance: a result of mergers and acquisitions, shadow IT, legacy environments. This is multicloud-by-default and oftentimes leads to a patchwork of clouds that have sprung up in an organic and ad hoc fashion, resulting in sub-optimal situations to say the least. For instance, data-heavy workloads, which need to be accessed often might be marooned in a public cloud where it's expensive to draw down data regularly, while less time sensitive data might be taking up storage on-prem. There may be interoperability issues with the proliferation of data silos and clouds acting as islands.

Symptoms of multicloud-by-default include data duplication, increased complexity, data sharing difficulties, security gaps, runaway costs etc. Essentially the very areas cloud computing should solve for.

To clarify, most organizations have a multicloud configuration. The question is, are they making it work for them? Have they tailored it to their needs? Does their cloud arrangement provide sufficient flexibility, availability, adhere to appropriate data sovereignty laws etc.? Intentionality is key. Moving from multicloud by default to multicloud-by-design will be the differential that takes organizations from idea to impact, by bringing strategy and structure to an organization's multicloud architecture and implementation.

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Multicloud is the defining infrastructure trend for today and beyond. Innovation can happen when workloads are mapped to desired outcomes. But the days of winging it and flinging workloads around systems are numbered. In other words, hope is not a strategy

Chad Dunn, Vice President, Product Management, Dell APEX

This paper draws upon insights from the latest Dell Technologies market research – _the Innovation Index_. We will explore the importance of innovation to the success of modern-day organizations, the relationship between multicloud-by-design implementation and innovation maturity, and the three strategic steps organizations should take to advance their innovation in a multicloud world.

Key Findings

Patchworks of multicloud environments are inhibiting innovation.
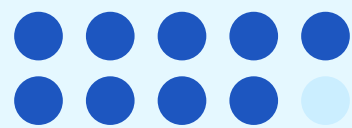
9/10 organizations identify a spectrum of challenges with their current cloud strategy

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barrier to realizing their future cloud strategy:
Inability to add additional capacity without a major infrastructure investment

3 focus areas for your multicloud strategy
To innovate with multicloud, strategize for greater simplicity, agility and control

React quickly to capture new opportunities by scaling resources on demand

65% of ITDMs can't keep pace with changing organizational needs with their multicloud set-up

67% of ITDMs yet to achieve faster outcomes with multicloud

Simplify your cloud environment

54% say their cloud strategy is hampered by either/both of the following:
- Disparate cloud management across disparate vendors
- Vendor lock in and lack of flexibility

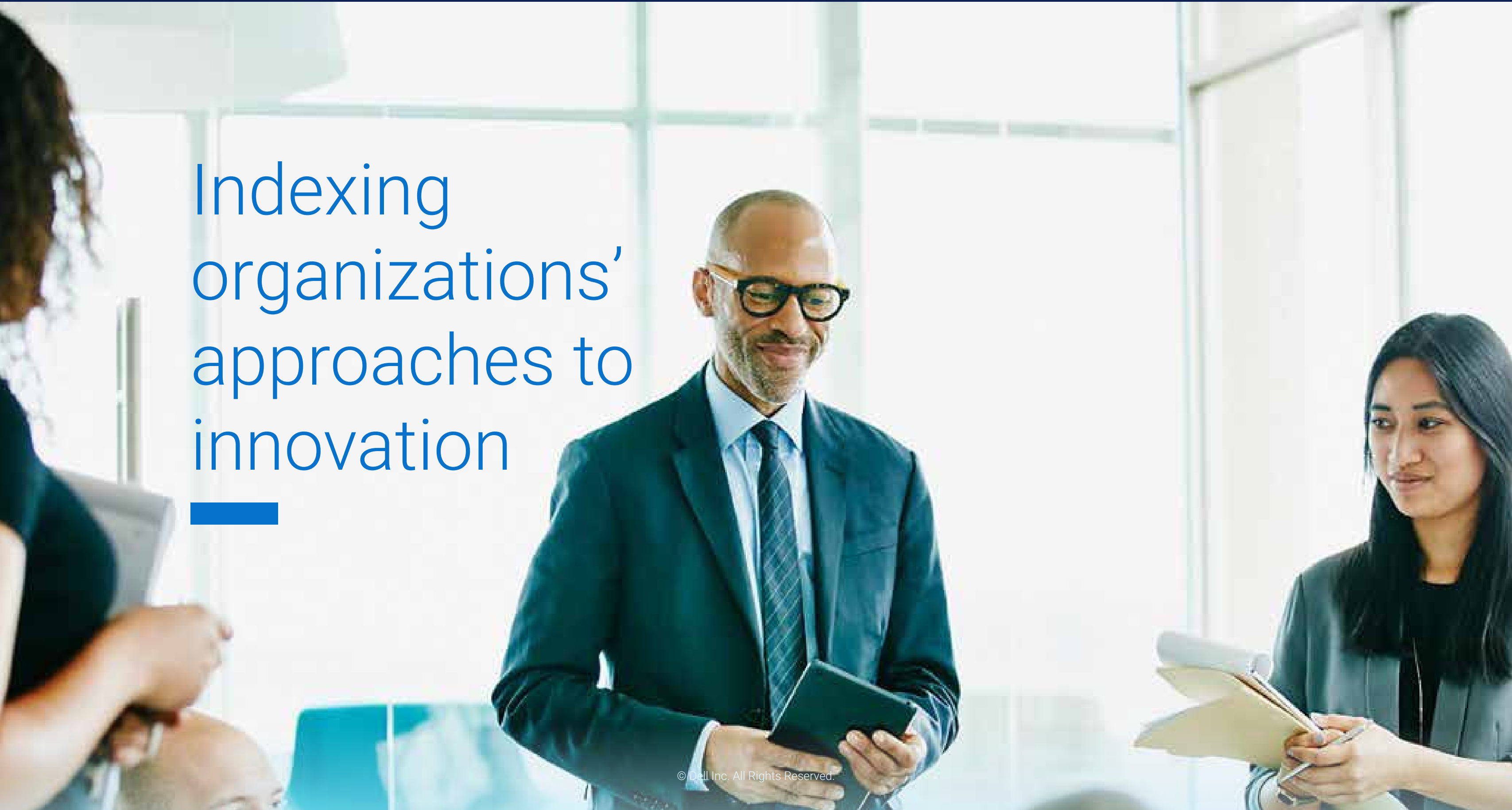**Control costs, processes and security via a unified cloud experience**

66% of ITDMs still haven't achieved control (or agility) with their multicloud

62% of ITDMs say growing cloud costs and or loss of time and money spent migrating apps hampers their cloud strategy.

Indexing organizations' approaches to innovation

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Measuring innovation resilience

The Innovation Index benchmark places respondents in one of five innovation maturity groups—a spectrum that ranges from "Laggards" (least mature) to "Leaders" (most mature) based on how they approach innovation from a people, process and technology front.

Multicloud is a technology catalyst for innovation and in this paper we will evidence this claim, by showing that innovation maturity and multicloud maturity are interrelated. In doing so we will expose the innovation benefits of multicloud-by-design and the detrimental impact of multicloud-by-default.

Innovation Laggards	Innovation Followers	Innovation Evaluators	Innovation Adapters	Innovation Leaders
No innovation plans; limited initiatives and investments	Very few investments: tentative plans	Gradual innovation and planning	Mature innovation plans, investments in place	Innovation ingrained in DNA
3%	36%	43%	16%	2%

Figure 1: Showing innovation maturity model. Base: All respondents (6,600). More detailed description of each group can be found in the appendix.

The multicloud-by-design and innovation relationship

Multicloud-by-design requires a long-term view: planning for data growth and business growth, along with bumps along the road. This develops cloud resilience. Dell's Innovation Index study shows that there is a clear link between innovation success and organizations that have a mature multicloud approach (multicloud resilience).

The link becomes especially apparent when we study correlations between the overall Innovation Index, which assesses how 6,600 respondents' people, processes and technologies aid or hinder their ability to innovate (half of whom are ITDMs and half are BDMs shaping/influencing innovation in their organization), and the multicloud measurement (based on responses from the ITDMs surveyed), regarding how their organization is taking steps to gain IT agility and flexibility.

	Laggards	Followers	Evaluators	Adapters	Leaders
Innovation maturity model	3%	36%	43%	16%	2%
Multicloud maturity model	1%	53%	38%	6%	2%

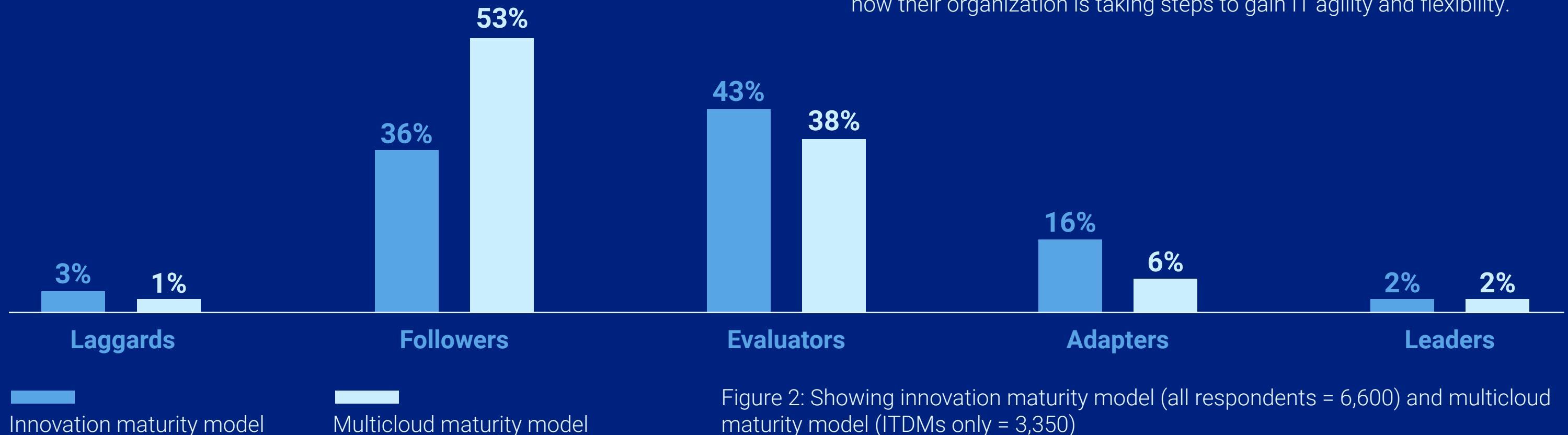■ Innovation maturity model   ■ Multicloud maturity model

Figure 2: Showing innovation maturity model (all respondents = 6,600) and multicloud maturity model (ITDMs only = 3,350)

Based on the multicloud maturity measure, relatively few organizations have been identified as Multicloud Leaders or Adopters (8%). Firms are most commonly Multicloud Followers (53%). They have ended up with a multicloud environment by circumstance than design and are likely to be experiencing greater technical debt than technical advantage.

Organizations that perform highly on the multicloud measure are much more likely to perform highly in terms of innovation:

53%

of Multicloud Leaders or Adopters are Innovation Leaders or Adopters

45%

of Multicloud Laggards or Followers are Innovation Laggards or Followers

Unlocking the full promise of multicloud with an intentional strategy

Success factors when implementing a multicloud-by-design strategy

The link between innovation and multicloud-by-design underscores the wider business significance of getting the cloud mix right. It underscores the necessity to overcome barriers to innovation born from contending with a medley of discrete cloud environments.

92%
are experiencing challenges with their current cloud strategy

The number one barrier:
Inability to add additional capacity without a major infrastructure investment

Success factors when implementing a multicloud-by-design strategy

62% are yet to reduce management overhead and improve visibility with automation in the cloud	65% can't keep pace with changing organizational needs with their multicloud set-up	67% yet to achieve faster outcomes with multicloud	66% haven't achieved control or agility with multicloud

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Our customers tell us that they want the ease and agility of the cloud experience not just in the public cloud, but anywhere that applications and data live. A multicloud-by-design strategy enables workloads to be placed based on a variety of factors that include cost efficiency, performance optimization, latency, security, compliance, and governance. It's about enabling the flexibility and providing the experience and outcomes our customers expect.

David Singer, Senior Vice President, Subscription and as-a-Service, Dell Technologies

Here are three strategic areas to focus on when architecting a multicloud-by-design strategy:

Simplicity	Agility	Control

Simplicity: choice, consistency, freedom

Goal: Unleash increased innovation potential by simplifying your cloud environment and exploring best-in-class services

Multicloud-by-design brings management consistency to storing, protecting and securing data in multicloud environments. It extends and optimizes cloud stacks to dedicated IT environments, enabling workloads to run wherever the business needs, not where technology constraints dictate. And it streamlines IT operations by bringing a cloud operating model to dedicated IT environments.

A well-crafted multicloud environment also makes it easier to deploy applications, by providing consistent cloud stacks and Kubernetes orchestration experiences across all environments. So, application teams can "build once and deploy anywhere" on the software they prefer in the environment of their choice.

Of course, multicloud is multi-vendor. So, vendor relationships, and synchronicity between these vendors matter. Cloud partnerships can make or break the multicloud experience.

For many organizations, these relationships aren't bearing fruit: 52% of organizations cite a lack of a trusted partner and/or lack of cloud expertise (which a vendor should be able to help bridge), as obstacles to their multicloud strategy. We see these fractures manifest in different ways.

For instance, at least one of the below challenges is impacting 54% of organizations' current cloud strategy:
• Disparate cloud management across disparate vendors
• Vendor lock in and lack of flexibility

In short, trusted partnerships that support open ecosystems and put the customer experience first are invaluable. They resolve roadblocks to innovation and create dynamic, agile systems in which organizations can become hyper-efficient and ready to take up the mantel in the next wave of innovation.

Partnering for success

The Dell APEX multicloud-by-design approach leverages a ground-to-cloud strategy that brings familiar best-of-breed software from on-premises Dell infrastructure to the public clouds. This enhances data mobility and operational consistency across environments, boosting your IT teams' efficiency by extending their skill sets further with no additional training required. Conversely, we also extend cloud software stacks from "cloud to ground" to extend and optimize the cloud experience of major public cloud software and container orchestration distributions to on-premises environments. We do this seamlessly and frictionlessly.

- We ensure consistency by unifying your operations and simplifying transformation
- We provide the freedom to migrate workloads and connect data with ease whilst avoiding vendor lock-in
- The Dell APEX as-a-Service portfolio streamlines the lifecycle of traditional infrastructure, simplifying or offloading management of the technology stack. This enables your IT teams to focus more of their time on urgent priorities.

Dell APEX removes unwanted complexity and its related inefficiencies and costs to help you streamline transformations, modernize operations and achieve differentiated results.

How to develop an enterprise cloud management strategy that supports innovation

First things first: innovation begins with people! Set the stage for innovation by nurturing potential innovators in the organization for ideas, new ways of working, creative ways to address customer needs.

Follow that cultural preparation with infrastructure support. Self-service automation and provisioning can enable developers to spin up instances in public cloud quickly to support development initiatives. That agility can foster creativity and innovation.

Identify barriers up front that could derail innovation. From a governance perspective, clear policies for how resources are accessed and utilized can avoid loss of visibility and control costs. Similarly, automating protection of data and potential intellectual property will keep data secure.

While the fastest path to innovation for developers is likely the public cloud, the best location for that new app to run in production may be different. A common underlying hardware and software infrastructure provides portability so workloads can be placed wherever it makes the most sense for the business. This common infrastructure makes it easier and more cost-effective to manage workloads over their lifecycle, while maintaining agility. A single pane of glass to manage workloads and infrastructure across clouds provides visibility, enables monitoring against success metrics, or allows tuning as needed to improve outcomes.

Engage with experts to assist – your trusted vendors, cloud providers and partners including Dell and Intel, can help. Let us bring our insight and expertise guide you through your innovation transformation!

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A common underlying hardware and software infrastructure provides portability so workloads can be placed wherever it makes the most sense for the business and makes it easier and more cost-effective to manage workloads over their lifecycle, while maintaining agility. Companies can trust that Dell servers accelerated with Intel processors are a great foundation to build upon.

Janet George, Corporate Vice President and General Manager, Cloud and Enterprise Solutions Group, Intel

intel®

Agility: adaptability, flexibility, predictability

Goal: Make agility and adaptability integral to your multicloud-by-design strategy, allowing you to react quickly and scale resources on demand to capture new opportunities.

Organizations need to optimize their IT services, with adaptability built-in to support innovation. Innovation Leaders and Adopters are much more likely to be taking purposeful steps to gain IT agility and flexibility to support innovation than Innovation Laggards and Followers.

Six in 10 (61%) Innovation Leaders / Adopters say they're adopting an as-a-Service IT consumption model to better acquire the technology they need, while outsourcing the management burden to a trusted partner. The majority (55%) of all respondents are not doing this. Organizations can apply more resources to innovation projects by leveraging as-a-Service to reduce costs and drive infrastructure efficiency. By reducing costs and driving infrastructure efficiency with as-a-Service organizations can apply more resources to innovation projects.

Innovation Leaders / Adopters are also much more likely to be deploying multiple clouds in a considered way, re-platforming existing apps (52%) and leveraging a mix of both public and private cloud services (51%). Such organizations are not limiting themselves to a narrow IT ecosystem, rather they can optimize workloads on-premises or through co-location facilities by accessing these as-a-Service, as well as utilizing public cloud

capacity as and when required. A coordinated strategy provides much needed flexibility for swift provisioning and rapid scaling, so innovations can be taken to market quickly.

	Innovation Leaders / Adopters	Innovation Laggards / Followers	Leaders/Adopters compared to Laggards/ Followers are:
Adopting an as-a-Service IT consumption model	61%	34%	1.8x more likely
Re-platforming existing apps to take advantage of cloud capabilities	52%	37%	1.4x more likely
Leveraging a mix of public and private cloud environments	51%	37%	1.4x more likely

However, over a third (36%) of all respondents' organizations remain reticent about making necessary changes due to the time and money they think will be required to create a new multicloud ecosystem. This pessimism isn't always justified, especially as technology has evolved. In fact, eight in 10 (80%) Innovation Leaders and Adopters say moving data and apps between clouds has actually been easy.

Partnering for success

A strategic, multicloud-by-design approach with Dell APEX provides the agility you need to respond to new opportunities, and threats, without sacrificing predictability. You can achieve greater adaptability by ensuring services are provisioned quickly and resources are scaled on demand, and you can win better flexibility by extending the benefits of the cloud experience across your entire IT enterprise:

- Dell APEX cloud platforms enable application developers to "build once and deploy anywhere" using the software they prefer in the environment of their choice. This boosts workload agility and empowers unrestrained software innovation, regardless of where applications and data live.
- In extending cloud to ground, Dell APEX enables IT to run production public cloud workloads on-premises to help keep applications and data more secure, compliant, and optimized
- Dell APEX lets you create your own on-demand environment. You can implement a pay-per-use subscription on the Dell infrastructure product of your choice or create a usage-based managed utility ecosystem

Control: security, governance, performance

Goal: Ensure greater control of processes, costs, and data security by implementing a unified cloud experience managed from a single point of control.

As you add cloud instances, there is always a risk that you'll duplicate datasets which increases costs (e.g., paying for more storage overall, possibly paying for more egress fees). This can create more security and governance complications.

For instance, if you can't determine where your data is stored (and that includes back-up data), it might be stored anywhere in the world (wherever it suits the cloud provider). That could put you at odds with data sovereignty laws which can result in a hefty fine. Being able define policies for your data and technical controls in accordance with pertinent regulations will keep you compliant. For that you need to plan ahead and be resourced to take back control.

Multicloud also comes with network complexity, which can be the enemy of security. If you have a shared security model with your cloud provider, it's vital to have clarity of who's responsible for what. If you're responsible

for patching and version updates for every cloud instance, you need to maintain "workload freshness" even if that's logistically challenging to do. Security requires water-tight controls—that's not always easy in a heterogenous environment but centralized cloud management can help. The key is to forecast the complexities upfront and then take steps to lift the burden, and risk.

73% of ITDMs highlight one or more of the following challenges experienced with their current cloud strategy:

Data sovereignty / other compliance requirements

Limited visibility / control creates security challenges

Siloed cloud experiences, with disparate management and vendors

Capacity management in a multicloud work

Looking to the future, the most common concern, voiced by almost half of our ITDMs, is the belief that adding capacity is not possible without major infrastructure investment (45%). This is where capacity management is so important. A chief benefit of the cloud is scalability. Organizations risk losing that advantage if they can't manage their resources. Effective capacity management is a careful balancing act, characteristic of multicloud-by-design, spanning how much CPU, memory and storage resources IT teams need to support their applications; how many services to include in a cluster (to handle a load; manage backup systems); whether you would benefit from serverless functions or virtual servers to allocate a large amount of resource for a short amount of time etc.

This capacity management is not easy. Many CIO have already seen their department's cloud computing spend exceed allocated budgets and experienced disruptions caused by wrong-sized workloads.

Organizations can better control costs and minimize application failure by adopting a multicloud strategy that compensates for a single cloud's limitations to meet long-term capacity management.

62% of ITDMs say their cloud strategy is hampered by either/both of the following:

Growing cloud costs (storage, networking egress, access fees etc.)

Loss of time and money spent migrating apps to new cloud environment

Partnering for success

With Dell APEX, Dell offers a unified cloud experience with more consistent and frictionless operations, that gives control back to organizations. Meaning you can determine where your data is located, who can access it and how it is protected. Essentially you will be well on your way to deploying, with ease, the technology you need, wherever you need it, to achieve better outcomes like these:

- Increased security to protect against cyberattacks and unplanned downtime events and greater governance, so your team can ensure data resides in known locations, which satisfies compliance obligations
- Improved performance, so you can put data in the right place at the right time to deliver the speed and outcomes you need.
- The autonomy to dial up and down—with precision—your processes, costs, data security and power by managing your cloud experience from a single point of control/a single pane of glass.

Reducing your carbon footprint

One in two (49%) of Innovation Leaders and Adopters are accelerating their innovation efforts in response to the climate change crisis. They recognize that technology can help them innovate more sustainably, and how they consume technology can also make a difference. An as-a-Service/cloud consumption model enables organizations to only use data and energy services as needed, as opposed to running systems on maximum load (thereby eliminating wasteful over-provisioning).

A well-orchestrated multicloud environment is more energy efficient. Organizations can consolidate workloads, data can be offloaded to cold storage and their footprint lowered with compression technologies and data centers can be made greener with advancements in fan technologies liquid cooling and different heating, ventilation and air conditioning (HVAC) strategies.

Innovators are alert to these opportunities. Almost six in 10 (56%) Innovation Leaders and Adopters are actively increasing energy efficiency/reducing energy use in the data center. Half (50%) of Innovation Leaders / Adopters are experimenting with an as-a-Service IT model to explore how they can reduce and manage their energy use.

Almost two-fifths (39%) of Innovation Leaders / Adopters can already claim that a modern cloud architecture has allowed them to reduce their carbon footprint.

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Enterprises are realizing that going green puts them in the green. Energy efficiency equals cost containment. And they're putting their data management strategies under the microscope. A holistic approach that eliminates inefficiencies in workloads, hardware and data footprint delivers the most savings in energy—and money. And it's based on multicloud computing strategies that place the data center front and center in IT operations

Jeff Boudreau, President, Infrastructure solutions group, Dell Technologies

Partnering for success

Poor utilization of IT assets is the single biggest cause of energy waste in the data center. A multicloud computing strategy powered by Dell APEX with an energy-efficient data center as its anchor delivers the agility and resources you need to optimize ongoing utility expenses.

- We optimize IT infrastructure and provide data reduction guarantees so organizations can significantly reduce power, cooling and space requirements
- We deliver as-a-Service options so organizations can fully utilize equipment and maximize energy efficiency
- We help organizations retire end-of-life IT equipment for reuse and recycling so organizations can securely and sustainably manage waste and confidently plan for future innovation

Lessons learned from innovators

Lessons learned from innovators

One organization's cloud implementation story can be wildly different to another's. Innovation Followers and Laggards have had a much harder time of it than Innovation Leaders and Adopters.

Around 8 in 10 Innovation Leaders and Adopters claim their cloud strategy has been largely error free, data/app migration has been easy, and the multicloud environment has protected data value and facilitated faster innovation.

These accounts show that there is reason to hope. By learning from Innovation Leaders and Adopters, organizations can migrate to a multicloud environment with relative ease and reap the benefits.

84%	80%	78%
of Innovation Leaders and Adopters say their cloud strategy has largely delivered consistently without mistakes	of Innovation Leaders and Adopters state that moving data and apps between clouds has been easy	of Innovation Leaders and Adopters claim their multicloud environment protects their data's value and enables them to innovate faster

Looking forward, almost a third of Innovation Leaders / Adopters (31%) anticipate no barriers to implementing their future cloud strategy. It is a positive sign that those further down the multicloud road can already see the light at the end of the tunnel.

Innovation Leaders and Adopters are pursuing multicloud-by-design strategies and starting to access best-in-class cloud capabilities to streamline innovation. Their strategy is paying off.

Their approach has allowed 68% to keep pace with organizational change (48%), and/or achieve faster outcomes (47%) and/or greater agility/control (44%).

In terms of specific innovations, Innovation Leaders / Adopters are now much more likely to be:

- Accessing advanced cloud services such as AI, chatbots, quantum computing (54%)
- Using compute bursting capabilities on demand to accelerate innovation tasks (52%)
- Transitioning to a DevOps/DevSecOps methodology (50%)
- Opening up geolocations: achieving better service in areas without a physical data center (48%)

All of which is benefitting their bottom line, with around half more likely to have reduced large Dell APEX costs (53%), made time savings from outsourcing infrastructure management (49%), and/or reduced management overheads through autonomous operations (47%).

Innovation Leaders / Adopters demonstrate that the journey to multicloud-by-design need not be painful and the benefits are well worth the trek.

INNOVATOR SPOTLIGHT

ATN International

Meeting changing customer expectations in diverse markets with multicloud

Idea

ATN International provides digital infrastructure and communications services in the U.S. and global locations, with a focus on underserved rural and remote markets.
ATN spends millions of dollars annually building out more communications infrastructure to support its existing customers, add new ones and deliver innovative data and IT services. ATN needed an easy way to manage and support workloads across multiple cloud environments to meet rapidly changing customer expectations in diverse markets, while minimizing costs.

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Technology

ATN's cloud environment had grown dramatically in recent years. It selected Dell APEX Hybrid Cloud to manage its on-premises and public multicloud environment. With a subscription-based, on-demand model that ensures predictable lower costs, ATN has been able to free up capital. It moved 70% of its IT infrastructure to Dell APEX in under three months. The migration was smooth and didn't require a re-architecture.

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Impact

It now has a modern IT infrastructure that enables ATN to support is customers and scale rapidly to changing markets demands. With a common tool set it's banished complexity and can seamlessly manage multiple cloud environments with a single pane of glass console. It costs 20% less to support ATN's IT environment and because it's so simple to configure, IT staff have more time to pursue other innovative projects.

Learn more **here**

Conclusion

We're at an interesting fork in the road. The drive for speed and agility led to rapid public cloud adoption, but this also resulted in complex IT ecosystems that have paradoxically slowed down organizations when they were supposed to speed them up. A multicloud-by-design approach lessens these risks, circumvents proprietary and interoperability issues and delivers on the cloud's original promise to enable flexibility, scalability and agility.

When organizations purposefully leverage different cloud topologies to place workloads where they make the most sense at the right time, they can achieve agility, scalability and ultimately their desired outcomes– be that working towards the next big medical breakthrough, an environmental advancement or a net-new business model.

Whilst many businesses are concerned about their future multicloud capabilities–the financial and time investment required and potential lack of control–Innovation Leaders/Adopters show us that the path need not be onerous and the benefits–better ROI, reduced risk, IT centralization and, importantly, faster innovation–make the journey worthwhile, if it's properly plotted out.

Organizations currently evaluating their cloud computing strategy should take heart that a multicloud-by-design approach brings considerable

benefits to the business IF risks are accounted for and mitigated. For some organizations, this might mean sourcing external expertise to bring this strategy to fruition, either through auditing existing cloud usage and helping to identify workload-specific solutions and/or by educating internal stakeholders on the importance of multicloud-by-design (and the preventative steps they need to take to rein in multicloud-by-default).

In reality, we are already operating in a multicloud world. It is how organizations make their clouds work collectively that matters. Partner with us for the multicloud solutions and expertise that you need to optimize workloads, to bring greater agility and scalability to your innovation.

To learn how to unlock the full promise of multicloud by design, explore **Dell APEX**

To learn more about building a holistic innovation strategy, visit: **Dell.com/AccelerateInnovation**

Innovation and multicloud maturity curve group descriptions

Laggards	Followers	Evaluators	Adapters	Leaders
Innovation Laggards perform poorly across a range of innovation markers, with considerable improvements needed across the board. They almost never have processes in place to facilitate innovation and do not work with partners to improve innovation success. Leaders do not model or encourage innovation from across the organization.	**Innovation Followers** underperform across a range of innovation markers, with improvements needed. They are unlikely to have processes in place to facilitate innovation, but they may work with partners, in a limited capacity, to improve innovation efforts. Leadership is unlikely to encourage innovation across the organization.	**Innovation Evaluators** innovate in some areas but are mostly stuck in the evaluation stage. They lack a clear and holistic strategy and means to move forward. They have processes in place to facilitate innovation and will partner with organizations to advance these efforts. Leadership needs to be coached to encourage innovation from across the organization.	**Innovation Adapters** are largely successful in their innovation efforts, but small improvements are needed. They're likely to have processes in place to facilitate innovation and often work with multiple partners to improve innovation efforts. Leaders encourage innovation from across the organization.	**Innovation Leaders** are successfully advancing innovation across the business. They have end-to-end processes in place to facilitate innovation and typically work with multiple partners to progress innovation efforts. Leaders actively encourage innovation from across the organization—their workforce is empowered to innovate.
Multicloud Laggards are very unlikely to embrace multiple cloud deployments, adopt an as-a-Service consumption model or re-platform existing apps to cloud. They never embrace containerization and microservices and have experienced none, or one at most benefits of modern cloud architecture.	**Multicloud Followers** are somewhat unlikely to embrace multiple cloud deployments, adopt an as-a-Service consumption model or re-platform existing apps to cloud. They're unlikely to embrace containerization and microservices and have experienced two or three benefits of modern cloud architecture.	**Multicloud Evaluators** are relatively likely to embrace multiple cloud deployments, adopt an as-a-Service consumption model and re-platform existing apps to cloud. They are somewhat likely to have embraced containerization and microservices and have experienced four or five benefits of modern cloud architecture.	**Multicloud Adapters** are highly likely to embrace multiple cloud deployments, adopt an as-a-Service consumption model and re-platform existing apps to cloud. They embrace containerization and microservices and have experienced six or seven benefits of modern cloud architecture.	**Multicloud Leaders** almost always embrace multiple cloud deployments, adopt an as-a-Service consumption model and re-platform existing apps to cloud. They almost always embrace containerization and microservices and have experienced eight or more benefits of modern cloud architecture.

Methodology

Dell Technologies commissioned independent market research specialist Vanson Bourne to conduct this research. The study surveyed 6,600 respondents from organizations with 100+employees from across the following regions: North America, LATAM, EMEA, APJ and Greater China. These organizations are from a range of public and private sectors.

All respondents either drive or influence innovation in their organization. Of the total number of respondents, 3350 are IT decision-makers (ITDMs) and 3250 are business decision-makers (BDMs). We asked only ITDMs to answer questions related to multicloud, data, edge, security and hybrid work strategy/performance in their organization.

The interviews were conducted online and via telephone in September and October 2022 and were undertaken using a rigorous multi-level screening process to ensure that only suitable candidates were given the opportunity to participate.

DELLTechnologies

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VansonBourne

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