

OFFERING OVERVIEW

Nutanix Powers Workload Freedom and More

Nutanix Cloud Platform Allows Freedom of Deployment Across Multicloud and On-Premises Environments



TABLE OF CONTENTS

Executive Summary	3
About Nutanix Cloud Platform	4
Market Segment	4
Market Trends	6
Key Capabilities	9
Analysis and Observations	15
Recommendations	17
Related Research	19
Endnotes	24
Analyst Bio	26
About Constellation Research	27



EXECUTIVE SUMMARY

This report provides an overview of how Nutanix Cloud Platform has evolved to become a full-fledged next-generation computing platform. Nutanix has a long tradition making workloads portable, with the introduction of the AOS (Acropolis Operating System) as far back as 2011.

Since then, Nutanix has steadily expanded the reach and capability of Nutanix Cloud Platform, expanding on all dimensions from both product and licensing as well as a partner ecosystem perspective. The result is a platform that provides what CxOs require the most: Identicality¹ of the technology stacks in both the cloud and on-premises. Higher Identicality means higher workload portability between the supported platforms.

Additional vendor offerings covered in the Constellation Market Overview are (in alphabetical order): AWS Outposts,² Google Anthos,³ IBM Cloud Private and IBM Satellite⁴, Microsoft Azure Stack,⁵ and Oracle Cloud@Customer.⁶ Also of note for readers may be the recent Offering Overview of Mirantis Docker Enterprise Container Cloud.⁷





ABOUT NUTANIX CLOUD PLATFORM

Overview

As one of the few players in the HCI market, Nutanix had to figure out workload portability from the very beginning, with the launch of an integrated platform in 2015. Therefore, portability has been an existential part of the DNA of all subsequent Nutanix offerings.

In parallel, the vendor moved away from a hardware-purchase operating model to a software-and-subscription operating model. As important as the technical portability has been, the latter operating model change has enabled one of the most innovative and customer-friendly pricing models in the industry: a fully consumption-based pricing, with credits consumable where they are needed and with full license portability across deployment platforms.

More recently, Nutanix has expanded the reach of Nutanix Cloud Platform, starting with a partnership with HPE in 2019 and adding the support of Amazon Web Services (AWS) in 2020, a partnership with IBM/Red Hat in 2021, and a partnership with Citrix in 2021—with the imminent support of more cloud platforms as well. ⁸

All this has led to the Nutanix vision of making clouds irrelevant to the point of being "invisible," meaning that enterprises do not need to care about the nitty-gritty of a cloud platform but can instead operate on the higher abstraction level of Nutanix Cloud Platform. This vision has led to the mission of delighting customers with a simple, open, hybrid multicloud software platform that has rich data services built in to allow the creation, operation, and management of any application (see Figure 1).



Figure 1. The Nutanix Vision and Mission



Source: Nutanix

MARKET SEGMENT

Market Definition

Nutanix Cloud Platform competes in the next-generation computing platforms market as a software and services offering. A next-generation computing platform is defined as a computing paradigm that runs the same infrastructure (with some limitations) for an enterprise on-premises and in the public cloud. When it comes to Nutanix Cloud Platform, that infrastructure is AWS and soon Azure in the public cloud, as well as partner hardware for on-premises. Next to that, Nutanix offers support for colocation and running on edge platforms. Finally, Nutanix Cloud Platform is certified on Equinix, OVHcloud, and Cyxtera, among others.

There has been a lot of confusion regarding the term *cloud*, with vendors accusing each other of "cloud washing"—that is, trying to rebrand an old product by adding the word *cloud* to its name. Cloud definitions vary from vendor to vendor and even from enterprise to enterprise.

For the purpose of this report, Constellation defines *cloud* as the elastic provisioning of computing, storage, and networking. The elasticity manifests itself in the form of dynamic ramping up and ramping



down of resource availability, driven by workload demand, even on a per-second basis. The mechanics for this kind of computing have been established and have matured with public cloud infrastructure-as-a-service (IaaS) vendors.⁹

CxOs who must manage on-premises workloads also find that value proposition—the elasticity of computing resources—attractive. IaaS vendors have realized this and added offerings that make parts of their IaaS infrastructure available on-premises. Effectively, the public cloud enables the era of Infinite Computing.¹⁰

This report discusses six trends shaping the next-generation compute market.

MARKET TRENDS

The following six market trends are prominent in the definition of the market for next-generation computing platforms (see Figure 2):

1. Heterogeneous Computing Demands

CxOs are confronted with rapidly changing computing demands. Beyond the challenge of satisfying the business need for big data, the computing requirements CIOs must meet range from support for machine learning, to speech recognition for internal and external digital assistant/chatbot solutions, all the way to the edge of the enterprise. New computing platforms have entered the data center—for instance, with the advent of large GPU racks to run machine learning. An unprecedented platform diversity manifests itself at the edge of the enterprise to support the Internet of Things (IoT). And the pace of change is not slowing down, as shown by new demands for additional workforce support (e.g., augmented/mixed/virtual reality) and new user experience support (e.g., holographic displays).

2. Data Center Utilization

As workloads move from enterprise data centers to public cloud vendors, CIOs struggle to reach the level of utilization they intended when originally planning and investing in their data centers. One part of the challenge is the business practice of letting individual company divisions choose their own



Figure 2. Six Market Trends Defining a Next-Gen Computing Platform



Source: Nutanix

automation tools, resulting in a lower degree of predictability for available workloads in on-premises data centers. An additional hurdle for CIOs is that physical infrastructure requests are moving more slowly and have a much longer-lasting budgetary impact. Data center utilization can quickly change from full capacity to two-thirds utilization. Dropping a single server-refresh cycle will create that scenario, which CxOs experience as they move workloads to the public cloud.

3. The Need for a Single Control Plane

The era of CxOs simply accepting that new products bring a new control plane is history. CxOs operating next-generation applications¹¹ must run them as efficiently as possible, via a single control plane. This not only allows for more efficiency in managing infrastructure but also is the best way to effectively manage a heterogeneous landscape. Ramping down and ramping up resources as demand requires cannot be done from a "zoo" of instrumentation. At the same time, it is essential to automate resource scaling so that humans can focus on delivering value instead of spending time and energy on operational tasks.



4. Rising Complexity of IT Operations

The cloud has not fulfilled its promise to simplify IT for most organizations because they are operating on a fluid automation plane that includes the public cloud and on-premises computing resources. Business priorities, timing, and write-down cycles all determine the specific time a load may be moved to the public cloud or whether it should remain on-premises. Changes in executive management often result in a shifting workload mix (for instance, due to SaaS portfolio changes) that affects the overall computing mix. A greater diversity in workloads and new next-gen application use cases create more heterogeneity and increase the complexity of IT operations.

5. Compliance Pressure

Enterprises are confronted with a rise in compliance requirements that, because of the operation of larger software portfolios, affect more of the computing and storage infrastructure than ever before. Data privacy and data residency regulations often require enterprises to move loads to different physical locations, and sometimes from the cloud back to on-premises. Enterprises had not even recovered from addressing the European Union's General Data Protection Regulation when the California Consumer Privacy Act took effect, and they see more data residency rules coming their way. The rate of regulation will only increase, making CxOs desire a more fluid way to move workloads.

6. Degrees of Cloud Skepticism

Although many next-generation application use cases are best (and sometimes only) operated in the cloud, there is still a degree of skepticism over computing in the public cloud. It ranges from rational challenges (such as whether IaaS vendor data instances are available inside of a necessary jurisdiction) to reasonable challenges (hardware write-downs and connections to existing on-premises computing resources such as mainframes) to less-rational concerns (for instance, regarding data safety). Nonetheless, it means that CIOs need to implement and operate workloads in local data centers for at least the next decade.



KEY CAPABILITIES

This section describes the most important capabilities of Nutanix Cloud Platform.

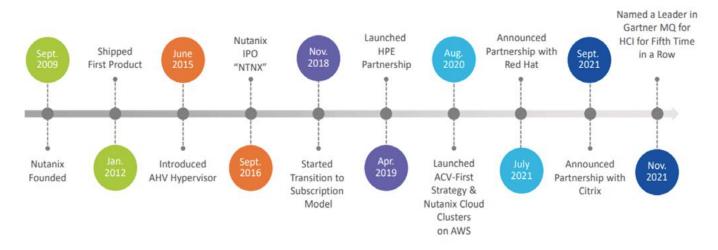
Deep Experience in Workload Portability and Application Centricity

With its initial Nutanix offering in the end user computing (EUC) space, it was clear that Nutanix had to tackle portability of its core product and the relevant EUC applications across the relevant platforms that people use. Similarly, Nutanix did not want a dependency on the back-end side of its EUC portfolio and with that provided portability to the back-end services of its initial offering portfolio.

Not surprisingly, Nutanix used the portability capabilities it provided with the offering of the AHV Hypervisor in 2015, which marked the bona fide start of Nutanix as a platform vendor. The integrated platform is built to be application-centric, both from an operational perspective to manage all underlying components as well as with a focus to enable easy application movement. Over the next years, Nutanix systematically built out its platform both from a data-service and an operational management-capability perspective (see Figure 3).

Figure 3. Nutanix Progress Over the Last Decade

A Decade of Progress



Source: Nutanix



More recently, having developed its core platform capabilities, Nutanix has focused on building an active ecosystem, allowing customers to combine Nutanix software with different platforms. It all started with a partnership with HPE in 2019 and continued with a partnership with AWS in 2020, a partnership with IBM/Red Hat in 2021, and more partnerships coming in 2022—the first of which was a partnership with Microsoft Azure.

Effectively, Nutanix is now repeating its successful on-premises abstraction model—which combined hardware resources for compute, storage, and networking in the delivery of the "1-Click Private Cloud" offering—only this time for cloud infrastructures and clouds. Practically, Nutanix Cloud Platform replaces hardware systems with cloud infrastructure from an application-centric perspective, to enable even more flexibility and agility of workload deployment to any cloud (see Figure 4).

A Simple-to-Operate, Data- and Application-Centric Multicloud Platform

Nutanix Cloud Platform provides an effective hybrid multicloud platform for enterprise workloads. At the core is the value proposition to run workloads anywhere, with current support for on-premises and AWS and with support for Azure now in preview mode.

Figure 4. How Nutanix Leverages Its On-Premises Expertise for the Cloud Offerings

Datacenter Modernization
Compute, Storage, and Network

1-Click Private Cloud

We're Now Doing the Same in Hybrid Multicloud – Breaking Down Cloud Silos



We Pioneered HCI - Breaking Down IT Silos

Bringing Together Clouds
Private and Public Clouds

1-Click Hybrid Multicloud

Delivering on Our Vision of Making Clouds Invisible

Source: Nutanix



The Nutanix platform offers the following three key qualities (see Figure 5):

- 1. A single pane of glass for simplicity. Enterprises using Nutanix Cloud Platform can operate their workloads from a consistent single pane of glass. CxOs welcome this higher usability that ultimately enables simplicity and with that a lower total cost of ownership (TCO). Instead of managing n admin tools for n platforms, Nutanix customers can manage their workloads in a single administration platform.
- 2. Consistent service levels across all deployments. Nutanix Cloud Platform ensures consistent services across the supported platforms, allowing not only workload portability but also the execution and operation of these workloads across the supported platforms. This matters to CxOs, because they need to operate their enterprise workloads consistently, no matter where those workloads are executed.
- 3. Investment protection with license portability. Remarkably, Nutanix allows customers to move licenses across platforms—a substantial simplification for CxOs, who no longer must tie license budgets to platforms but instead can allocate them to enterprise demands they have, switching the investment focus to what matters: the smooth operation of the enterprise with cost transparency and a manageable TCO.

Figure 5. Nutanix Cloud Platform Operates Hybrid Multicloud

Hybrid Multicloud on Your Terms





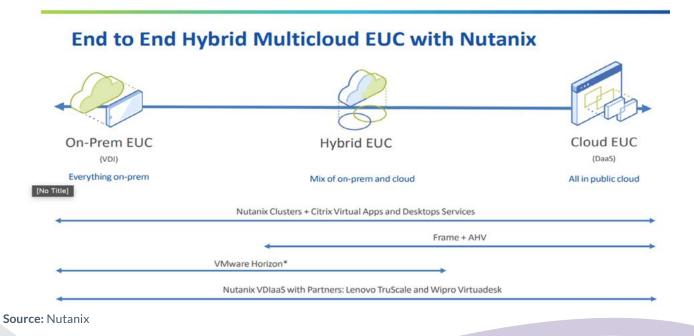
More Than Workloads: A Foundation for the Future of Work

Workload portability encompasses more than just being able to run application workloads where an enterprise needs them to run; it also requires that people can seamlessly access those workloads. Ultimately, Enterprise Acceleration¹² is reached via a combination of both technology capability and people processes, and in the case of Nutanix, the vendor has a strong employee productivity portfolio in the EUC space. In fact, Nutanix started out in the EUC market, developing its workload portability capabilities exactly for the purpose of supporting portable EUC automation.

Enterprises need portability for their EUC automation for a variety of reasons—data security and privacy as well as data residency being the primary ones. Equally important is technical and financial performance, the former allowing high-performance access to EUC functions and the latter enabling financial efficiency for an enterprise. Portable EUC capabilities allow the deployment of these products to the right deployment platforms.

In the EUC space, Nutanix allows the operation of EUC workloads on-premises, in a hybrid deployment between on-premises and the public cloud, and as a full public cloud deployment. True to its openness to and readiness for partners, Nutanix also supports Citrix Virtual Apps and Desktops services and

Figure 6. How Nutanix Cloud Platform Powers EUC—Across Vendors





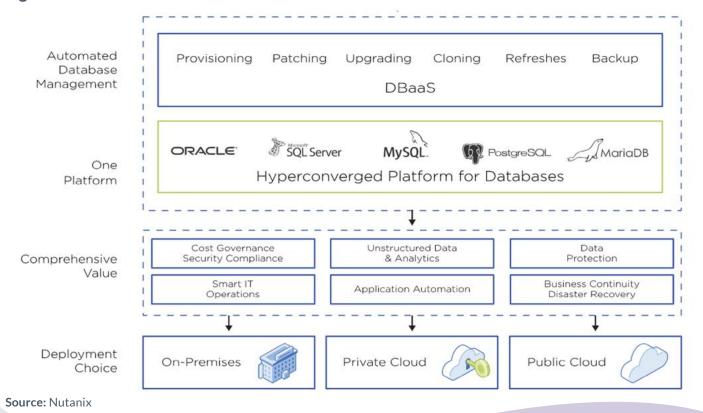
VMware Horizon (for on-premises and hybrid deployments) as well as partnerships with Lenovo and Wipro (see Figure 6).

The importance of an integrated workload and EUC strategy for Enterprise Acceleration is undeniable. What good is it for an enterprise to move its application workloads to the right deployment platform, only to then experience massive delays in usage as its people struggle to find and access the newly ported applications? And that issue gets even worse if the enterprise uses EUC workplaces. Nutanix has an elegant, efficient, and one-stop solution to this, thanks to its EUC portfolio.

A Data-Centric Platform

The Nutanix Cloud Platform provides a unified platform to simplify database operations. Customers have one platform that fully automates any lifecycle management database of their choice. The Nutanix Cloud Platform supports any database workloads such as Oracle, SQL Server, MySQL, PostgreSQL, and MariaDB for deployment on-premises, in the private cloud, or across public cloud (see Figure 7).

Figure 7. The Nutanix Cloud Platform





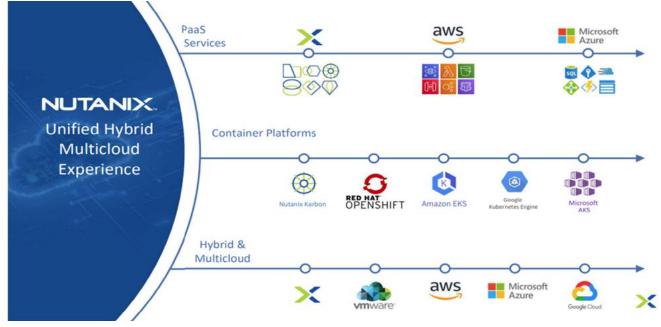
The inclusion of data-centric management options is a key capability of next-generation computing platforms and a strong differentiator for Nutanix. As practically all enterprise use cases require the persistency of data, data portability is a critical capability. Enterprises do not only need workload portability capabilities; they also need to move the data along with the workloads so that these can properly function.

A Striving Partner Ecosystem Fueled by True Openness

From its very inception, Nutanix has pursued an open partner strategy. What is remarkable today is that Nutanix is not only partnering for synergetic purposes, which complement its own portfolio, but is also cooperating with partners in "coopetitive" situations, in which Nutanix and the partner both compete and partner with each other at the same time.

The benefit of coopetitive partnerships is that customers have more choice in what they can use and deploy, with the full support of both parties. This is the choice enterprises need to be successful in the 21st century, and it is good to see that Nutanix is offering a superior value proposition with partners, fueled by the need and desire for openness (see Figure 8).

Figure 8. An Example of "Coopetitive" Partnerships Enabling the Nutanix Unified Hybrid Multicloud Experience



Source: Nutanix



ANALYSIS AND OBSERVATIONS

For CxOs making decisions regarding their next-generation computing platform, Nutanix Cloud Platform is an attractive offering, especially for enterprises using or seeking to bring existing Nutanix workloads to a multicloud environment. It is good to see Nutanix offering this choice and continuously expanding Nutanix Cloud Platform capabilities and the offering's footprint.

Strengths

Nutanix Cloud Platform possesses the following strengths compared with other offerings in this market space (see Table 1):

- Very strong multicloud offering. Nutanix offers one of the few multicloud offerings in the
 marketplace, on top of on-premises support. CxOs want that, because it gives them cloud vendor
 independence and avoids or reduces cloud vendor lock-in. Nutanix enables very high Identicality
 across deployment platforms.
- Data centricity baked in. It is not enough to move the workload (often a container): The data must be available as well for almost all enterprise use cases. Nutanix's data-centric approach to workload portability makes it easy to be on the new deployment platform with both automation and data.
- Simple to use, simple to license. With a single plane of glass, consistent usage, and simple deployment, Nutanix has made it easy for enterprises to adopt and operate the platform. Additionally, the simple licensing with consumption-based pricing and most prominently license portability makes Nutanix an easy partner on the licensing side.
- Workloads and EUC. It is not enough to move the workloads of an enterprise: Its people need to have immediate access to the workloads as well, especially when operating on EUC platforms. Nutanix has the portfolio to provide both and thus enables Enterprise Acceleration.



Weaknesses

Nutanix Cloud Platform possesses the following weaknesses compared with other offerings in this market space:

- Smaller player. Nutanix is competing with much larger vendors in the space. It has passed the critical \$1 billion revenue mark but nonetheless is a David among Goliaths in this market.
- Relatively new offering. Although all offerings in the next-generation compute platform market are new, Nutanix's offering has only recently added additional cloud support (with Azure).
- Support for all three major clouds. CxOs want to have portability across all major cloud properties (AWS, Azure, and Google Cloud) and Nutanix still has some work to do to be present across all three cloud vendors, although support is coming in the near future.

Table 1. Nutanix Cloud Platform Strengths and Weaknesses

STRENGTHS

- Very strong multicloud offering
- Data centricity baked in
- Simple to use, simple to license
- Workloads and EUC

WEAKNESSES

- Smaller player
- Relatively new offering
- Currently supports only two of three major public clouds

Source: Constellation Research



RECOMMENDATIONS

Constellation recommends the following for CxOs looking to improve their computing architecture:

- Enable Enterprise Acceleration. Enterprises need to move faster than ever before, and IT/computing infrastructures cannot continue to be the shackles on agility that they have been in the past. Therefore, CxOs should look for next-generation computing platforms that allow them to transfer workloads from on-premises to the cloud and vice versa. This is a key strategy for helping the technical side of an enterprise contribute to overall business objectives and the necessity of Enterprise Acceleration.
- Select vendors with an eye on current and future Identicality. Identicality is the key to workload portability. The higher the Identicality between an on-premises architecture and a cloud architecture, the better the chances to move workloads. This argument is intuitively clear to CxOs leading the transformation, and platforms with high Identicality are therefore clearly preferred. But Identicality is a fluid measure that rises and falls over time, so CxOs need to keep an eye on the level of Identicality offered by any next-generation compute platform vendor.
- Pick your next-generation computing platform carefully. There are substantial value-proposition
 differences among the five vendors Constellation has analyzed in the underlying Constellation Market
 Overview. Differences in hardware provisioning, ownership in managing the offering, functionalities,
 and costs make these five vendors vastly different partners for enterprises that want to manage their
 next-generation applications on the right next-generation computing platform.
- Evaluate Nutanix Cloud Platform as an existing Nutanix customer. Existing Nutanix customers should take a good look at Nutanix Cloud Platform, because it has matured as a platform and is "safe" as a platform to be used for enterprise workloads.
- Consider Nutanix Cloud Platform offerings as a prospect. For enterprises that are new to next-generation computing platforms, Nutanix Cloud Platform is a great starting point if they choose to start their next-generation application provision on-premises.



• Take a stance on commercial prudence. Regardless the vendor, enterprises need to make sure they obtain the value they seek. For Nutanix Cloud Platform, CxOs must pay attention to ensure that subscription costs provide their enterprise with an attractive TCO. As with all services-related offerings, prices will fluctuate, need to be contractually agreed upon as long as desired, and must be constantly monitored to avoid negative commercial surprises.



RELATED RESEARCH

For the next-gen Market Overview, see: Holger Mueller, "Next-Gen Computing: The Enterprise Computing Model for the 2020s," Constellation Research, September 14, 2018. https://www.constellationr.com/research/next-gen-computing-enterprise-computing-model-2020s

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For the Amazon Web Services offline offerings, see: Holger Mueller, "AWS Customers Can Finally Consider Hybrid and Offline Use Cases," Constellation Research, January 30, 2019. https://www.constellationr.com/research/aws-customers-can-finally-consider-hybrid-and-offline-use-cases

For a Constellation ShortList[™] on IaaS vendors, see: Holger Mueller, "Constellation ShortList Global IaaS for Next-Gen Applications," Constellation Research, February 20, 2018. https://www.constellationr.com/research/constellation-shortlist-global-iaas-next-gen-applications-2

For more details on Infinite Computing, see: Holger Mueller, "The Era of Infinite Computing Triggers Next-Generation Applications," June 1, 2018. https://www.constellationr.com/research/era-infinite-computing-triggers-next-generation-applications

For the people-leader perspective on the skills shortage and the need for Enterprise Acceleration, see: Holger Mueller, "Why People Leaders Must Embrace Enterprise Acceleration," Constellation Research, July 3, 2018. https://www.constellationr.com/research/why-people-leaders-must-embrace-enterprise-acceleration

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Also see: Holger Mueller, "Constellation ShortList PaaS Suites for Next-Gen Apps," February 27, 2018. https://www.constellationr.com/research/constellation-shortlist-paas-suites-next-gen-apps-1

For additional IaaS and PaaS selection criteria, see: R "Ray" Wang and Holger Mueller, "Key Questions for Every Public Cloud IaaS/PaaS Decision Matrix," Constellation Research, January 24, 2018. https://www.constellationr.com/research/key-questions-every-public-cloud-iaaspaas-decision-matrix

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For an example of digital transformation, see: Holger Mueller, "Lufthansa Digitally Transforms the Workplace for Flight Managers," Constellation Research, February 27, 2018. https://www.constellationr.com/research/lufthansa-digitally-transforms-workplace-flight-managers



ENDNOTES

- ¹ Identicality is the author's term coined in the underlying Constellation Market Overview. It describes the identical availability of services across the supported platforms of a next-generation computing platform. For more, see: Holger Mueller, "Next-Gen Computing: The Enterprise Computing Model for the 2020s," Constellation Research, September 14, 2018. https://www.constellationr.com/research/next-gen-computing-enterprise-computing-model-2020s
- ² For the Offering Overview of AWS Outposts, see: Holger Mueller, "AWS Outposts Powers Next-Gen Computing—With a Differentiating Twist," Constellation Research, February 19, 2021. https://www.constellationr.com/research/aws-outposts-powers-next-gen-computing-differentiating-twist
- ³ For the Offering Overview of Google Anthos, see: Holger Mueller, "Google Changes the Cloud Market for the Better With Anthos," Constellation Research, December 10, 2020. https://www.constellationr.com/research/google-changes-cloud-market-better-anthos
- ⁴ For the Offering Overview of IBM Satellite, see: Holger Mueller, "IBM Cloud Satellite Gives CxOs More Choices for Running Next-Gen Apps," Constellation Research, April 19, 2021. https://www.constellationr.com/research/ibm-cloud-satellite-gives-cxos-more-choices-running-next-gen-apps
- ⁵ For the Offering Overview of Microsoft Azure Stack, see: Holger Mueller, "Microsoft Azure Stack Emerges as Key Next-Gen Computing Option," Constellation Research, February 4, 2019. https://www.constellationr.com/research/microsoft-azure-stack-emerges-key-next-gen-computing-option
- ⁶ For more, see: Holger Mueller, "Oracle Raises the Stakes in the Next-Gen Compute Platform Market," Constellation Research, July 2020. https://www.constellationr.com/research/oracle-raises-stakes-next-gen-compute-platform-market
- ⁷ For more, see: Holger Mueller, "Mirantis Delivers Container Workloads Where Enterprises Want Them: Everywhere," Constellation Research, September 21, 2020. https://www.constellationr.com/research/mirantis-delivers-container-workloads-where-enterprises-want-them-everywhere
- ⁸ During the time of writing, February 2022, these partnerships were not yet for public consumption: Readers are encouraged to check the Nutanix website for the latest additions and developments.
- ⁹ For a Constellation ShortList[™] on IaaS vendors, see: Holger Mueller, "Constellation ShortList Global IaaS for Next-Gen Applications," Constellation Research, August 15, 2018. https://www.constellationr.com/research/constellation-shortlist-global-iaas-next-gen-applications-1





¹⁰ For more details, see: Holger Mueller, "The Era of Infinite Computing Triggers Next-Generation Applications," Constellation Research, June 1, 2018. https://www.constellationr.com/research/era-infinite-computing-triggers-next-generation-applications

¹¹ Holger Mueller, "The Era of Infinite Computing Triggers Next-Generation Applications," Constellation Research, June 1, 2018. https://www.constellationr.com/research/era-infinite-computing-triggers-next-generation-applications

¹² Mueller uses the term Enterprise Acceleration to refer to the need for enterprises to move faster and become more agile. For more, see: Holger Mueller, "Why the C-Suite Must Embrace Enterprise Acceleration," Constellation Research, May 2, 2019. https://www.constellationr.com/research/why-c-suite-must-embrace-enterprise-acceleration

ANALYST BIO

Holger Mueller

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Holger Mueller is vice president and principal analyst at Constellation Research, providing guidance for the fundamental enablers of the cloud, IaaS, and PaaS, with forays up the tech stack into big data, analytics, and SaaS. Mueller provides strategy and counsel to key clients, including chief information officers (CIOs), chief technology officers (CTOs), chief product officers (CPOs), investment analysts, venture capitalists, sell-side firms, and technology buyers.

Prior to joining Constellation Research, Mueller was VP of products for NorthgateArinso, a KKR company. He led the transformation of products to the cloud and laid the foundation for new business-process-as-a-service (BPaaS) capabilities. Previously, he was the chief application architect with SAP and was also VP of products for FICO. Before that, he worked for Oracle in various management functions—on both the application development (CRM, Fusion) and business development sides. Mueller started his career with Kiefer & Veittinger, which he helped grow from a startup to Europe's largest CRM vendor from 1995 onward. Mueller has a Diplom-Kaufmann degree from the University of Mannheim, with a focus on information science, marketing, international management, and chemical technology. A native European, Mueller speaks six languages.

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