HCI Comparison Report Reveals Key Differentiators Between Dell EMC VxRail and Nutanix NX

Many organizations view hyper-converged infrastructure (HCI) as the data center architecture of the future. Dell EMC VxRail and Nutanix NX appliances are two leading options for creating the enterprise hybrid cloud. Visibility into their respective data protection ecosystems, enterprise application certifications, solution integration, support for multiple hypervisors, scalability and maturity should help organizations choose the most appropriate solution for them.

HCI Appliances Deliver Radical Simplicity

Hyper-converged infrastructure appliances radically simplify the data center architecture. These pre-integrated appliances accelerate and simplify infrastructure deployment and management. They combine and virtualize compute, memory, storage and networking functions from a single vendor in a scale-out cluster. Thus, the stakes are high for vendors such as Dell EMC and Nutanix as they compete to own this critical piece of data center real estate.

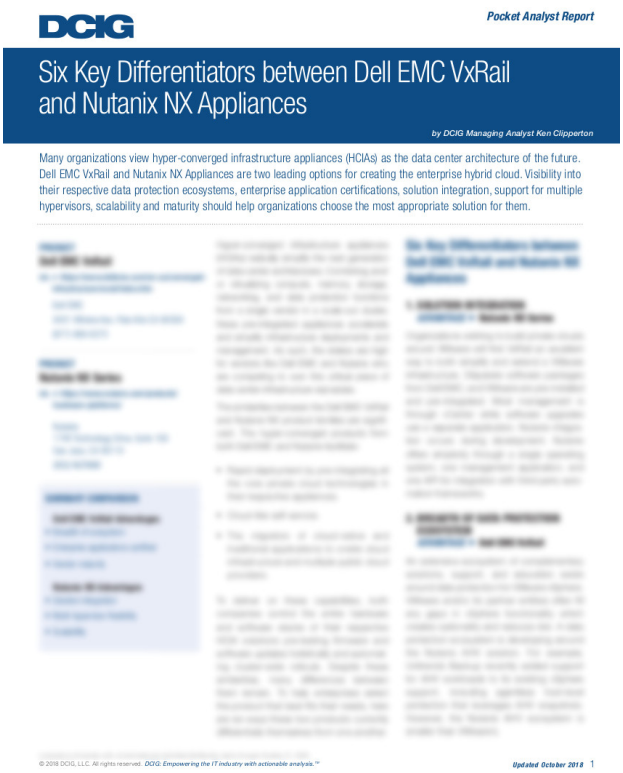
In the last several years, HCI has also emerged as a key enabler for cloud adoption. These solutions provide connectivity to public and private clouds, and offer their own cloud-like properties. Ease of scaling, simplicity of management, plus non-disruptive hardware upgrades and data migrations are among the features that enterprises love about these solutions.

HCI Appliances Are Not All Created Equal

Many enterprises are considering HCI solutions from providers Dell EMC and Nutanix. A cursory examination of these two vendors and their solutions quickly reveals similarities between them. For example, both companies control the entire hardware and software stacks of their HCI appliances. Also, both providers pretest firmware and software updates and automate cluster-wide roll-outs.

Nevertheless, important differences remain between the products. Due to the high level of interest in these products, DCIG published an initial comparison in November 2017. Both providers recently enhanced their offerings. Therefore, DCIG refreshed its research and has released an updated head-to-head comparison of the Dell EMC VxRail and Nutanix NX appliances.

Updated DCIG Pocket Analyst Report Reveals Key HCI Differentiators


DCIG

Pocket Analyst Report

Six Key Differentiators between Dell EMC VxRail and Nutanix NX Appliances

by DCIG Managing Analyst Ken Clipperton

Many organizations view hyper-converged infrastructure appliances (HCIAs) as the data center architecture of the future. Dell EMC VxRail and Nutanix NX Appliances are two leading options for creating the enterprise hybrid cloud. Visibility into their respective data protection ecosystems, enterprise application certifications, solution integration, support for multiple hypervisors, scalability and maturity should help organizations choose the most appropriate solution for them.

Updated October 2018 1

In this updated report, DCIG identifies six ways the HCI solutions from these two providers currently differentiate themselves from one another. This succinct, 4-page report includes a detailed feature matrix as well as

insight into key differentiators between these two HCI solutions such as:

- Breadth of ecosystem
- Enterprise applications certified
- Multi-hypervisor flexibility
- Scalability
- Solution integration
- Vendor maturity

DCIG is pleased to make this updated DCIG Pocket Analyst Report available for purchase for $99.95 via the TechTrove marketplace. The report is temporarily also available free of charge with registration from the Unitrends website.

VMware vSphere and Nutanix AHV Hypervisors: An Updated Head-to-Head Comparison

Many organizations view hyper-converged infrastructure appliances (HCIAs) as foundational for the cloud data center architecture of the future. However, as part of an HCIA solution, one must also select a hypervisor to run on this platform. The VMware vSphere and Nutanix AHV hypervisors are two capable choices but key differences exist between them.

In the last several years, HCIAs have emerged as a key enabler for cloud adoption. Aside from the connectivity to public and private clouds that these solutions often provide, they offer their own cloud-like properties. Ease of scaling, simplicity of management, and non-disruptive hardware upgrades and data migrations highlight the list of features that enterprises are

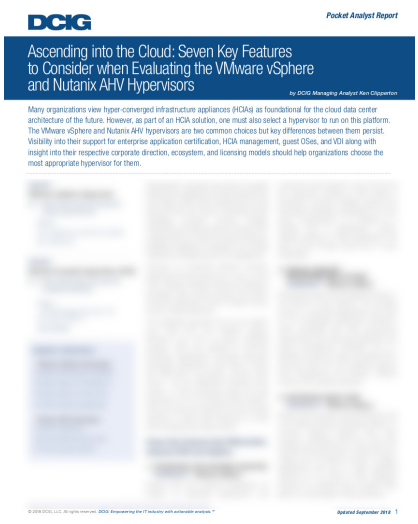
coming to know and love about these solutions.

But as enterprises adopt HCIA solutions in general as well as HCIA solutions from providers like Nutanix, they must still evaluate key features in these solutions. One variable that enterprises should pay specific attention to is the hypervisors available to run on these HCIA solutions.

Unlike some other HCIA solutions, Nutanix gives organizations the flexibility to choose which hypervisor they want to run on their HCIA platform. They can choose to run the widely adopted VMware vSphere. They can choose to run Nutanix's own Acropolis hypervisor (AHV).

What is not always so clear is which one they should host on the Nutanix platform. Each hypervisor has its own set of benefits and drawbacks. To help organizations make a more informed choice as to which hypervisor is the best one for their environment, DCIG is pleased to make its updated DCIG Pocket Analyst Report that does a head-to-head comparison between the VMware vSphere and Nutanix AHV hypervisors.

This succinct, 4-page report includes a detailed product matrix as well as insight into seven key differentiators between these two hypervisors and which one is best positioned to deliver on key cloud and data center considerations such as:


DCIG

Pocket Analyst Report

Ascending into the Cloud: Seven Key Features to Consider when Evaluating the VMware vSphere and Nutanix AHV Hypervisors

by DCIG Managing Analyst Ken Clipperton

Many organizations view hyper-converged infrastructure appliances (HCIAs) as foundational for the cloud data center architecture of the future. However, as part of an HCIA solution, one must also select a hypervisor to run on this platform. The VMware vSphere and Nutanix AHV hypervisors are two common choices but key differences between them persist. Visibility into their support for enterprise application certification, HCIA management, guest OSes, and VDI along with insight into their respective corporate direction, ecosystem, and licensing models should help organizations choose the most appropriate hypervisor for them.

- Data protection ecosystem
- Support for Guest OSes
- Support for VDI platforms
- Certified enterprise applications
- Fit with corporate direction

- More favorable licensing model
- Simpler management

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Dell EMC VxRail vs Nutanix NX: Six Key HCIA Differentiators

Many organizations view hyper-converged infrastructure appliances (HCIAs) as the data center architecture of the future. Dell EMC VxRail and Nutanix NX appliances are two leading options for creating the enterprise hybrid cloud. Visibility into their respective data protection ecosystems, enterprise application certifications, solution integration, support for multiple hypervisors, scalability and maturity should help organizations choose the most appropriate solution for them.

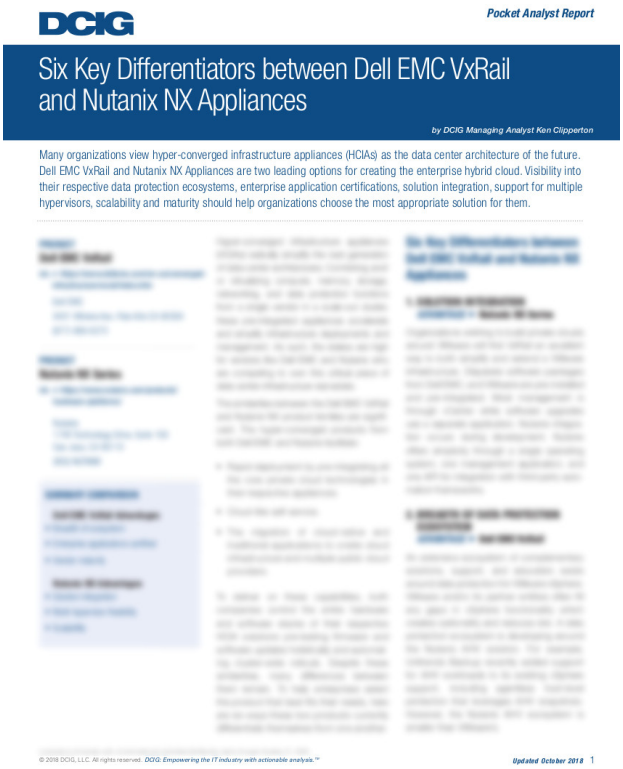
Hyper-converged infrastructure appliances (HCIA) radically simplify the next generation of data center architectures. Combining and virtualizing compute, memory, storage, networking, and data protection functions from a single vendor in a scale-out cluster, these pre-integrated appliances accelerate and simplify infrastructure deployment and management. As such, the stakes are high for vendors such as Dell EMC and Nutanix that are competing to own this critical piece of data center infrastructure real estate.

In the last several years, HCIAs have emerged as a key enabler for cloud adoption. These solutions provide connectivity to public and private clouds, and offer their own cloud-like properties. Ease of scaling, simplicity of management, and non-disruptive hardware upgrades and data migrations highlight the list of features that enterprises are coming to know and love about these solutions.

But as enterprises consider HCIA solutions from providers such as Dell EMC and Nutanix, they must still evaluate key features available on these solutions as well as the providers themselves. A cursory examination of these two vendors and their respective solutions quickly reveals similarities between them. For example, both companies control the entire hardware and software stacks of their respective HCIA solutions. Both pre-test firmware and software updates holistically and automate cluster-wide roll-outs.

Despite these similarities, differences between them remain. To help enterprises select the product that best fits their needs, DCIG published its first comparison of these products in November 2017. There is a high level of interest in these products, and both providers recently enhanced their offerings. Therefore, DCIG refreshed its research and has released an updated head-to-head comparison of the Dell EMC VxRail and Nutanix NX appliances.

In this updated report, DCIG identifies six ways the HCIA solutions from these two providers currently differentiate themselves from one another. This succinct, 4-page report includes a detailed product matrix as well as insight into key differentiators between these two HCIA solutions such as: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Pocket Analyst Report

Six Key Differentiators between Dell EMC VxRail and Nutanix NX Appliances

by DCIG Managing Analyst Ken Clipperton

Many organizations view hyper-converged infrastructure appliances (HCIAs) as the data center architecture of the future. Dell EMC VxRail and Nutanix NX Appliances are two leading options for creating the enterprise hybrid cloud. Visibility into their respective data protection ecosystems, enterprise application certifications, solution integration, support for multiple hypervisors, scalability and maturity should help organizations choose the most appropriate solution for them.

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- Breadth of ecosystem
- Enterprise applications certified
- Multi-hypervisor flexibility
- Scalability
- Solution integration
- Vendor maturity

DCIG is pleased to make this updated DCIG Pocket Analyst Report available for purchase for $99.95 via the TechTrove marketplace.

Six Key Differentiators between HPE 3PAR StoreServ

and NetApp AFF A-Series All-flash Arrays

Both HPE and NetApp have multiple enterprise storage product lines. Each company also has a flagship product. For HPE it is the 3PAR StoreServ line. For NetApp it is the AFF (all flash FAS) A-Series. DCIG's latest Pocket Analyst Report examines these flagship all-flash arrays. The report identifies many similarities between the products, including the ability to deliver low latency storage with high levels of availability, and a relatively full set of data management features.

DCIG's Pocket Analyst Report also identifies six significant differences between the products. These differences include how each product provides deduplication and other data services, hybrid cloud integration, host-to-storage connectivity, scalability, and simplified management through predictive analytics and bundled or all-inclusive software licensing.

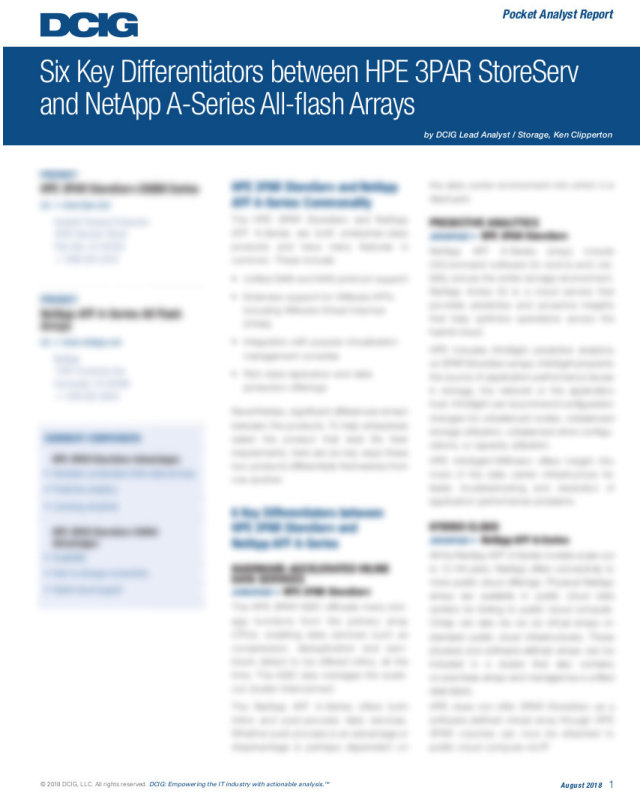
DCIG recently updated its research on the dynamic and growing all-flash array marketplace. In so doing, DCIG identified many similarities between the HPE 3PAR StoreServ and NetApp AFF A-Series products including:

- Unified SAN and NAS protocol support
- Extensive support for VMware API's including VMware Virtual Volumes (VVols)
- Integration with popular virtualization management consoles
- Rich data replication and data protection offerings

DCIG also identified significant differences between the HPE and NetApp products including:

- Hardware-accelerated Inline Data Services
- Predictive analytics

- Hybrid Cloud Support
- Host-to-Storage Connectivity
- Scalability
- Licensing simplicity


DCIG

Pocket Analyst Report

Six Key Differentiators between HPE 3PAR StoreServ and NetApp A-Series All-flash Arrays

by DCIG Lead Analyst / Storage, Ken Clipperton

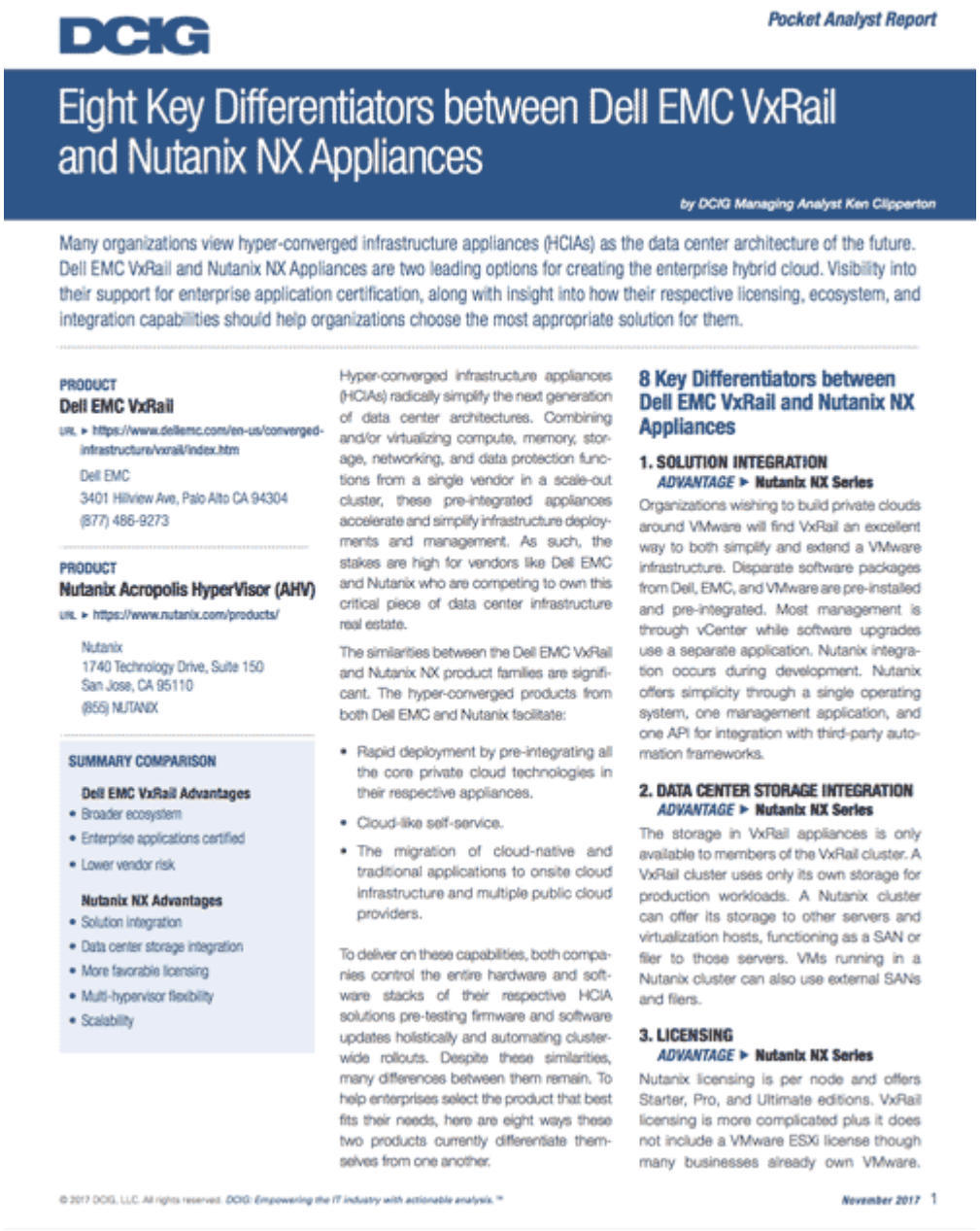
August 2018

DCIG's 4-page Pocket Analyst Report on the Six Key Differentiators between HPE 3PAR StoreServ and NetApp AFF A-Series All-flash Arrays analyzes and compares the flagship all-flash arrays from HPE and NetApp. To see which product has the edge in each of the above categories and why, you can purchase the report on DCIG's partner site: TechTrove. You may also register on the TechTrove website to be notified should this report become available for no charge at some future time.

Defensible Data is the Goal

Individuals occasionally reach out to DCIG and allege that certain data found in DCIG publications is, from their perspective, "*incorrect.*" While I appreciate the time and effort that individuals take to review data found in the various DCIG publications and provide feedback on it, viewing any data present in any analyst publication – be it from DCIG or otherwise – as either "*right*" or "*wrong*" is the larger premise that one should consider. While DCIG always does its best to follow established, internal processes to ensure that the data it publishes reflects the actual capabilities of the products it covers, DCIG's broader objective is to publish defensible data.

DCIG is one of the few analyst firms that takes on the task of publishing competitive data. Whether DCIG evaluates multiple products from multiple vendors – such as it does in its Buyer's Guides – or when it compares two products – such as it does in its Pocket Analyst Reports – these reports inevitably generate some differing opinions and even controversy.



DCIG

Pocket Analyst Report

Eight Key Differentiators between Dell EMC VxRail and Nutanix NX Appliances

by DCIG Managing Analyst Ken Clipperton

Many organizations view hyper-converged infrastructure appliances (HCIAs) as the data center architecture of the future. Dell EMC VxRail and Nutanix NX Appliances are two leading options for creating the enterprise hybrid cloud. Visibility into their support for enterprise application certification, along with insight into how their respective licensing, ecosystem, and integration capabilities should help organizations choose the most appropriate solution for them.

PRODUCT
Dell EMC VxRail
URL ▸ https://www.dellemc.com/en-us/converged-infrastructure/vxrail/index.htm

Dell EMC
3401 Hillview Ave, Palo Alto CA 94304
(877) 486-9273

PRODUCT
Nutanix Acropolis HyperVisor (AHV)
URL ▸ https://www.nutanix.com/products/

Nutanix
1740 Technology Drive, Suite 150
San Jose, CA 95110
(855) NUTANIX

SUMMARY COMPARISON

Dell EMC VxRail Advantages
- Broader ecosystem
- Enterprise applications certified
- Lower vendor risk

Nutanix NX Advantages
- Solution integration
- Data center storage integration
- More favorable licensing
- Multi-hypervisor flexibility
- Scalability

Hyper-converged infrastructure appliances (HCIAs) radically simplify the next generation of data center architectures. Combining and/or virtualizing compute, memory, storage, networking, and data protection functions from a single vendor in a scale-out cluster, these pre-integrated appliances accelerate and simplify infrastructure deployments and management. As such, the stakes are high for vendors like Dell EMC and Nutanix who are competing to own this critical piece of data center infrastructure real estate.

The similarities between the Dell EMC VxRail and Nutanix NX product families are significant. The hyper-converged products from both Dell EMC and Nutanix facilitate:

- Rapid deployment by pre-integrating all the core private cloud technologies in their respective appliances.
- Cloud-like self-service.
- The migration of cloud-native and traditional applications to onsite cloud infrastructure and multiple public cloud providers.

To deliver on these capabilities, both companies control the entire hardware and software stacks of their respective HCIA solutions pre-testing firmware and software updates holistically and automating cluster-wide rollouts. Despite these similarities, many differences between them remain. To help enterprises select the product that best fits their needs, here are eight ways these two products currently differentiate themselves from one another.

8 Key Differentiators between Dell EMC VxRail and Nutanix NX Appliances

1. SOLUTION INTEGRATION
ADVANTAGE ▸ **Nutanix NX Series**

Organizations wishing to build private clouds around VMware will find VxRail an excellent way to both simplify and extend a VMware infrastructure. Disparate software packages from Dell, EMC, and VMware are pre-installed and pre-integrated. Most management is through vCenter while software upgrades use a separate application. Nutanix integration occurs during development. Nutanix offers simplicity through a single operating system, one management application, and one API for integration with third-party automation frameworks.

2. DATA CENTER STORAGE INTEGRATION
ADVANTAGE ▸ **Nutanix NX Series**

The storage in VxRail appliances is only available to members of the VxRail cluster. A VxRail cluster uses only its own storage for production workloads. A Nutanix cluster can offer its storage to other servers and virtualization hosts, functioning as a SAN or filer to those servers. VMs running in a Nutanix cluster can also use external SANs and filers.

3. LICENSING
ADVANTAGE ▸ **Nutanix NX Series**

Nutanix licensing is per node and offers Starter, Pro, and Ultimate editions. VxRail licensing is more complicated plus it does not include a VMware ESXi license though many businesses already own VMware.

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Some of the disagreement stems from DCIG's practice to rank products or call out when one product has an advantage over another. In the Buyer's Guides, DCIG ranks products and opines as to whether a product ranks as Recommended, Excellent, or Good. In the Pocket Analyst Reports, DCIG compares two products and deems one vendor or product to have an advantage over the other in terms of a certain feature functionality. In both these publications, the rankings it establishes or the advantages that it declares should be viewed as subjective that reflects DCIG's opinion – which we believe most people understand and perceive.

However, readers of the DCIG Buyer's Guides or Pocket Analyst Reports sometimes take issue with the data that DCIG publishes about how individual products support specific features or capabilities. When they see a check box next to a specific feature indicating support for it or a grey circle next to it indicating no support for it ***or*** that DCIG could not determine product support for that feature, they may know from their own experience that the feature should be checked as supported or displayed as unsupported. There is then a proclivity to discount the value of the publication because DCIG evaluated a feature in a way does not align with their experience or knowledge.

If you have had that experience, one should keep two principles in mind when evaluating the data DCIG publishes regarding support for product features:

1. ***All data published represents DCIG's opinion.*** DCIG does its best to ensure the accuracy of all data it publishes. It reviews product data sheets, administrator guides, user guides, and reaches out to vendors to solicit their input. However, there are any number of reasons the data we publish may not accurately reflect the product's actual capabilities. The product admin or user guides may be incorrect or out of date. Incorrect feedback may have been provided. The data may have not been transcribed correctly at some point during the layout process. The product may have added (or removed) support for certain features. It is for these reasons and others that DCIG treats all data it publishes as its opinion and ***not*** as fact and readers of DCIG's publications should do likewise.
2. ***Vendors do not disclose all information about their products.*** This came as a surprise even to DCIG. It was our expectation that if a vendor supported a feature that they would want to share that information. Not true, as we have learned. Just because a product

> supports a feature does not mean that vendors necessarily want that information known publicly. This is due, in part, to the fact that enterprise environments are very complicated and the feature, while it is offered and supported by a product, may only work in certain environments under specific conditions. In those circumstances, vendors prefer ***not*** to publicly disclose that they support a feature since then their current and potential customers may hold them accountable for delivering on that feature in their environment.

It is for these reasons and others that DCIG's goal in its publications is to publish defensible data. People may and likely will disagree with some of DCIG's conclusions and observations, even those that such as feature support that organizations may view as more objective than subjective. However, DCIG has learned over the many years that it has published its Buyer's Guides and Pocket Analyst Reports that all data on technology topics is more subjective than objective in nature that many may realize or even prefer and should be treated as such.

Data Center Efficiency, Performance, Scalability: How Dell EMC XtremIO, Pure Storage Flash Arrays Differ

Latest DCIG Pocket Analyst Report Compares Dell EMC XtremIO and Pure Storage All-flash Product Families

Hybrid and all-disk arrays still have their place in enterprise data centers but all-flash arrays are "*where it's at*" when it comes to hosting and accelerating the performance of production applications. Once reserved only for applications that could cost-justify these arrays, continuing price erosion in the underlying flash media coupled with technologies such as compression and deduplication have put these arrays at a price point within reach of almost any size enterprise. As that occurs, flash arrays from Dell EMC XtremIO and Pure Storage are often on the buying short lists for many companies.

When looking at all-flash arrays, it is easy to fall into the trap that they are all created equal. While it can be truthfully said that every all-flash array is faster and will outperform any of its all-disk or hybrid storage array predecessors, there can be significant differences in how effectively and efficiently each one delivers that performance.

Consider product families from leaders in the all-flash array market: Dell EMC XtremIO and Pure Storage. When you look at their published performance specifications, they both scale to offer hundreds of thousands of IOPS, achieve sub one millisecond response times, and offer capacity optimization features such as compression and deduplication.

It is only when you start to pull back the covers on these two respective product lines that substantial differences between them start to emerge such as:

- Their data center efficiency in areas such as power consumption and data center footprint
- How much flash capacity they can ultimately hold
- What storage protocols they support

This recent published 4-page DCIG Pocket Analyst Report analyzes these attributes and others on all-flash arrays from

these two providers. It examines how well their features support these key data center considerations and includes analyst commentary on which product has the edge in this these specific areas. This report also contains a feature comparison matrix to support this analysis.

This report provides the key insight in a concise manner that enterprises need to make the right choice in an all-flash array solution for the rapidly emerging all-flash array data center. This report may be purchased for $19.95 at TechTrove, a new third-party site that hosts and makes independently developed analyst content available for sale.

All-flash data centers are coming and with every all-flash array providing higher levels of performance than previous generations of storage arrays, enterprises need to examine key underlying features that go deeper than simply fast they perform. Their underlying architecture, the storage protocols they support, and the software they use to deliver these features are all features that impact how effective and efficient the array will be in your environment. This DCIG Pocket Analyst Report makes plain some of the key ways that the all-flash arrays from Dell EMC and Pure Storage differentiate themselves from one another. Follow this link to purchase this report.

Author's Note: The link to the DCIG Pocket Analyst Report comparing the Dell EMC XtremIO and Pure Storage FlashArrays was updated and correct at 12:40 pm CT on 10/18/2017 to point to the correct page on the TechTrove website. Sorry for any confusion!

Deduplication Still Matters in Enterprise Clouds as Data Domain and ExaGrid Prove

Technology conversations within enterprises increasingly focus on the "*data center stack*" with an emphasis on cloud enablement. While I agree with this shift in thinking, one can too easily overlook the merits of underlying individual technologies when only considering the "*Big Picture*". Such is happening with deduplication technology. A key enabler of enterprise archiving, data protecton, and disaster recovery solutions, vendors such as Dell EMC and ExaGrid deliver deduplication technology in different ways as DCIG's most recent 4-page Pocket Analyst Report reveals that makes each product family better suited for specific use cases.

It seemed for too many years enterprise data centers focused too much on the vendor name on the outside of the box as opposed to what was inside the box – the data and the applications. Granted, part of the reason for their focus on the vendor name is they wanted to demonstrate they had adopted and implemented the best available technologies to secure the data and make it highly available. Further, some of the emerging technologies necessary to deliver a cloud-like experience with the needed availability and performance characteristics did not yet exist, were not yet sufficiently mature, or were not available from the largest vendors.

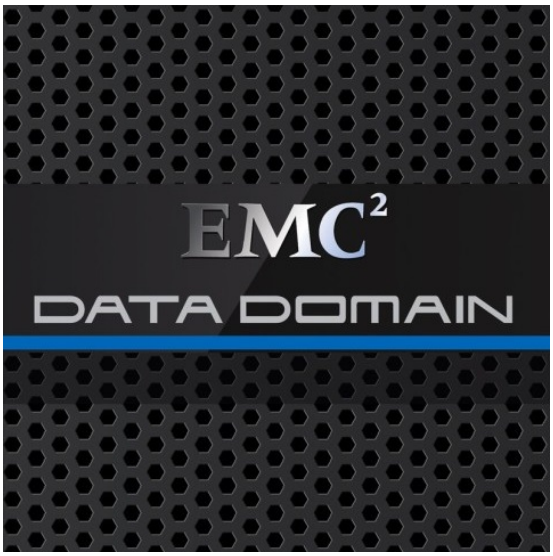
That situation has changed dramatically. Now the focus is almost entirely on software that provides enterprises with cloud-like experiences that enables them to more easily and efficiently manage their applications and data. While this change is positive, enterprises should not lose sight of the technologies that make up their emerging data center stack as they are not all equally equipped to deliver them in the same

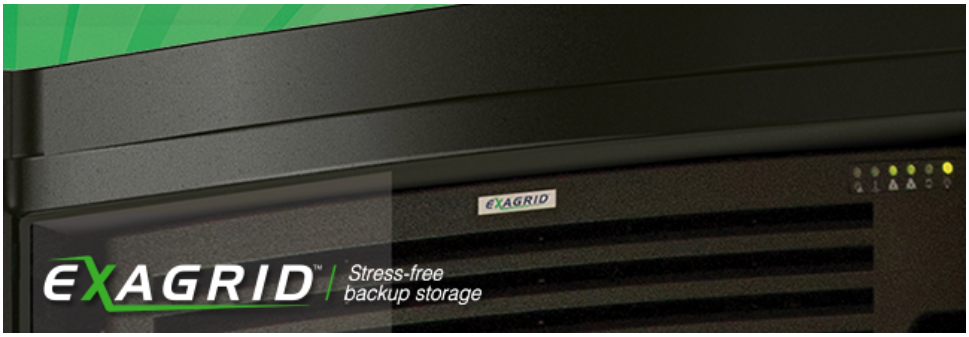
way.

A key example is deduplication. While this technology has existed for years and has become very mature and stable during that time, the options in which enterprises can implement it and the benefits they will realize it vary greatly. The deduplication solutions from Dell EMC Data Domain and ExaGrid illustrate these differences very well.

DCIG Pocket Analyst Report Compares Dell EMC Data Domain and ExaGrid Product Families

Deduplication systems from both Dell EMC Data Domain and ExaGrid have widespread appeal as they expedite backups, increase backup and recovery success rates, and simplify existing backup environments. They also both offer appliances in various physical configurations to meet the specific backup needs of small, midsize, and large enterprises while providing virtual appliances that can run in private clouds, public clouds, or virtualized remote and branch offices.





However, their respective systems also differ in key areas that will impact the overall effectiveness these systems will have in the emerging cloud data stacks that enterprises are putting in place. The six areas in which they differ include:

1. Data center efficiency
2. Deduplication methodology
3. Networking protocols
4. Recoverability
5. Replication
6. Scalability

The most recent 4-page DCIG Pocket Analyst Report analyzes these six attributes on the systems from these two providers of deduplication systems and compares their underlying features that deliver on these six attributes. Further, this report identifies which product family has the advantage in each area and provides a feature comparison matrix to support these claims.

This report provides the key insight in a concise manner that enterprises need to make the right choice in deduplication solutions for their emerging cloud data center stack. This report may be purchased for $19.95 at TechTrove, a new third-party site that hosts and makes independently developed analyst content available for sale.

Cloud-like data center stacks that provide application and data availability, mobility, and security are rapidly becoming a reality. But as enterprises adopt these new enterprise clouds, they ignore or overlook technologies such as deduplication that make up these stacks at their own peril as the underlying technologies they implement can directly impact the overall efficiency and effectiveness of the cloud that one is building.