

Exploring Pure's FlashArray Myths

By Andrew Glinka | November 2022

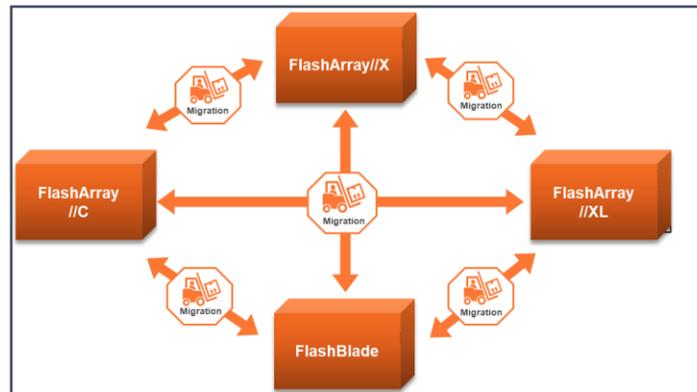
People have long used myths to teach lessons, entertain, and spread ideologies across the world through fairy tales, fables, and folktales. A myth can describe belief without basis in reality, typically bending the truth to embellish the stories.

In the storage world, Pure Storage has taken the role of Homer with a technological odyssey of its FlashArray product lines. Myths can be fun, but not when making an educated decision about the future of your business. Let's put a few FlashArray //X and //XL myths to the test and judge if Pure has stretched the truth too far from reality and into the fantastical.



Myth: Pure Storage Evergreen //Forever means no forklift upgrades

Pure's Evergreen //Forever page states that customers can "stay modern without rebuys without downtime, performance impact, data migrations, or forklift upgrades." This claim is more fiction than fact. Despite the same active/passive dual controller architecture across their //C, //X, and //XL arrays, you can't seamlessly upgrade between them without a forklift upgrade. If your business requires an increase in performance or capacity that requires a different model, you are looking at a forklift upgrade and data migration to the new platform. Even upgrading from their former high-end, the //X90, to the new //XL series requires a forklift upgrade and migration.



Dell acknowledges that forklift upgrades may be required when new advancements in technology or architecture unlock capabilities that accomplish new outcomes, but we avoid migrations whenever we can, and we have invested heavily in non-disruptive migration technologies when they are required. PowerStore's enterprise dual controller scale-out architecture is the workhorse of the modern data center, efficiently scaling up AND out to onboard new workloads with seamless controller replacements to get to the latest generation. PowerMax offers an enterprise-plus, mission-critical high-end storage architecture that allows for vastly higher scalability, performance, and availability over Pure's monolithic architecture design. You will also be able to upgrade non-disruptively by simple controller swaps between the PowerMax x500 and the next generation. **Verdict: An Evergreen Fairy Tale**

Myth: Pure FlashArray //XL is a “PowerMax Killer”

According to Pure, the FlashArray //XL is a “powerful evolution of the FlashArray Family,” promoting it as a high-end “PowerMax Killer.” But do larger controllers on an active/passive scale-up architecture represent a revolution? The reality is that Pure’s basic architecture hasn’t progressed beyond what was introduced more than 10 years ago, and no amount of marketing can overcome the significant technical gaps between PowerMax and FlashArray.

When you look beyond the marketing, it’s hard to believe that the //XL can stand up to, let alone “kill,” Dell’s PowerMax. Let’s do the math:

	Pure FlashArray //XL 170	PowerMax 8500	The PowerMax Advantage
ARCHITECTURE	Active/passive dual controller	Multi-controller active/active up to 16 nodes	↑ Up to 8x the number of controllers
CAPACITY	Up to 96 NVMe drives, 1.4PB raw capacity	Up to 384 NVMe drives, 5.7 PB raw capacity	↑ Up to 4x the number of drives, 4x raw capacity
CONNECTIVITY	Only up to 60 FC or 32 iSCSI ports. No mainframe, IBMi. Block/File/vVols only	Up to 256 ports FC or iSCSI. Block, File, vVols, Mainframe, IBMi	↑ Up to 8x the number of iSCSI and up to 4x the number of FC ports. Superior workload consolidation
DATA REDUCTION	Variable guarantee, requires assessment. Adaptive data reduction	4:1 DRR guarantee, no assessment. Global, in-line data reduction ¹	↑ Transparent guarantee. No compromise data reduction
SCALABLE SNAPSHOTS AND REPLICATION	Publicly available documentation unavailable	Up to 65 million secure snapshots. Up to 64 thousand replicated volumes	↑ Unambiguous scalability of data services.

¹ Requires customer signature and purchase of ProSupport Plus or ProSupport with Mission Critical. Applicable products include All-Flash Storage products only.

When you unpack the details, Pure’s FlashArray simply isn’t in the same category. Is it really a “PowerMax killer”? **Verdict: Pure //XL: A far-fetched tale**

Myth: Pure is a digital transformation partner

Once a single-product company, Pure’s portfolio has grown to four distinct offerings that require forklift migrations to move between. Pure believes dual-controller arrays and a single unstructured data solution can fit every challenge, and they claim they are equipped to help businesses navigate the ever-changing technology landscape. However, with solutions limited to only primary and unstructured storage, is Pure capable of consulting and transforming your business?



The industry doesn't think so, with HCI solutions rapidly growing over the past decade and changing how businesses deliver technology outcomes. Dell's perspective differs from Pure's, with a portfolio of solutions, including diverse purpose-built storage architectures, to enable a consultative approach to solving customers' problems. Our approach has propelled us to leadership in numerous IDC categories, including External Enterprise Storage Systems¹ and HCI². All-

flash arrays may have been transformational when Pure started, but true digital transformation requires a more robust portfolio than just an all-flash array. Why let Pure's narrow view restrict your business's potential? **Verdict: Purely a fable of storage-only portfolios**

Myth: FlashArray is adaptable to evolving requirements

According to Pure, FlashArray is designed to scale with your business, from small departmental needs to enterprise, but is FlashArray actually that flexible? FlashArray can't be configured to address performance and capacity needs independently. Since each FlashArray controller model supports a limited capacity, you will be forced to upgrade controllers as you grow, even if you don't need the performance. If your capacity requirement grows faster than your performance requirement, you'll still be forced to upgrade to a higher model just to satisfy capacity needs. Speaking of expansion, can FlashArray do granular capacity upgrades, or do arrays expand in large drive sets regardless of incremental demand? What about scale-out? Pure claims Pure Fusion offers "infinite scale-out," but that's just pure marketing (pun intended), considering it doesn't stripe data across appliances and it requires cloud-based management to operate. What happens if Pure1 goes down? Can you use array-based GUI, CLI, or REST interfaces if access to the service is removed?

PowerStore adapts to business outcomes with architecture that right-sizes for evolving needs. PowerStore disaggregates performance and capacity to let you configure the performance and capacity to satisfy your business requirements. No need to oversize controllers based on capacity; the entire PowerStore family can expand up to 4.52 PBe per appliance, and up to four arrays can be clustered for increased performance and storage exceeding 18 PBe³. You can add a single drive at a time and be more cost-effective for incremental growth requirements. While Pure claims to be denser and more efficient,

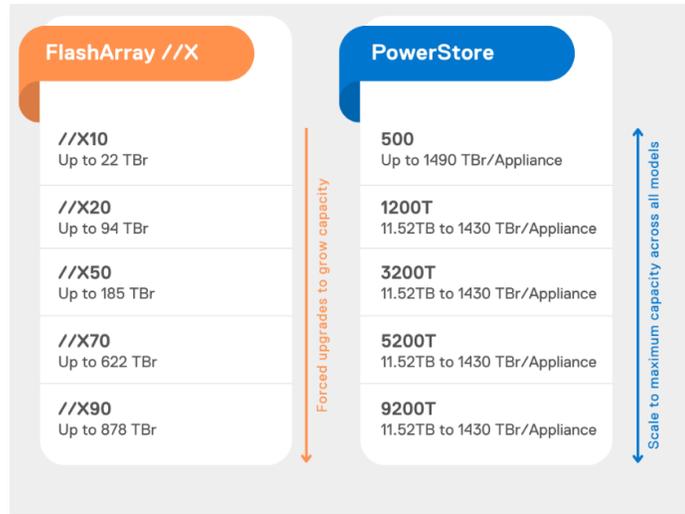
¹ IDC WW Quarterly Enterprise Storage Systems Tracker, 2022 Q2 historical release, Sept 2022. Ranking by vendor revenue.

² In the second quarter of 2022. IDC Worldwide Quarterly Converged Systems Tracker, Q2 2022, based on branded vendor revenue and units, Sept 15, 2022

³ Max effective capacity assuming 4:1 average data reduction. Actual results may vary, depending on data types.

the entire PowerStore portfolio offers superior data density over every Pure FlashArray //X model⁴. And the Anytime Upgrade program provides more flexibility, offering upgrades, modernization, or scale-out credits⁵ to ensure a seamless path forward.

Preparing for the future requires architecture configuration flexibility that PowerStore delivers. Pure’s menu of pre-set models creates unnecessary friction for your organization. **Verdict: Pure Fantasy**



Myth: FlashArray is designed for the future

Pure promises a non-disruptive path to the future, but its trade-offs keep it in the past. FlashArray’s active/passive controller architecture is antiquated compared to others in the industry. This decision has kept Pure as a scale-up-only system, something they are now trying to solve with a cloud-based multi-array management solution in Fusion. Is it secure to use cloud-based management to do array-level administration? Is this a convoluted solution compared to more straightforward local scale-out or tightly coupled controller architectures? Pure is also behind the curve in adopting new networking technologies like NVMe-oF/TCP. How long will it take Pure to close the gaps?

Dell embraces innovation, designing storage products with the future in mind. PowerStore was built with a container-based OS, speeding development of new capabilities and recently releasing up to 120 new features. PowerStore’s and PowerMax’s recent releases include future-ready networking in NVMe-oF/TCP and the unique SmartFabric Storage Software, which helps accelerate deployment through automation. Both arrays natively support scale-out without additional management layers and were architected for a future-ready data center. How long can Pure’s approach keep pace? Will your business be satisfied with an array architecture from the 1990s? **Verdict: Pure Science Fiction**

The Dell Technologies Reality

Business decisions shouldn’t be masked with myths and half-truths. Dell’s storage portfolio offers multiple, purpose-built solutions to address the ongoing challenges of today while preparing you for an uncertain and evolving future. Take a look at our storage solutions and get in touch with your local Dell or channel representative to discuss how Dell can provide solutions tailored to the needs of your business.

⁴ Based on Dell analysis comparing maximum effective capacities of PowerStore and FlashArray //X platforms. Assumes average 4:1 data reduction. for PowerStore, 5:1 for FlashArray //X. Actual results may vary.

⁵ Anytime Upgrade. Requires purchase of ProSupport and either “Standard” or “Select” (where available) at point of sale to qualify. “Select” provides Next-Gen controller upgrade from Standard, plus choice of in-family upgrade or scale-out discount toward an additional appliance solution. Additional terms and conditions apply.



About the author: Andrew Glinka is Vice President, Competitive Intelligence at Dell Technologies. Andrew is an 11-year Dell Technologies veteran and brings over 23 years of experience in technology sales, management, and operations. Prior to assuming his current role, Andrew served as Global Director of Sales Strategy for the Data Protection Solutions Division. He has also managed the Global Software Sales team as well as other sales teams in the Data Protection Solutions Division. Prior to joining Dell through the EMC acquisition, Andrew owned and operated an IT Managed Services business in Virginia for over 8 years before successfully selling the company.