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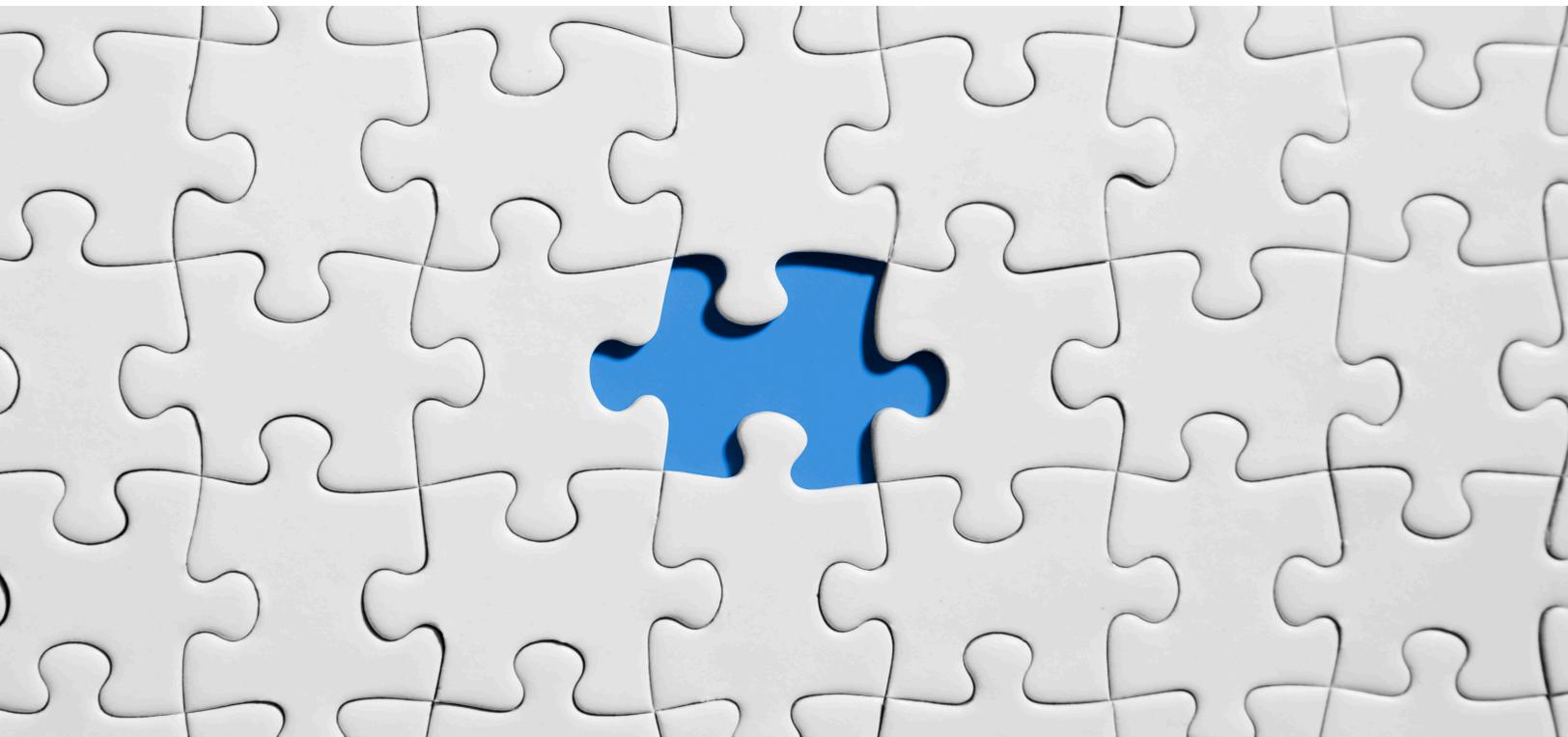# UNLEASH YOUR UNSTRUCTURED DATA WITH ISILON GEN 6

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Introduction

Dell EMC's next generation scale out NAS hardware platform introduces higher levels of performance, efficiency and density. Isilon's new Gen 6 platform includes all-flash (F800), hybrid (H600, H500, H400), and archive storage (A2000, A200) systems that enable enterprise customers to gain new levels of performance.

As most customers are looking to modernize their data center, Isilon Gen 6 will enable them to meet their Big Data challenges. It provides better performance/TB.

Figure 1: The New Platform at Glance

Node Positioning & Hardware

Isilon Gen 6 hardware products consist of six new platforms – 1 All-flash, 3 Hybrid, and 2 archive storage – all powered by the Isilon OneFS 8.1 operating system and based on the customer's need for performance and capacity. Isilon Gen6 can easily co-exist with existing Isilon clusters or can be installed as a new cluster to empower customers to modernize IT and enable digital business.

Selling Criteria	Gen 5	Gen 6
Base Sale	3 Nodes	1 Chassis
Incremental	Single Node	Node Pair(With or without Chassis)

Dell EMC Isilon F800

The F800 is an all-flash solution that provides high performance and capacity. Suited for workflows that need extreme performance and efficiency, Isilon F800 can support 250-300k IOPS and 15GB/s aggregate read throughput from the chassis. It has an option of 1.6 TB, 3.2 TB or 15.4 TB SSDs. Containing 15 SSDs in each of 4 nodes within a single 4U chassis for a total of 60 SSDs per chassis, the storage capacity of the Isilon F800 ranges from 92 TB to 924 TB per chassis.

Positioning
- Small, high performance working set
- Where storage is not an issue but there is much of content delivery
- Customer have a number of random workloads
- If the existing system no longer performs as it used to
- Optimized for many 1-2GB/s streams

- EDA Design: Can Simplify the performance tier for active design
- Low, stable latency <2 ms

Dell EMC Isilon H600

The H600 is a hybrid platform designed to provide high performance by delivering up to 120,000 IOPS and up to 12 GB/s bandwidth per chassis. Consisting of 120 SAS drives within a single 4U chassis, the storage capacity of the Isilon H600 ranges from 72 TB to 144 TB per chassis. To enhance performance, the Isilon H600 can be configured with a choice of four to eight 1.6TB or 3.2TB SSDs for cache.

Positioning
- Perfect choice for high performance computing (HPC) applications
- Workloads that don't require the extreme all-flash performance of the Isilon F800
- VFX Data: Can edit and create effects directly off of H600
- IOPS-intensive workload
- Optimized for many 1-2GB/s streams
- In EDA design: It can simplify the performance tier for active design

Dell EMC Isilon H500 & H400

H500 and H400 is designed to deliver high throughput and scalability. H500 can support up to 5 GB/s bandwidth per chassis while the H400 delivers up to 3GB/s bandwidth per chassis. Both have 60 SATA drives per chassis. Storage capacity of the Isilon H500 and H400 ranges from 120 TB to 480 TB per chassis. To boost performance, both can be configured with a choice of four to eight 1.6TB or 3.2TB SSDs in each chassis for cache.

Positioning
- Good choice if customer is looking for a general purpose system or utility storage and they have a number of large files.
- Need for small initial capacity, high concurrency, high throughput, large capacity needs and home directories with SSDs.
- Great choice to support a wide range of enterprise workloads and file use cases.

Dell EMC Isilon A200 & A2000

Isilon archive systems are designed to meet the growing need for efficient data archiving solutions where data can be stored and protected for long-term retention.

A200

Storage capacity of the Isilon A200 ranges from 120 TB to 480 TB per chassis. Each chassis consists of 60 drives inside a 35-inch deep rack and with a choice of 2TB, 4TB or 8TB SATA drives. The A200 can be configured with four to eight 400GB SSD in each chassis for cache.

A200 Value Proposition	
Use Cases	- Active Archive $/TB optimized
Value Vectors	- Low $/TB for active archive - Standard Depth Solution - Capacity steps to meet near line storage solution

A2000

The A2000 houses 80 SATA 10TB drives inside a standard 40U deep, 4u chassis to provide high density and deep archive storage. It can be configured with four to eight 400GB SSD in each chassis for cache.

A2000 Value Proposition	
Use Cases	• Deep depth Archive • Lowest $/TB optimized
Value Vectors	• High density archive solution • 800TB in 4RU • Optimized for lowest $/TB

How to compare Gen 5 with Gen 6

There is no one-to-one correlation or comparison between Gen 6 with the nodes of Gen5. For example, while H600 is superior to anything in Gen 5 or Gen 4, with respect to the per-node capacity, Gen 6 cannot be compared with the HD400.

Design is where Gen 6 clearly differs with Gen 5. Inaccurate equivalences drawn between the two can be risky because there are chances of specifying the incorrect configuration for a desired workload.

If asked to compare, all comparisons should be made per Chassis rather than per node.

Metric	Gen5	Gen6 Use Cases	Gen6 Models
High Perf ,Low Ltency		Extreme Performance	F800
$/IOP		Performance	H600
$/MB/s	S210	Balanced	H500
	X410		H400
$/TB	NL410	Archive	A200
	HD400		A2000

Metric	HD400 (8TB HDDS)	A2000 (20 X 10TB HDD
Per-node raw Capacity	472TB	200TB
Per 4U Capacity	472TB	800TB
144 node raw capacity	67+PB	28+PB

Figure 2: Gen 6 Vs Gen 5

	Generation 5	Generation 6
Node	Single chassis with compute + drives	¼ chassis with compute assemble and drive sleds
Node Pair	No equivalent	Pair of nodes, defines minimal incremental increases
Min. cluster size	3 nodes	1 chassis = 4 nodes
When adding nodes	Add 1 node at a time	Add a node pair – 2 nodes (with or without chassis)

Summary

The Isilon next generation architecture is engineered (with variances of hardware in terms of All-Flash and Hybrid) and will be positioned to accommodate legacy, existing, and next generation applications with a more effective and flexible approach. More advanced and robust than previous Isilon generations, Gen 6 hardware has a complete new architecture with denser nodes and many hardware and software improvements. It decreases physical footprint and provides enhanced scalability, compute power, software optimization and protection against hardware failures.

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