

# STORAGE INDUSTRY SUMMIT

Realizing the  
Benefits of the  
Convergence of  
Storage and Memory

JANUARY 20, 2015, SAN JOSE, CA

## THE ECONOMICS OF NVM

An Analyst Panel

Moderated by Mark Peters, ESG

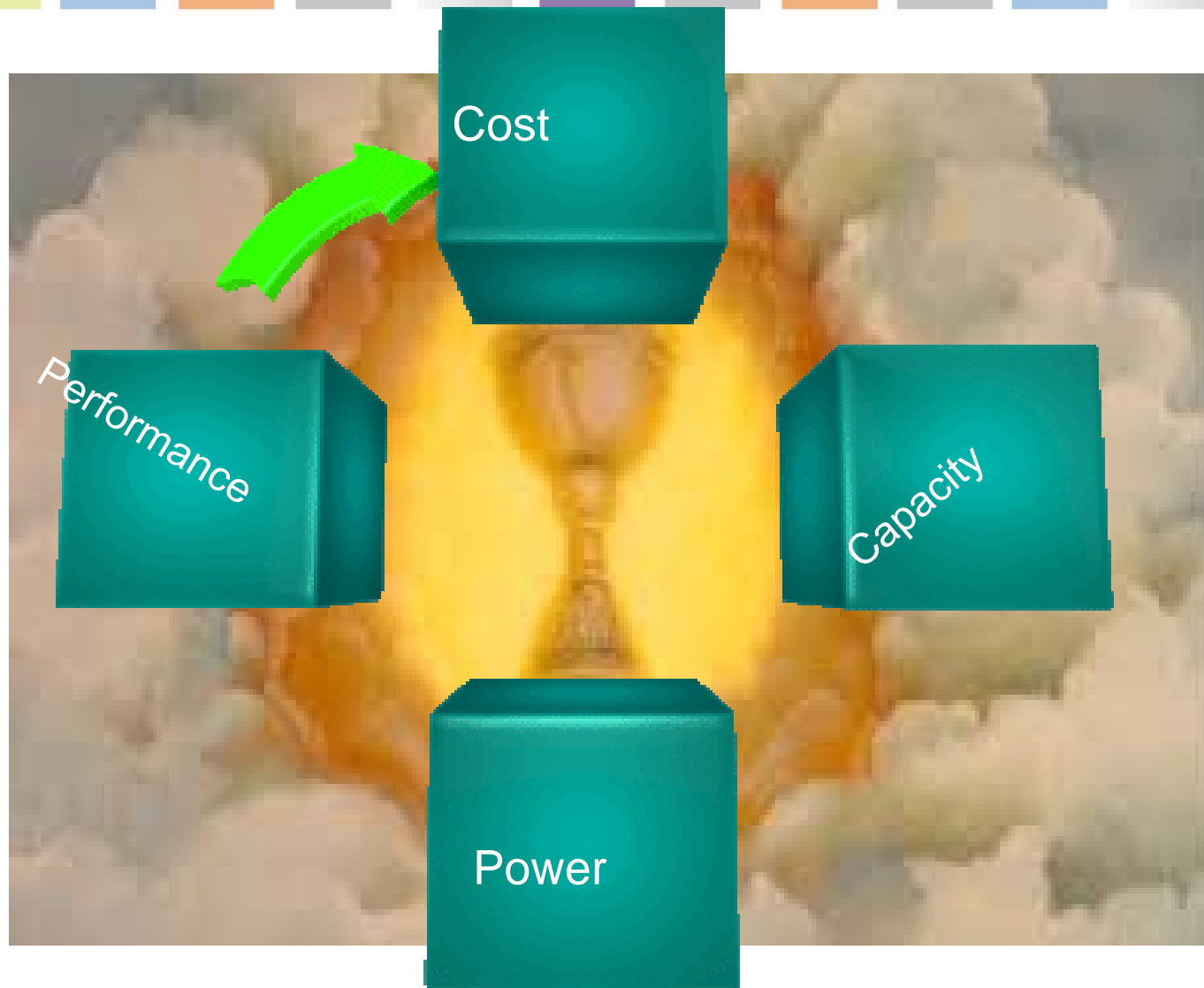




## ➤ PANEL MEMBERS

- Don Jeanette, Trend Focus
  - Jeff Janukowicz, IDC
- Matt Bryson, ABR Investment Strategy

# The Holy Grail of Storage



# History Teaches Us....

- Desktop to Notebook
- Notebook to Tablet
- LFF to SFF in enterprise segment
  - ◆ Transition didn't happen until equivalent pricing for 'like capacities'
- SATA to SAS migration in NL
  - ◆ Even \$5 cost adder keeps SAS at a much lower share position
- HDD to SSD
  - ◆ Use case, \$/GB, NAND supply, continuity of supply
- SSHD
  - ◆ Performance upsell at industry volume capacity (500GB) did not see large growth (for a \$10 cost adder?)
  - ◆ BOM – what % is allocated to storage?
- PCIe adoption
  - ◆ Higher power, higher performance, higher pricing (= Lower Volume)
  - ◆ Many different options (SKUs) causes slower adoption



# SNIA Storage Industry Summit Non-Volatile Summit

Jeff Janukowicz  
Research Director  
January 2015

# New Technologies or Product Categories are NOT always a Success

– *Even if they are Better*

## Digital audio tape



## HD DVD



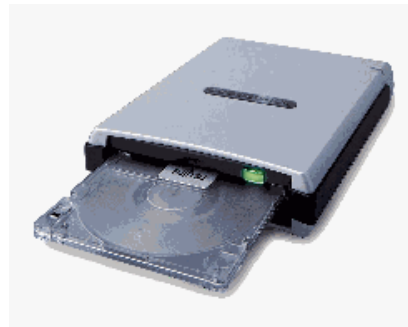
## DataPlay discs



## DVD-Audio/SACD



## Magneto-Optical



## Microdrives



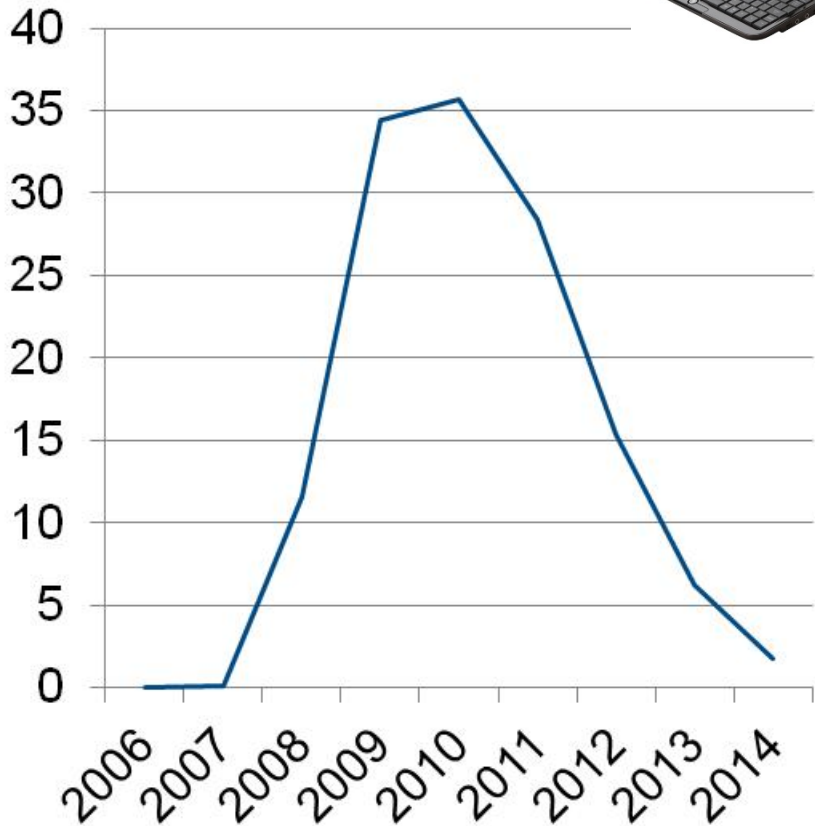
## Laserdisc



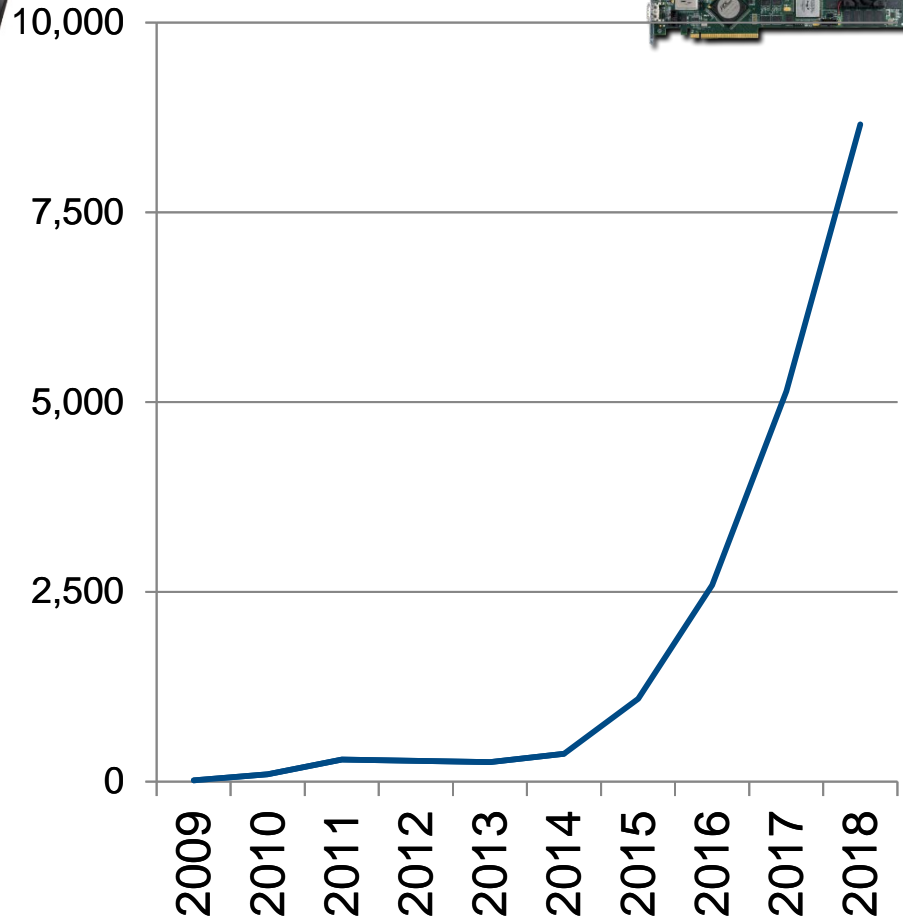
# Crossing the Chasm

## The Challenge of Changing/Creating a Market

### Mini-Notebooks



### PCIe SSDs



# Observations for NV Technologies

- Economics will Ultimately Drive Adoption
  - A vision not grounded with pragmatic reality will fail
- There is a BIG TAM
  - HDD = ~\$33 Billion
  - NAND = ~\$28 Billion
  - DRAM = ~\$46 Billion
  - Enterprise SSD Spending > Performance HDD Spending
- Today: Customers want technology and performance
- Future: Customers want solutions and convenience
  - Ecosystem (Hardware and Software) development is vital
  - 3<sup>rd</sup> Platform (Mobile, Cloud, Social, and Big Data) will drive new requirements and business models



# Questions

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For more information, please visit, [www.idc.com](http://www.idc.com) and search for:  
•Solid State Storage Technologies



# ABR Investment Strategy, LLC

## **SNIA NVM Summit**

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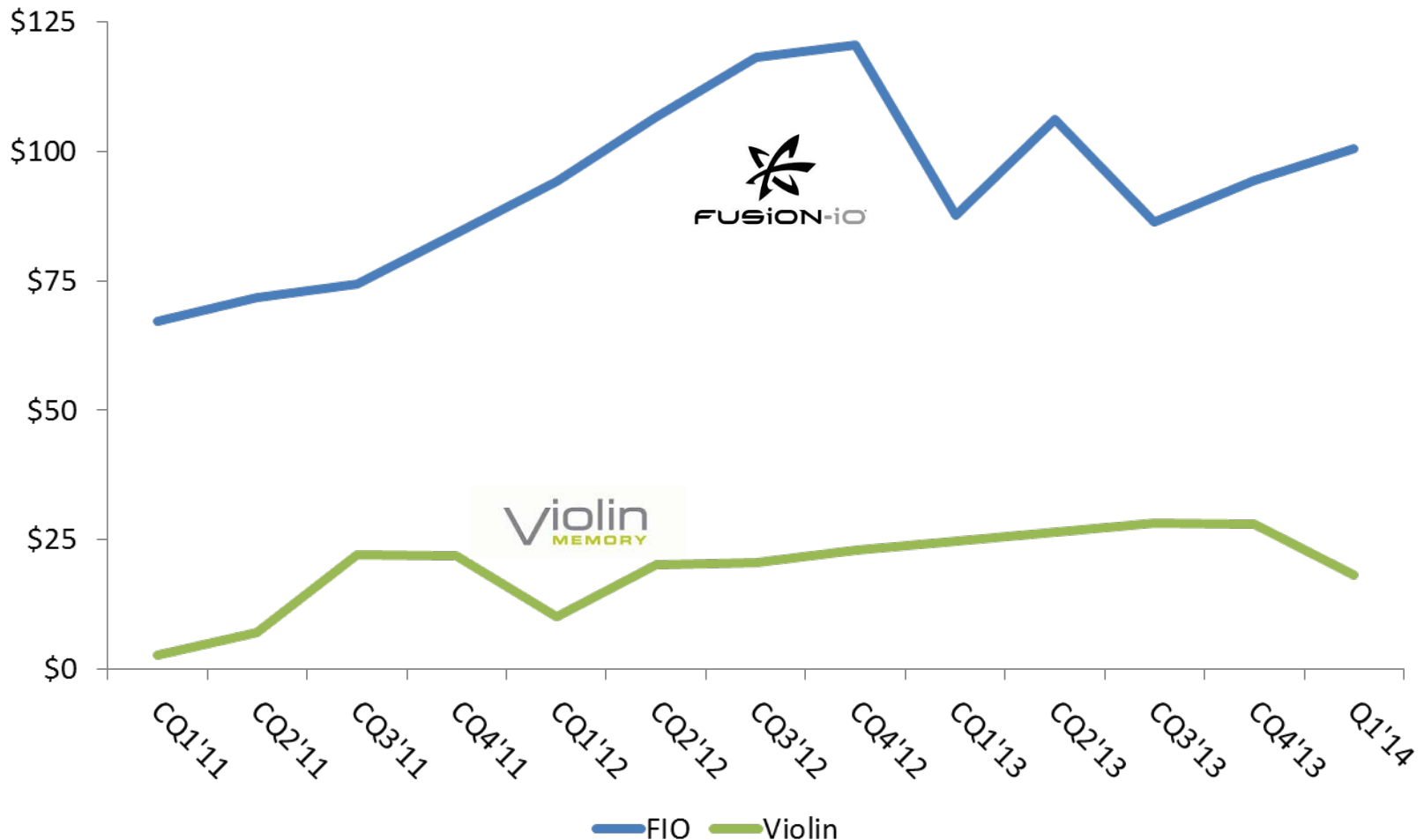
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# Sizing the Market

# Transactional Solid State Solutions: Historical Sales (\$M)



# Market Valuations

	<u>IPO</u>	<u>High</u>		<u>Last or Aquisition</u>	
<u>Company</u>	<u>Mkt Cap (\$M)</u>	<u>Mkt Cap (\$M)</u>	<u>P/S High</u>	<u>Mkt Cap (\$M)</u>	<u>P/S</u>
	\$1,751	\$3,364	10.3x	\$1,100	2.8x
	\$574	\$642	6.1x	\$578	5.5x
				>\$3,000	~40x -50x
				>2,000	~50x – 60x

# Enterprise Storage Solutions

## Hitachi

USP  
VSP

## EMC

VMAX  
VNX

Isilon

Data Domain

XtremIO

## Hewlett

3PAR

StorVirtual

MSA

## NetApp

FAS

E-Series

## IBM

DS8000

StorWize

XIV

## Dell

Compellent

EqualLogic

PowerVault

## Pure Storage

Flash Array





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