Power Higher Education with a Secure Modern IT Infrastructure

Mike Wiseman – VP, Americas State, Local & Education
Andrew Miller – Principal Technology Strategist

Delivering the Modern Data Experience

Growth
$1.64 Billion
FY20 Annual Revenue

29% YoY Growth: Subscription Services
+$50 Billion TAM

Customers
8,000+
Global Customers

1,700
New Customers in FY20

48%
Of Fortune 500 companies

Leadership
Gartner Magic Quadrant
7 x leader!

Net Promoter Score
Top 1% of B2B companies

Company Milestones

2009
Founds

2011
Pioneer in all-flash

2012
FlashArray™

Late 2012
First international office in Europe

2014
Evergreen™ Storage

Non-Disruptive Upgrades

2015
Pure1® Cloud-Based Management

2015
Introduction of FlashStack™ Integrated Platform

Late 2015
IPO (PSTG)

2016
Introduction of FlashBlade®

2018
Portworx Acquisition

2019
Compuverde Acquisition

2019
Cohesity Acquisition

2020
Pure as a Service

Mid 2018
Launch of FlashArray™ FlashCore

2018
FlashArray™ X

2018
On-Demand Cloud

2018
FlashArray™ M3

Early 2015
FlashArray™ Cloud-Based Management

Early 2015
Early 2015

2018
Launch of FlashBlade® (Integrated Platform)

2018
Launch of FlashBlade® (Integrated Platform)

2020
2020
Mid 2018
Mid 2018
Early 2015
Early 2015

Early 2018
Launch of Cloud-Integrated Storage (AIRI™)

Mid 2018
Launch of Cloud-Integrated Storage (AIRI™)
Pure Storage is a Leader 7 Years in a Row!

Pure is named a leader in the Gartner 2020 Magic Quadrant for Primary Storage Arrays and is placed highest for Ability to Execute AND furthest for Completeness of Vision.


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PURE STORAGE US HIGHER EDUCATION

- 200+ Happy Higher Education Customers
- Solutions fit Two Year Institutions to Very High Research Institutions
- Dedicated Higher Education Resources
TRENDS POST COVID

TRENDS THAT ARE ACCELERATING IN HE

1. Enrollment Rollercoaster
2. A surge in demand for online adoption
3. Widespread Financial Instability
4. A Frictionless and Engaging Student Experience
5. IT as a Critical Mission Partner
6. Migration to an Elastic Workforce
7. Radical Business Model Transformation
To Achieve Successful Outcomes...

MODERN DATA EXPERIENCE
POLLING QUESTION #1
CHOOSE MULTIPLE IF APPLICABLE

What cloud provider are you using today?

1. AWS
2. Azure
3. Google
4. Other
5. None

Partnering with Higher Education
TODAY’S DISCUSSION

• Where We’ve Been - Evergreen

• Business Proof Points

• Where We’re Going – Modern Data Experience Vision

A BIT ABOUT ME...

Tweet  @ andriven
Blogger  @ thinkmeta.net
I have a job!  @ Pure – Principal Technology Strategist
Email  andrew.miller@purestorage.com
Background  7 years customer +
              8 years partner +
              2 years tech marketing
Certs  Lots of Random Ones
       10x vExpert
LOOKING BACK
How We Got Here

PURE'S FIRST DECADE
RE-INVENTING THE
STORAGE ARRAY

WHAT'S NEXT
DELIVERING
STORAGE AS-A-SERVICE

...AND THE MOST CLOUD-LIKE
STORAGE EXPERIENCE

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WHAT DID CUSTOMERS HATE ABOUT STORAGE?

**PROCURE**
- Line item pricing
- Too many line items

**INSTALL/CONFIG/OPERATE**
- Days to install & configure
- Complex to operate

**SUPPORT**
- "Tier 1" support
- Reactive
- Maintenance Spike

**UPGRADE**
- Forklift upgrades
- Disruptive

...And production silos (due to performance concerns)

NOT CUSTOMER FOCUSED
WITH PURE STORAGE...

PROCURE
• Simple pricing
• Reduce $/GB via data reduction

INSTALL/CONFIG/OPERATE
• Less than an hour to install
• Very simple to operate
• REST APIs –
  - Automation
  - Ecosystem integration

SUPPORT
• NO "Tier 1" support
• Proactive
• Pure1 driven
• 86.6 NPS

UPGRADE
• Non Disruptive
• Evergreen

....And consolidate mission-critical tier 0/1 workloads

CUSTOMER FOCUSED

Come for the performance, stay for the simplicity.

Coz / Kix
ARCHITECTURE MATTERS
Fifteen Architectural Decisions that Guide Development – established 2009

1. Built in Simplicity
2. Most Efficient Architecture At Scale
3. Evergreen Storage
4. Data Reduction
5. Stateless Controllers
6. Front End Active/Active and Back End Active/Standby
7. Streamlined Code Paths
8. Really Usable Snapshots
9. Realistic Efficiency Metrics
10. Adaptive Flexible RAID
11. Security: All the Data, All the Time
12. Metadata: The Secret Sauce
13. Toward the DIY Storage Array
14. Fixing It Before It Breaks
15. Consumer-grade flash

ENGINEERED TO STAY EVERGREEN
FLASHARRAY HAS A MODULAR, SOFTWARE-DEFINED ARCHITECTURE

UPGRADABLE CONTROLLERS
FOR PERFORMANCE

LONG-LIFE CHASSIS
10+ YEAR LIFESPAN

UPGRADABLE, EXPANDABLE FLASH
FOR CAPACITY & DENSITY

UPGRADABLE SOFTWARE

UPGRADE EVERYTHING ONLINE
WITH NO DOWNTIME, PERFORMANCE LOSS, OR DATA MIGRATION

MLC, 3D TLC, & NVME FLASH MODULES
EVERGREEN DELIVERS ONGOING INNOVATION
ALL WITHOUT FORKLIFT UPGRADES OR DATA MIGRATIONS – EVEN ACROSS GENERATIONS

73X CAPACITY
73X DENSITY
$0
99.999999%
13X PERFORMANCE
18 SOFTWARE RELEASES
19X LESS POWER / TB
7 HARDWARE GENERATIONS

NO WASTED INVESTMENT – NO FORKLIFT TAXES
UPTIME THROUGH UPGRADES & MAINTENANCE

EVERGREEN DELIVERS ONGOING INNOVATION
ALL WITHOUT FORKLIFT UPGRADES OR DATA MIGRATIONS – EVEN ACROSS GENERATIONS

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PURE’S EVERGREEN BUSINESS MODEL
8 GENERATIONS OF EVERGREEN, NON-DISRUPTIVE, NO-DOWNTIME UPGRADES!

PURE’S EVERGREEN BUSINESS MODEL
8 GENERATIONS OF EVERGREEN, NON-DISRUPTIVE, NO-DOWNTIME UPGRADES!

Pure’s Evergreen business model delivers a subscription to innovation

ACQUIRE
RUN
UPGRADE

Love Your Storage
Array Software Included
Right-Size Guarantee

Flat & Fair
Evergreen Maintenance
White Glove Support

Free Every Three*
Upgrade Flex*
Capacity Consolidation*

*Gold or other Eligible Evergreen Subscription required

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INNOVATION INCLUDED
PROVEN HISTORY OF PURITY SOFTWARE ADVANCEMENTS – ALL INCLUDED

PERFORMANCE & CAPACITY GAINS

ACTIVE CLUSTER STRETCH CLUSTER

PREDICTIVE ANALYTICS

STORAGE THAT WORKS LIKE SAAS

DEPLOY ONCE, UPGRADE IN PLACE
NO PLANNED DOWNTIME
NO DATA MIGRATION
FULL PERFORMANCE, NON-STOP
MODERNIZE MEDIA & CONTROLLERS
MULTI-GENERATIONAL LIFESPAN
INVESTMENTS PROTECTED
POLLING QUESTION #2
CHOOSE MULTIPLE IF APPLICABLE

What backup partner are you using today?

1. Cohesity
2. Commvault
3. Rubrik
4. Veeam
5. Veritas
6. Other
PURE’S FIRST DECADE

Re-Inventing the Storage Array

GROWTH

+50B
Total Addressable Market

+1.64B
Annual Revenue

CUSTOMERS

7,800+
Customers

1,700
New customers in FY20

LEADERSHIP

Gartner Magic Quadrant
For the sixth year in a row, Pure Storage is a leader in the Gartner Magic Quadrant.

Net Promoter Score
In the top 1% of B2B companies.

6 YEAR STORAGE MARKET SHARE
cumulative market share gain/loss - half year basis

A LEADER FIVE YEARS IN A ROW!

Gartner

A MAGIC QUADRANT LEADER


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Portworx: #1 for Kubernetes Data Services

A DECADE OF RELEVANT INNOVATION FIRSTS
FOR LOWER RISK, HIGHER AGILITY, BEST PRICE/PERFORMANCE, & FLEXIBLE CONSUMPTION
**METRICS THAT MATTER**
**PURE INNOVATES MORE (AND PROFITABLY)**

% OF REVENUE INVESTED IN R&D

18% **Vs.** 5%  5% 14%

- **PURE**
- **DELL EMC**
- **HPE**
- **NETAPP**

95% > 750 > 75

- **SOFTWARE ENGINEERS**
- **SOFTWARE PATENTS**
- **PLATFORM PATENTS**

**Outpacing the Market**
**External OEM Storage (AFA, HYBRID AND HDD)**

5 YEAR CAGR COMPARISON, 2014 - 2019

- **Pure**
  - 55.7%

- **WW External OEM Market**
  - 2.6%

**Source:** IDC Quarterly Enterprise Storage Systems Tracker, Q4 2019
**CY2019 YoY Growth Rate**

**WW External OEM Storage**

<table>
<thead>
<tr>
<th>Company</th>
<th>YoY Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure Storage</td>
<td>16.8%</td>
</tr>
<tr>
<td>HPE/H3C</td>
<td>5.5%</td>
</tr>
<tr>
<td>Hitachi Vantara</td>
<td>2.8%</td>
</tr>
<tr>
<td>Dell Technologies</td>
<td>-0.8%</td>
</tr>
<tr>
<td>IBM</td>
<td>-6.4%</td>
</tr>
<tr>
<td>NetApp</td>
<td>-13.0%</td>
</tr>
<tr>
<td>Worldwide</td>
<td>-1.9%</td>
</tr>
</tbody>
</table>

Source: IDC Quarterly Enterprise Storage Systems Tracker, Q4 2019

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**Q1 2020 YoY Growth Rate**

**WW External OEM Storage**

<table>
<thead>
<tr>
<th>Company</th>
<th>YoY Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure Storage</td>
<td>+7.7%</td>
</tr>
<tr>
<td>IBM</td>
<td>+3.8%</td>
</tr>
<tr>
<td>Dell Technologies</td>
<td>-8.2%</td>
</tr>
<tr>
<td>Hitachi</td>
<td>-8.5%</td>
</tr>
<tr>
<td>HPE/H3C</td>
<td>-17.0%</td>
</tr>
<tr>
<td>NetApp</td>
<td>-20.0%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>-8.2%</td>
</tr>
</tbody>
</table>

Source: IDC Quarterly Enterprise Storage Systems Tracker, Q1 2020
**Certified Net Promoter Score**

*2020*

- **83.5** (Pure Storage)
- **24** (Industry Average)

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**2019 Certified Net Promoter Score**

- **1** Leading Storage Vendor A
- **29** Leading Storage Vendor B
- **67** Apple iPhone
- **83.5** (Pure NPS, 3rd party certified)

Source: Temkin Group Tech Vendor NPS Benchmark, 2019
Delivering the Modern Data Experience

- **Growth**
  - $1.64 Billion
  - FY20 Annual Revenue
  - 29% YoY Growth: Subscription Services
  - +$50 Billion TAM

- **Customers**
  - 8,000+
  - Global Customers
  - 1,700 New Customers in FY20
  - 48% Of Fortune 500 companies

- **Leadership**
  - Gartner Magic Quadrant
  - 7 x leader!

- **Net Promoter Score**
  - Top 1% of B2B companies

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**Company Milestones**

- **2009** Founded
- **2011** Pioneer in All Flash
- **2012** FlashArray™
- **Late 2012** First International Office in Europe
- **Nov 2014** FlashStack™ Integrated Platform
- **Early 2015** Pure1® Cloud-Based Management
- **Late 2015** IPO (PSTG)
- **Mid 2018** Launch of as-a-Service model (Pure as a Service)
- **July 2018** First AI-ready Infrastructure (AIRI™)
- **Late 2018** Non-Disruptive Upgrades
- **2019** Compuverde Acquisition
- **2019** Named a Leader again: Gartner Magic Quadrant
- **2020** Pure as a Service 2-year anniversary
- **2020** Launch of Pure FlashRecover™, Powered by Cohesity
- **2020** Portworx Acquisition

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**POLLING QUESTION #3**

Do you feel that your institution is prepared for a ransomware attack?

1. Yes - we are fully prepared.
2. Somewhat prepared.
3. No - we need help.
LOOKING FORWARD
Where We’re Going

PURE’S FIRST DECADE
RE-INVENTING THE STORAGE ARRAY

WHAT’S NEXT
DELIVERING STORAGE AS-A-SERVICE

...AND THE MOST CLOUD-LIKE STORAGE EXPERIENCE
ALL-IN ON DIGITAL TRANSFORMATION...
“The transition to digital is undeniable and accelerating, disrupting both government and business models. These new models redefine the way organizations create, deliver, and capture value.”

EVERY COMPANY A SOFTWARE COMPANY...
“By 2025, over two-thirds of the G2000 will be large scale producers of software-based digital innovation”

...AND DIGITAL DEFINES IT PRIORITIES
“By 2023, corporate spending to enable software-based digital innovation – developers, tools, data platforms and more – will increase by over 50%”

DIGITAL RUNS ON DATA

- BUSINESS ANALYTICS
- CYBER SECURITY
- CLOUD ADOPTION
- APPLICATION MODERNIZATION & DEVOPS
- CUSTOMER EXPERIENCE
- AI / MACHINE LEARNING

DATA
- PERFORMANCE
- AGILITY
- COST
- RELIABILITY
MODERN DATA EXPERIENCE

- FAST MATTERS
- CLOUD EVERYWHERE
- SIMPLE IS SMART
- SUBSCRIPTION TO INNOVATION

FAST MATTERS

- FASTER APPLICATIONS
  IMPROVING CUSTOMER EXPERIENCE & ENGAGEMENT
  "Processing times dropped by several hundredths of a second, making a big difference to us when you consider we process 300,000 transactions a day."

- FASTER ANALYTICS
  FASTER TIME-TO-INSIGHT AND BETTER DECISIONS
  "The data we collect is extremely valuable and we need to analyze the data in as short a time as possible to maximize that value. Pure Storage ensures we deliver on that promise."

- FASTER DEVELOPMENT
  FASTER TIME-TO-MARKET, DEVOPS ACCELERATION
  "With one storage device we can facilitate all DevOps processes and data types. It’s one-stop shopping for the storage infrastructure."

FASTER APPLICATIONS

- NAVITUS

FASTER ANALYTICS

- ANYWHERE365
## FAST MATTERS

**THE MODERN DATA EXPERIENCE DELIVERS WHEN**

### RE-DEFINE FAST
- **LOW LATENCY**
  - 100s µs latency for mission-critical applications
  - NVMe, NVMe-oF + SCM

### HIGH BANDWIDTH
- 10s GB/s bandwidth for an all-flash data hub
  - Scale-out file & object

### MAXIMUM DENSITY
- QLC flash at PB scale to consolidate Tier2 applications at disk economics

### CLOUD CONSOLIDATION DEMANDS SHARED PERFORMANCE
- Multi-protocol, Multi-tier, Multi-use
  - QoS & adaptive metadata

### FAST DATA POWERS AGILE DEVELOPMENT
- Access via API
- Fast Snaps
- Accelerate Dev/Test Pipeline
- Continuously Refresh Prod → Dev

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## RANSOMWARE ATTACK MITIGATION

**MAKE OUR CUSTOMERS HEROES**

<table>
<thead>
<tr>
<th>Before the Attack:</th>
<th>Simple to Implement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>During the Attack:</strong></td>
<td>Immutable + <strong>Safe Mode</strong></td>
</tr>
<tr>
<td><strong>After the Attack:</strong></td>
<td>Unmatched Recovery Speed</td>
</tr>
</tbody>
</table>

**After Recovery:** Reduce Future Attacks (Forensics & Analytics)
**CLOUD EVERYWHERE**

**TRANSFORM ON-PREM TO CLOUD MODEL**

**ENABLE HYBRID CLOUD**

**FAST RECOVERY...GLOBALLY**

"Pure provides a simple and efficient solution for cloud data mobility between our on-premises solution and AWS public cloud. With the combination of Pure and AWS, we’re able to retain snapshots 4x longer for disaster recovery and compliance."

"The ability to use both my private cloud and the public cloud in one cohesive way is a strategic enabling technology."

"Everyone would tell you that backing up to the cloud was too expensive and too slow, but with Pure, it’s just the opposite, it’s faster and costs less."

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**THE MODERN DATA EXPERIENCE DELIVERS**

**CLOUD EVERYWHERE**

**FULLY API-DEFINED PLATFORM**

**CONSISTENT EXPERIENCE ACROSS ON-PREM & PUBLIC CLOUD**

**SEAMLESS DATA MOBILITY & PROTECTION**
“It's been a very hands-off platform. I occasionally take a look at the Pure1 dashboard. You can just log in, take one look, and see where you’re at. And it's in your pocket!”

Pure1 "allows me to monitor the system from any device, anywhere, and notifies me proactively if there's any issue that Pure is working on."

"The portion of my time spent on managing storage has gone from 15% to about 1%. I no longer have to look at logs."
GLOBAL BANK

15+ PB, 80+ ARRAYS

0.5 FTE (out of 5 person team)

SUBSCRIPTION TO INNOVATION

MODERNIZE STORAGE WITHOUT DOWNTIME

KEEP UP WITH THE PACE OF FLASH + CLOUD INNOVATION

“No disruption. No new purchases. Zero downtime. Pure delivered on their promise and proved that we made the right choice.”

END THE THREE-YEAR MERRY-GO-ROUND

GET 10 YEARS OR MORE OF USEFUL LIFE FROM STORAGE

“Evergreen Storage is a way for St. Luke’s to adopt a technology and not have to migrate on a 3-4 year basis. That’s a big win for St. Luke’s and it actually impacts patient care.”

RENT VS. BUY: ON-PREM OR CLOUD

PAY FOR THE STORAGE YOU NEED, WHEN YOU NEED IT

“Pure as-a-Service allows us to add additional storage capacity on-demand with little risk and with a predictable pricing model that we could easily apply to the pricing we offered to our clients.”
THE MODERN DATA EXPERIENCE IS A
SUBSCRIPTION TO INNOVATION

EIGHT GENERATIONS OF EVERGREEN UPGRADES...AND COUNTING!

CONTINUOUS SW + HW INNOVATION
...INCLUDED IN YOUR SUBSCRIPTION

CONSUME ON-DEMAND
AS A TRUE OPEX SERVICE

MONTHLY Pure1 SaaS RELEASES
REGULAR CONTROLLER, FLASH, I/O,
AND CACHE IMPROVEMENTS
→ ALL DELIVERED NON-DISRUPTIVELY

Pure as-a-Service
UNIFIED ON-PREM AND CLOUD
PAY FOR WHAT YOU USE
EASILY FLEX UP OR DOWN

YOUR CLOUD STORAGE, ON DEMAND

PAY-PER-USED GB
DATA SERVICES
SHORT-TERM
COMMITS

BLOCK, FILE,
OBJECT &
BACKUP
ALWAYS
SUPPORT FOR
HYBRID
CLOUD
DEPLOYMENTS

1) Subject to minimum commitment.
2) OPEX treatment is subject to customer’s auditor review.
Unified Storage for Today’s Data Center

**Unified Protocols**
- Block: FC, iSCSI, NVMe-oF
- File: NFS, SMB
- VM: vVols

**Unified Data Services**
- Single deduplication and compression namespace
- Snapshots and replication
- Hybrid-cloud integration

**No-compromise Performance and Scale**
- 100% NVMe flash architecture
- NVMe-oF RoCE and FC capable
- One architecture scales from TB to PB

**Unified Cloud Management and Protection**
- Single cloud GUI
- Comprehensive cloud automation APIs
- Integrated backup to cloud

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FLASHBLADE™
THE INDUSTRY’S FIRST DATA HUB

BACKUP
COMMVAULT
VERITAS
VEEAM

DATA WAREHOUSE
ORACLE
mangoDB

DATA LAKE
SAS
Spark

STREAMING ANALYTICS
splunk
kafka
elastic

AI CLUSTER
Caffe2
TensorFlow

HIGH THROUGHPUT
FILE & OBJECT

SIMPLE, NATIVE
SCALE-OUT

MULTI-
DIMENSIONAL
PERFORMANCE

MASSIVELY
PARALLEL

OPEN STANDARDS
API DRIVEN ARCHITECTURE TO SUPPORT SIMPLIFIED INTEGRATION AND MACHINE BASED MANAGEMENT

API Driven

DevOps Integrated

Management Orchestrated

© 2021 PURE STORAGE INC. / PURE STORAGE CONFIDENTIAL
Certified Net Promoter Score
2020

Industry Average: 24
Pure Storage: 83.5

In the TOP 1% of B2B Companies

THANK YOU
Q&A

THANK YOU