



Newburyport, MA, USA

USSD 200

The I/O Bandwidth Company

Solid Access Technologies, LLC

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Agenda

Why Are We Here?

The Storage “Perfect Storm”

Traditional I/O Bottleneck Reduction

Why Solid State Disk?

Why Solid Access USSD?

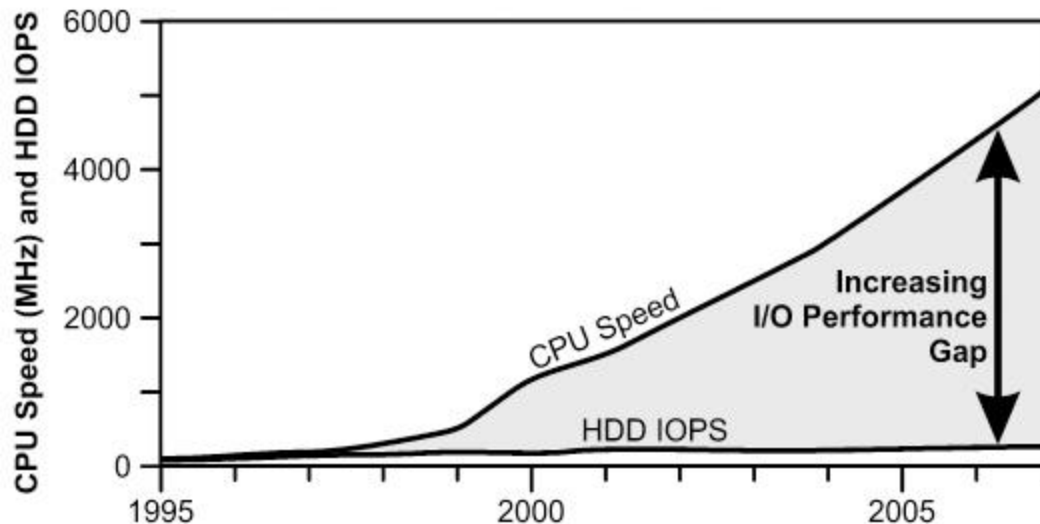
Green IT

Solid Access Success Examples

Company Background

Summary

Why are we here?



- CPU Performance has Increased by 30 Times Over 10 Years
- Hard Disc Drive (HDD) Latency has Improved 1.3 times (Source: Intel Corporation Measurements, 2006)
- HDD Latency IS the Cause of I/O Bottlenecks

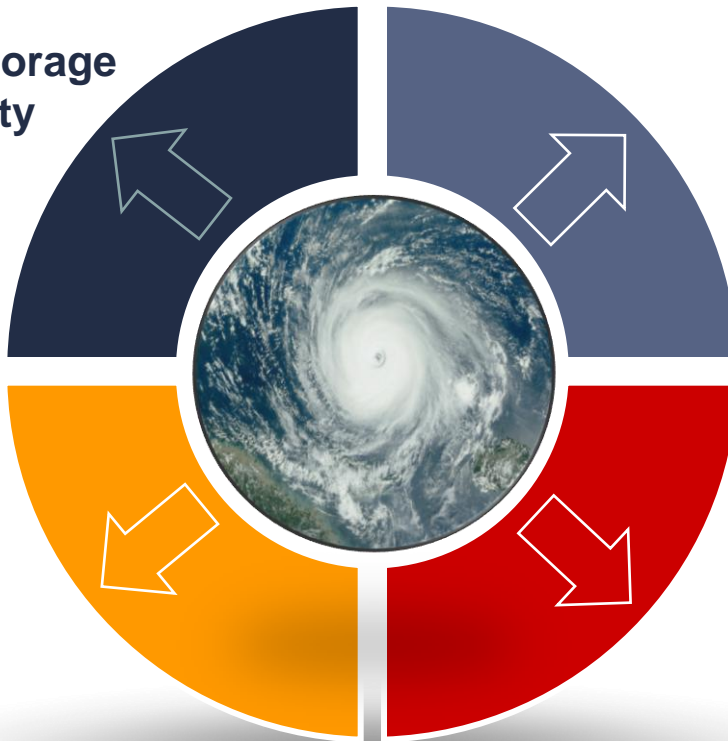
“It’s so grossly out of whack that for many workloads the disk drive ends up determining what the effective system performance is.”

- Intel’s Knut Grimsrud, Technology and Manufacturing Group Director

The Storage “Perfect Storm”

Demand for Increased Storage Performance and Capacity

- Continuous Requirement



Spiraling Energy Costs for Power and Cooling

- Caps on IT power consumption and spending
- Permanent Issue Moving Forward

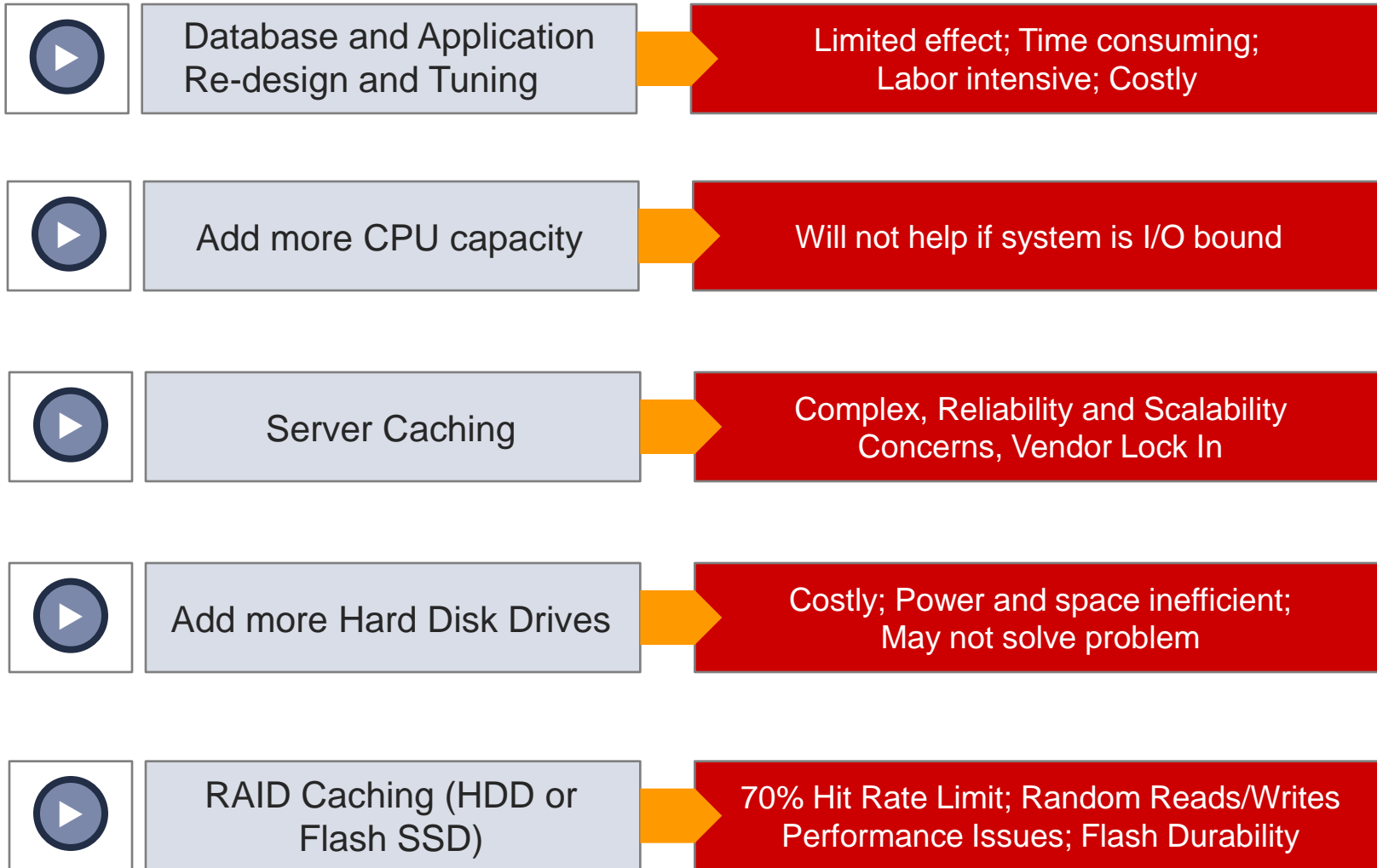
Space Consolidation Mandates

- If Servers Can Be Consolidated, Why Not Storage?

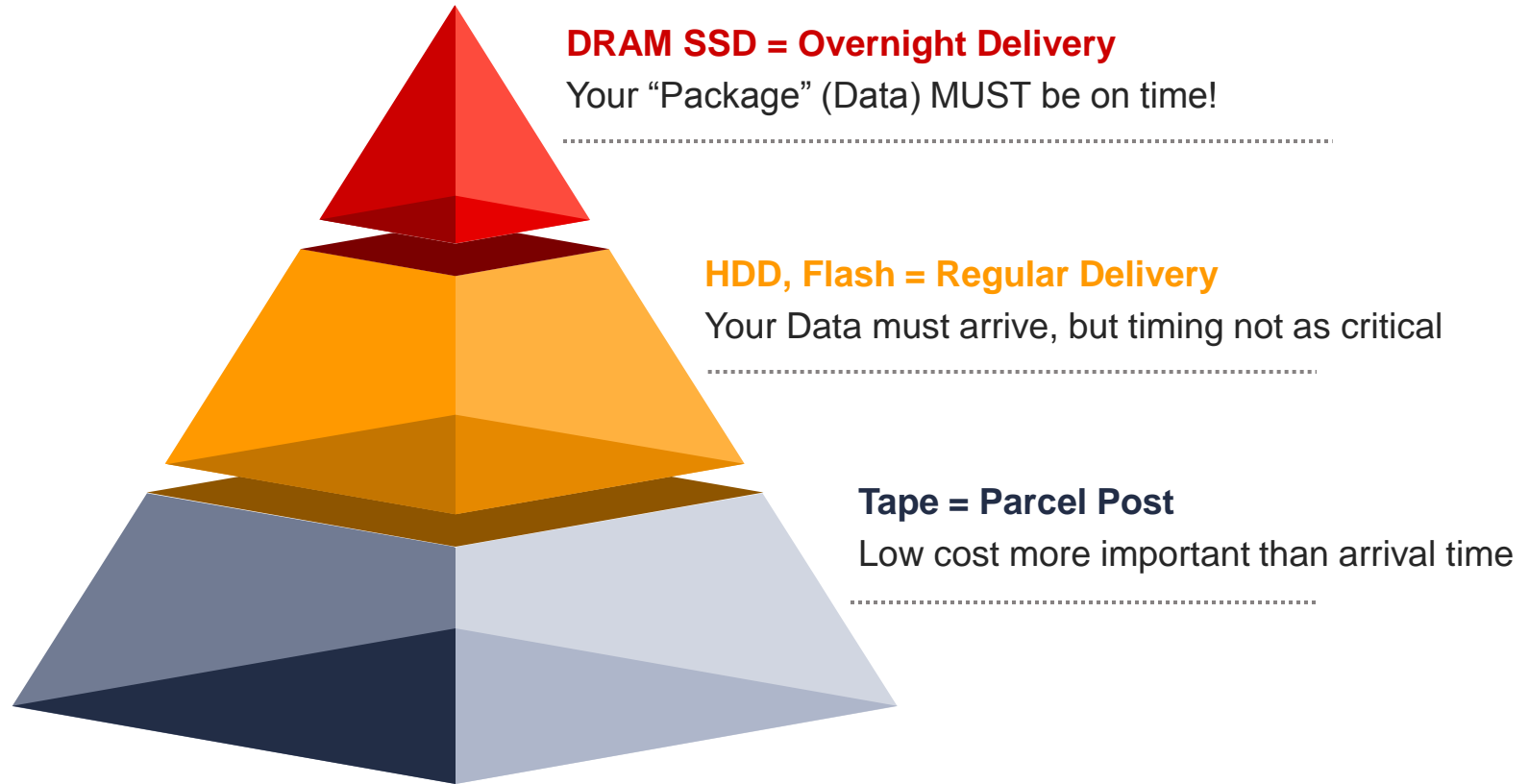
How to Reconcile Opposing Directives?

- ...and Still Meet Business Objectives

Traditional I/O Bottleneck Reduction










Why Solid State Disc?



- Storage only element in data chain using non-electronic components!
- Use Ultra Fast SSD When Solving I/O Bottlenecks Means the Difference Between **Success and Failure** - Use HDD, Flash, Tape for All Else

Why Solid Access USSD?

Unmatched I/O Acceleration and Universal Connectivity	 <ul style="list-style-type: none">- Fastest Customer Benchmarked Storage Device for DAS, SAN- Multi-Protocol Support for Fibre Channel, SAS and SCSI- Infiniband, iSCSI (10 Gb/Sec) on Roadmap- Support for All Major Operating Systems (OS-Agnostic)
Random, Sequential Read/Write at RAM Speed	 <ul style="list-style-type: none">- 10 µSecond Access Means Almost Zero Latency
Proven Under 24x7x365 Mission Critical Conditions	 <ul style="list-style-type: none">- Two Years In Production with Zero Field Failures
“Plug and Play”, non-Disruptive Logical Storage Device	 <ul style="list-style-type: none">- Same Day I/O Acceleration; No Training Required
100% Use of Standard “Off the Shelf” Components	 <ul style="list-style-type: none">- Proven Products/Vendors in Use in IT Servers- Solid Access’ Added Value in Firmware, not Expensive, Proprietary Hardware Design
3rd Generation Product in Development Since 2002	 <ul style="list-style-type: none">- Confidence Inspiring Mature Technology
Least Expensive Ultra Fast SSD Product Available!	 <ul style="list-style-type: none">- Solid Access Published Pricing Confirms Our Claim

SSD

- 60K IOPS = 1 SSD
- Space = 2U
- Power = 218 W + 109 Cooling
- Total = 327 Watts
- Annual Cost = \$250
- Labor = \$0

Product Cost = \$50K (64 GB)

HDD

- 60K IOPS = 300 HDDs
- Space = Approx. 40U
- Power = 15 W + 7.5 W Cooling
- Total = 6,750 Watts
- Annual Cost = \$8,000
- Labor = Periodic Maintenance, Failed Drive Replacement, Etc.

Product Cost = \$200K

Solid Access Success Examples

Options Trading Message Capture

SSD Handles 250-320
Million Database
Insertions/Trading Day

Expected 907K/Sec
OPRA Message Not
Possible With HDD

ERP

Reduced \$15
Million Order
Backlog to \$0
Almost
Overnight

Nuclear Emissions, Water Quality Monitoring

SSD to Handle
Huge Concurrent
User Spike if
Problem Occurs

Device Monitoring

Solved HDD-related
SLA non-compliance
issues

Reduced Data Center
Server, Power,
Cooling, Space
Needs

Large Securities Firm Acquires 28 Units

Replaces High End
RAID Units for
Securities Processing

I/O Bottleneck
Resolution Allows
Added CPU Capacity

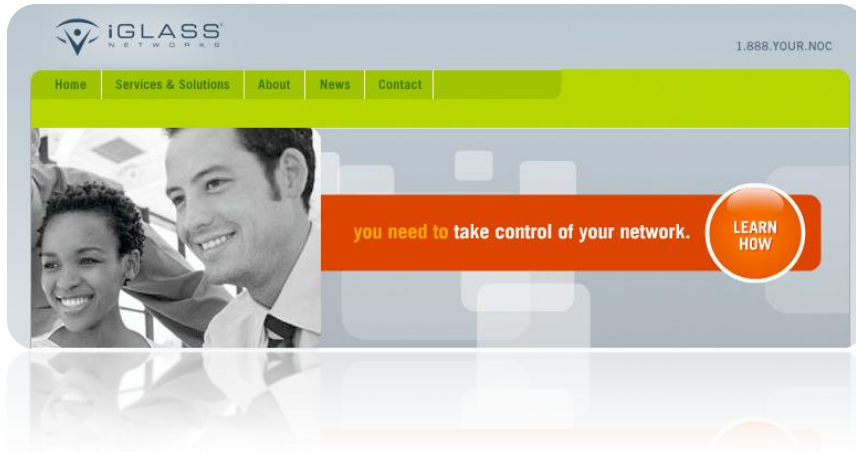
SaaS Performance Enhancement

Slow End User
Response Times
During Peak User
Periods Solved by
SSD

IT Outsourcing

5% Client
Performance
Improvement After 2
Week Consult
40% Additional "Out
of the Box"
Improvement with
SSD

Solid Access Success Story



iGLASS Networks, Cary, NC

iGLASS Networks is a SaaS (Software as a Service) provider of outsourced Network Operations Center (NOC) services for companies nationwide.

Key Issues

- Monitoring and notification of any IP-addressable device
- 24x7 real time storage access requirement with strict SLAs
- I/O bound app server approaching SLA metric failure scanning 7 M devices every two minutes
- Chronic issue not solvable by HDD devices
- Single largest performance challenge

Solution

- I/O-intensive files moved to Solid Access USSD
- Eliminated bottleneck problems and potential customer SLA non-compliance issues
- No disruption to existing infrastructure and no additional support staff requirements
- Reduced data center power, cooling and space needs

Company Background



- Introduced Universal Solid State Disc (USSD) in 2002
- International Sales, Development and Client Base
- Headquartered in Boston Area (Newburyport, MA)
- Clients include U.S. Federal Agency, European Union, Financial Services, High Technology, SaaS, Etc.
- Focus on Providing Lowest Cost, Mature SSD Offerings
- Partnerships with Known Industry Leaders (AMD, LSI Logic, Samsung, Super Micro, Powerware)

Summary



- HDD Latency is the Cause of I/O Bottlenecks!
- Perfect Storage Storm Means Adapting to New Realities
- SSD Provides Near Zero Latency Data Access
- Proven in Mission Critical Environments
- SSD as Part of Green IT Initiatives
- Solid Access is the Lowest Cost SSD Solution