MODERN INFRASTRUCTURE ASSESSMENTS

#GetModern

stotthoare | DELLEMC

The #GetModern Assessment is facilitated through the use of a unique link provided by Stott Hoare. Once downloaded, 24 hours of data is required to generate the report.

Application Data Collection

Server Data Collection

Network Data Collection

Storage Data Collection

Analysis

Converged Flash Storage Array

Software Defined Flash Storage

Flash Hyperconverged Appliance / System

SOLUTION SUMMARY – KPI

FINANCIAL

| KPIs | $12K IN ANNUAL POWER & COOLING SAVINGS | ~98% Improved Latency | 1.63:1 DATA REDUCTION | 88% LESS POWER / COOLING | 91% LESS RACK SPACE | >5x** MORE PERFORMANCE |

CURRENT ENVIRONMENT

(1) VNX 5500
(1) VNXe3200
(1) Pure m20

~2 Racks

- 202 TB Usable
- Cooling: 18K BTU/Hour
- Power: 5.3 kW
- 176 ms Response Time
- 30,388 IOPs*

Operational Management
- Manual Perf tuning, storage engineering
- No ability for data reduction
- Reactive storage tiering

*95th percentile used for consolidated arrays

EMC UNITY ALL-FLASH PROPOSED

UNITY 500F

1 Rack

- 218.09 TB Usable(355.5TB Effective)
- Cooling: 2K BTU/Hour
- Power: 0.7 kW
- < 0.8 ms Response Time
- 175,000 IOPs*

Operational Management
- Zero config work, Zero tuning, Zero engineering
- Always ON and INLINE data services

*RRM 8K blocks - 80/20 Read Write workload
*Awaiting Release of Falcon OE
**Conditional on Compression factor

SPACE IMPACT (RACK UNITS)

OPERATIONAL

38 RU   09 RU

91% Less Rack Units

4U

■ VNX 5500
■ VNXe 3200
■ Pure Storage M20

Total 47 Rack Units

Total 4 Rack Units

DELLEMC

MODERN DATA CENTER TEAM

Demo Customer
EXECUTIVE SUMMARY

Current Hybrid Environment ➔ Dell-EMC Proposed All Flash Environment

BUSINESS CHALLENGES:
- Need to Execute on a Cloud and Digital Strategy
- Data Growth Estimated to be 44x by 2020
- 75% of Budget is Spent Keeping the Lights On
- Driven to Improve SLAs with Flat Budget & Headcount

TECHNICAL/OPERATIONAL CHALLENGES:

Speed
Slow Decision Making due to Long Batch Process
Inconsistent User Experience due to Application Performance

Agility
Less Agile due to Long Provisioning Times
Hours Spent Designing Around Noisy Neighbors

Efficiency
Capital Investments Required to Build Out DC
Escalating Opex Charges due to Power/Cooling
Legacy Technology Consumes Massive Footprint

FINANCIAL OUTLOOK:

Total Spend	$450,952
7-Year Spend	$12,813,120

BUSINESS OUTCOMES:
- 4.4x Faster Time to Market for New Services
- 4.6x More Application Deployed
- 41% Less Time Keeping the Lights On
- 96% Reduction in Down Time

TECHNICAL/OPERATIONAL OUTCOMES:

Speed
75% Reduction in Batch Processing
10-20x Improvement in Application Performance

Agility
90% Reduction in Provision Tasks
10-100x Reduction in Architecture and Planning

Efficiency
83% Reduction in Floor Space
71% Reduction in Power and Cooling
2-10x Reduction in Physical Storage Capacity

FINANCIAL OUTLOOK:

Total Spend	$2,010,500
7-Year Spend	$9,948,303
7-Year Savings	$3,877,628
Return on Investment	53%

Solution Summary – KPI   FINANCIAL

KPIs

- **$36K** in annual POWER & COOLING SAVINGS
- **91.7%** LESS LATENCY
- **2:1** DATA REDUCTION
- **85%** LESS POWER / COOLING
- **84%** LESS RACK UNITS
- **5x** MORE PERFORMANCE

CURRENT ENVIRONMENT

Analyzed Average
- 308 TB Useable (No data reduction)
- Cooling: 516 BTU/Hour
- Power: 17 kW
- 9ms Response Time Latency
- ~64k IOPs
- Operational Management
  - Manual Perf tuning, storage engineering
  - No ability for data reduction
  - Reactive storage tiering

ALL-FLASH PROPOSED

All-Flash
- 353 TB Effective (@2:1 reduction)
- Cooling: 104k BTU/Hour
- Power: 2.7 kW
- <0.8 ms Response Time Latency*
- 327K IOPS*
- Operational Management
  - Zero config work, Zero tuning, Zero engineering
  - INLINE data services

Average across 400+ flash assessments completed in Q2'16

LIFETIME* MAINTENANCE PRICE PROTECTION

3-YEAR MONEY-BACK WARRANTY — 3 YEARS

LIFETIME* FLASH ENDURANCE PROTECTION — SSD

Dell-EMC Confidential   Proposal valid until 07/31/17   DELL EMC

Investment Summary

List Price	$12,000,000
Standard Discount	$3,600,000
Net Price	$8,400,000
Strategic Customer Discount	$900,000
Purchase Price	$7,500,000
Equipment Trade-In Discount	$1,500,000
Final Deal Price	$6,000,000

Proposal valid until 07/31/17

What makes VMAX All Flash Different From The Rest?

1)	Economics	7 Year Refresh Cycle, Maintenance Lock, Lowest TCO = Less Expensive Than Disk
2)	Always On	No-compromise availability, industry leading availability features. 6x9s!
3)	Modern	Modern 1OU design built for all flash with inline compression and dense SSD's
4)	Flexible	Mainframe, Open Systems. File and block support for mixed workload consolidation
5)	Start Small	VMAX 250FX starts at attractive entry points with ALL Software included
6)	Performance	Consistent low latency for DB workloads. Ability to correlate DB Server and Storage
7)	Cloud	Cloud Array connectivity to supported public and private clouds
8)	Efficient	Up to 10x Reduction in Power/Cooling/Space = Smallest Footprint
9)	Experience	SAP, Epic, Oracle, Microsoft Go To Platform = Trusted
10)	Leadership	#1 AFA Market Share & Gartner MQ Leader = Adopted

Best in Class Service, Support, Interoperability and Ecosystem from Dell EMC

Financial Metrics

Total Cost Of Ownership Savings	$3,877,628
Return On Investment (ROI)	53%
Cost of Capital	6%

Business as Usual Summary	2017	2018	2019	2020	2021	2022	2023	Total
HDS VSP								
Maint on existing array	$250,685	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$3,250,685
Power, cooling, floor space	$0	$252,000	$252,000	$252,000	$252,000	$252,000	$252,000	$1,512,000
Admin	$50,000	$0	$0	$0	$0	$0	$0	$50,000
VMax 200k								
Maint on existing array	$0	$640,247	$688,212	$0	$0	$0	$0	$1,328,458
Additional capacity existing array	$0	$200,000	$400,000	$0	$0	$0	$0	$600,000
Storage upgrade refresh	$0	$0	$0	$2,500,000	$0	$0	$0	$2,500,000
Additional capacity new array	$0	$0	$0	$0	$335,456	$307,501	$270,601	$913,558
Maintenance new array	$0	$0	$0	$0	$0	$0	$744,153	$744,153
Power, cooling, floor space	$150,267	$294,000	$294,000	$294,000	$294,000	$294,000	$294,000	$1,914,267
7-Year Spend	$450,952	$1,886,247	$2,134,212	$3,546,000	$1,381,456	$1,353,501	$2,060,754	$12,813,120
							NPV	$11,418,465

Proposed Solution	2017	2018	2019	2020	2021	2022	2023	Totals
VMax 250F								
Costs for proposed solution	$3,500,000	$2,000,000	$2,000,000	$0	$0	$0	$0	$7,500,000
Maintenance Lock In Guarantee	$0	$0	$0	$331,803	$660,000	$660,000	$660,000	$2,311,803
Power, cooling, floor space	$10,500	$21,000	$21,000	$21,000	$21,000	$21,000	$21,000	$136,500
Trade-In Value	-$1,500,000							
7-Year Spend	$2,010,500	$2,021,000	$2,021,000	$352,803	$681,000	$681,000	$681,000	$9,948,303
							NPV	$7,540,837

Cash Flow	2,017	2,018	2,019	2,020	2,021	2,022	2,023	Totals
Status Quo	$450,952	$1,886,247	$2,134,212	$3,546,000	$1,381,456	$1,353,501	$2,060,754	$12,813,120
Proposed	$2,010,500	$2,021,000	$2,021,000	$352,803	$681,000	$681,000	$681,000	$9,948,303
Difference	-$1,559,548	-$134,753	$113,212	$3,193,197	$700,456	$672,501	$1,379,754	$2,864,817

Dell-EMC Confidential   DELL EMC

Performance Impact — DATA: IOPS, Response Time, Bandwidth

Business Impact — DATA: Application Data, Workload Improvement

Operational Impact — DATA: Power, Cooling, Floor Space, Data Efficiency, Ease of Use

Network Impact — DATA: Ports, Bandwidth

Financial Impact — DATA: Current Costs, Future Costs, TCO

Server Impact — DATA: Compute, RAM, Capacity

DELL EMC

MODERN DATA CENTER TEAM