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USE CASE

Storage Economics Engagement Customer Summary

INDUSTRY: Manufacturing
REGION: Americas
BUSINESS SIZE: Enterprise

TRANSFORM VIRTUALIZATION ECONOMICS RELIABLE TRUSTED INNOVATE INFO
TION GLOBAL CHANGE INTELLIGENT TECHNOLOGY SERVICES VALUE INSIGHT
PORTUNITY SOCIAL INFRASTRUCTURE INTEGRATE ANALYZE DISCOVER COMPET

Executive Summary

XYZ Inc. is a manufacturing company that operates in 62 countries, employs approximately 26,000 individuals, and generates $7.6 billion in revenue. The current storage configuration has 236TB of usable capacity and a data growth rate of 40%. Total cost of ownership (TCO) is US$2,458,625 and TCO/terrabyte/year is US$8,240.

HDS solution (hardware and services):

- Hitachi Adaptable Modular Storage 2500 (AMS 2500).
  - Device manager software.
  - Hitachi Universal Storage Platform (USP V) externalization Hitachi Base Operating System V (BOS V) (enterprise application program).
  - Storage capacity reporter.
  - Externalization.
- Platform migration USPV.
  - USP V upgrade (45007) 18.4TB RAW.
  - 16TB useable using 300GB 15K drives (64 and 1 spare) for open systems and adding an additional 39.2TB useable.
  - 49.2TB RAW on the AMS 2500 for mainframe S-VOLS using 450GB 15K drives.
  - USP V BOS (under EAP).
  - 64 ports FED,16 Ports BED.
  - 4GB shared memory.
  - 136GB cache (Hitachi Dynamic Partitioning and high performance enabled).
- Brocade DCX Backbone.
  - 36 months premium maintenance.
  - SAN Migration Services.
  - *Trade-in of 380 ports (McData 6140).

Contents

The new XYZ Inc. services-oriented storage solution uses Hitachi Universal Storage Platform V to integrate their existing EMC arrays. HDS provides SAN Migration Services. This complete migration to a single storage console will meet a lower tier need and defer the lower tiered asset cost of growth. USP V delivers dynamic functionality for all virtualization, thin provisioning, and tiered storage. The backup is enhanced to provide full archive deployment and deduplication is implemented as its preprocess.

This HDS solution presents a new storage infrastructure for XYZ Inc. with net new storage arrays, complemented by the previously purchased and now virtualized EMC arrays. This solution reclaims 56TB (24%) and will require a US$732,145 investment.

A storage service catalog is defined by XYZ Inc. to capture the capabilities and relevant costs that are charged (or could be charged) to end users of storage. It includes tier definitions, an SLA, and an OLA. This catalog is required in order to properly plan a storage strategy for cost reduction, and defines the TCO baseline to be used in an econometrics dashboard.

The estimated investment payback period is 3 months. Year 1 will conclude with a net savings of US$1,469,022, and after year 4, XYZ Inc. will have saved a total of US$6,709,856. TCO/terabyte/year will be reduced from the original US$8,240 down to US$1,502 in year 4.

Key Financial Metrics

Category	Key Financial Metrics
Investment (US$)	667,615 (total 4-year investment)
Estimated payback period	3 months after implementation
Savings (US$)	6,709,856 (total 4-year savings) 5,396,764 (net present value)
Internal rate of return (IRR)	276.53%
Return on investment (ROI)	251% (Savings/no. of years/investment)

Company Information

Company name	XYZ Inc.
Region	Americas
The country of company headquarters	**CONFIDENTIAL**
Countries the company operates in:	62
Company size (employees #):	26,300
Company size (revenue $):	US$7.6 billion
Industry	Manufacturing

Business Information (before HDS engagement)

Business overview	**CONFIDENTIAL**
Corporate vision	**CONFIDENTIAL**
Corporate goals	**Economical** ■ Capex reduction. ■ Opex reduction. **Technical** ■ Manage 40% data growth.
Challenges	**Data growth %** ■ Underutilization of assets. ■ Labor issue. ■ Performance issues. ■ Migration disruption.
Cost sensitivities:	■ Depreciation. ■ Cost of waste. ■ Hardware maintenance. ■ Software maintenance. ■ SAN and LD circuits. ■ Consoles. ■ Backup server. ■ DR site (Sunguard) circuits. ■ DR tape library (Sunguard fees). ■ Storage management labor. ■ Floor space. ■ Power and cooling. ■ Migration. **Note:** the above costs were all determined to be hard costs, except for Litigation, e-Discovery risk, Floor space, and DR risk.

Technical Information (before HDS engagement)

Storage Hardware

- Total usable capacity – 236TB.
  - 90% or 210TB allocated to hosts.
  - 91TB allocated on mainframe.
    - 2 HDS storage frames.
- 145 allocated on open systems.
  - 6 EMC frames.
  - Overall utilization estimates 91TB of data (including copies) in the environment.
  - Average age of the 8 arrays is 3 years.
- Partition and depreciation cost:
  - Tier 1: 145TB at US$13/GB.
  - Tier 2: 85TB at $9/GB.

Storage software:

- Complete upgrade to all systems.
- Management, Reporting, Monitoring.
  - 5 FTE per year at $151,000 per person.
- Migration.
  - 500 man-hours per year

Storage metrics (where previously measured)

- TCO/terabytes/year : $8,240.
- Identified high-cost areas:
  - Cost of waste.
  - Reallocation and redistribution needed to move copies and some data from Tier 1 to Tier ¾.
  - Use what already have, limit Tier 1 purchase in 2009, and invest more with Tier 3 and 4. Make significant plans to reduce the cost of growth, especially in 2009 and early 2010.
  - Cost of labor can be addressed with faster provisioning, reduced number of consoles, better reporting, and capacity planning tools. Single unified management platform for SAN, storage, NAS, and data protection.
  - Move from data level Tier 4 to indexes/ingestion with archive approach.
- The key combinations of technology that XYZ Inc. should consider are:
  - Storage virtualization.
  - Dynamic tiered storage.
  - Policies and procedures for data aging, deletion or compression.
  - Dynamic provisioning (thin provisioning).
  - Integrated archive sharing a common storage pool.
  - Central advanced backup (VTL, disk-based backup, de-duplication) solutions using a common storage pool.
  - Integrated SAN and NAS pools that service a variety of hosts and applications.

Solution and Services Information (our products and solutions deployed)

Storage hardware

- Adaptable Modular System 2000 Family (AMS 2XXX), Lightning 9900 V Series, Universal Storage Platform, and Hitachi Virtual Storage Platform (VSP)
- USP V
- AMS 2500
- 9980
- EAP VSP Customer

Storage software

- BOS, BOS V, Hitachi Device Manager (HDvM), Hitachi Storage Services Manager (HSSM), Hitachi Tiered Storage Manager (HTSM), Hitachi Content Platform (HCP), Hitachi Dynamic Provisioning, Hitachi Resource Manager, Hitachi ShadowImage In-System Replication (SI), Hitachi Universal Volume Manager (UVM), Hitachi Virtual Partition Manager (VPM), Others.
- Hitachi Storage Management and Hitachi Command Suite, including Hitachi Device Manager and Hitachi Storage Services Manager software; Hitachi Resource Manager utility package; Hitachi Virtual Partition Manager, Hitachi ShadowImage Heterogeneous Replication, and Hitachi Universal Volume Manager software, capacity reporter.
- Per TechValidate survey 11/11:
- Significant value from HCP through:
  - Backup-free (no need for tape-based backup/DR).
  - Storage efficiency (compression, single instancing, better utilization).
  - Three terabytes of primary storage capacity saved by moving data to HCP.
  - Five hours of time saved on a full system backup by moving to HCP.
  - Running file tiering applications on HCP.

Resulting Benefits

Overview (sources of savings)

- Purchase avoidance: Tiered storage – 33%.
- Data Remastering: Migration – 28%.
- Hardware and software maintenance savings: 23%.
- Environmental savings: 6%.
- Reclamation: Thin provisioning – 6%.
- Storage area management savings: 2%.
- Reclamation: Virtualization – 2%.

Technical

- Capacity reclaimed: 56TB.

Economic

- Total 4-year savings: $6,709,856.
  - Capex avoidance (US$)
    - Year 1: 397,306.
    - Year 2: 490,170.
    - Year 3: 600,155.
    - Year 4: 730,190.
- TCO/terabytes/year is reduced from the original US$8,240 down to US$1,502 in year 4.
- Other improvements/reductions:
  - ROI – 251%.
  - TCO (US$):
    - Baseline: 2,458,625
    - Year 1: 1,597,009
    - Year 2: 1,438,456
    - Year 3: 1,362,315
    - Year 4: 1,362,315

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