MARK JEFFERY

Shilling & Smith Acquisition of Xteria Inc.:
Data Center Technology Leasing

Barbara Liss, who had recently been appointed president and chief executive officer of retail chain Shilling & Smith, sat in her office reviewing the closing papers on her first major acquisition as CEO. Liss had led the negotiations as Shilling & Smith purchased a small credit card billing company, Xteria Incorporated, which had been acquired to help improve Shilling & Smith's current billing process.

Liss had been hired to cut costs by leading Shilling & Smith's transaction processing into the twenty-first century. In the past, the company had been slow to adopt new technologies and processes, and it was not cost-competitive with its competition. As she sat in her office, Liss contemplated how best to leverage Xteria's expertise, technology, and processes to aid Shilling & Smith's billing function. Before the acquisition, Xteria had been processing 100,000 transactions per week. Now, Xteria would need to process ten times that amount—one million transactions per week—for Shilling & Smith. Therefore, Shilling & Smith needed to scale the current Xteria data center in order to handle the increase in transaction volume.

Bryan Eisert, Shilling & Smith's chief information officer, was ultimately responsible for recommending the appropriate scenario. He and Liss had decided that the best financial approach was to lease the new information technology (IT) infrastructure necessary to scale Xteria's current data center. There were three possible leasing scenarios, and Eisert had not been able to give Liss a definitive answer when she asked which was the best.

This was a critical strategic initiative, and Liss knew that the new data center and the organizational changes for the two companies had to be fully completed in time for the holiday season. Liss gave Eisert's team a week to come up with a recommendation on which financing option she should approve. She wanted to move quickly so that no momentum was lost after closing the deal.

Shilling & Smith

Shilling & Smith was a large regional retail company started as a small family business in 1895. The company owned and operated 125 department stores throughout the Midwest. Shilling & Smith focused its sales largely on apparel for men, women, and children; accessories such as

high-end jewelry; and medium- to high-end kitchen, home, and bedroom furnishings. In 2001, Shilling & Smith generated $1.2 billion in sales and had excellent credit, with a 6 percent debt rate. The Shilling & Smith weighted average cost of capital (WACC) was 15 percent, and the company's tax rate was 34 percent.

Xteria Inc.

Xteria Inc. was a small credit card bill processing company located in Chicago, Illinois. Historically, Xteria's customer base had been small to medium-sized retailers who could not afford to process their own billing. In addition, Xteria also had several clients who had private-label credit cards and who outsourced their bill processing to Xteria.

Xteria's advantages were its technology infrastructure, efficient processes, and thirty-five years of experience. Xteria was a private, family-owned business that generated $125 million in revenue the year before the acquisition and had little debt on its balance sheet.

Corporate Data Center Architecture

The typical corporate data center consists of four major components: servers, storage, network, and backup. A typical data center architecture based on HP servers and EMC data storage is shown schematically in **Exhibit 1**.

Servers

Servers, powerful computers designed to process many simultaneous requests, host the business applications. The primary industrial vendors in 2006 were HP, Sun, and IBM for servers running UNIX operating systems, and Dell and HP for servers running Windows 2003. The servers are shown in the top left in Exhibit 1.

Storage

Enterprise data storage is an essential component of a corporate data center. Put simply, data storage is the warehouse for all of the "bits" of information for business processes and customer transactions a company stores. In recent years, customer relationship management (CRM) and knowledge-sharing enterprise applications had dramatically increased the amount of data storage a company required. Data storage systems were characterized by many hard disks that wrote duplicate copies of data in case of system error, also known as RAID (redundant array of independent disks) data storage. These disks were stored in boxes that resembled refrigerators.

An important factor for corporate data storage is redundancy in case of system failure. Exhibit 1 shows the main data storage system mirrored with an identical data storage system. The primary data storage is connected to the right of the servers, and the mirrored storage is shown schematically connected underneath the servers. The mirrored system could be either on-site or at a different physical location.

Networks

The network consists of the physical wires, hubs, and routers that connect the data center together. In recent years, storage area network (SAN) technology had enabled very fast scalable data storage solutions with gigabit fiber-optic connections.

Backup

Backup is an essential component of a data center. Exhibit 1 also shows a backup data storage system (which backed up the two primary mirrored storage systems) and the magnetic tape backup. Typically, the entire data center was backed up daily to magnetic tape. Depending on the importance of the data, the tapes from the backup might be shipped off-site daily or weekly to a secure location.

In the case of Xteria, the infrastructure at the existing Shilling & Smith data center could serve as both the mirrored data storage and the backup data center.

New Infrastructure

The new equipment required for the Xteria data center expansion is listed below, with brief descriptions of each component.

(4) rp8400 HP Keystone UNIX servers

HP UNIX servers were engineered to operate and run large-scale applications and databases. HP's high-end architecture was ideal for the specific demands of online transaction processing workloads, system consolidation, decision support systems, and collaborative product development. The HP UNIX server was upgradeable, and therefore its useful life could be extended as capacity was added to meet future client requirements. **Exhibit 2** contains additional background information on the HP Keystone server.

(1) 8730 EMC frame, 20 terabytes of usable storage

EMC's enterprise storage systems allowed IT managers to easily and effectively manage all information across the enterprise. This was accomplished by unhooking the storage of data from the servers that operated the applications. Storage systems provided the ability to easily share resources, centralize backup, and consolidate storage requirements.

In 2002, the storage costs for corporations were growing at approximately 65 percent a year. This growth rate outstripped the growth rate of server capacity, resulting in a scenario where the useful life of the EMC equipment was less than that of the HP servers. **Exhibit 3** contains additional information on the EMC data storage solution.

(20) HP Netservers

Netservers were the front line connections of external users with the data center. The HP Netservers allowed IT management the ability to effectively manage the data center. Maximizing uptime was done through redundant components, intelligent subsystems, and server clustering. Netservers could be managed locally and remotely for optimal control. **Exhibit 4** shows the HP Netserver and gives more information.

Cisco networking equipment (routers, switches, etc.)

Cisco provided the hardware that connected storage subsystems to servers or to a storage network. Essentially, the Cisco equipment consisted of all the components that connected the EMC storage devices to the HP Keystone and Netservers.

Detailed Breakdown of Infrastructure Costs

The new equipment required for the Xteria data center expansion is listed below with the hardware and software costs breakdown as of January 2002.

(4) rp8400 HP Keystone UNIX servers

- Hardware: $500,000/server
- Software: $100,000/server

(1) 8730 EMC frame, 20 terabytes usable storage

- Hardware: $2.2 million
- Software: $500,000

(20) HP Netservers

- Hardware: $800,000 total

Cisco networking equipment

- $1 million total

Integration team

- Six months of professional services: $580,000 total

Scenarios

Shilling & Smith had an excellent history with the leasing company, Forsythe Solutions, so Forsythe had offered the same debt rate for hardware, software, and other soft costs. The three term sheets that Eisert needed to review for Liss were broken down into the following three scenarios.

Scenario 1:

- One monthly budgeted number for the new Xteria data center: hardware and software
- 36-month lease agreement
- I/S would be billed as a cost center
- 8 percent debt rate for software and hardware and 11 percent equity insertion

Scenario 2:

- Operating lease on hardware
- Purchase software and professional services up front[1]
- 24- to 36-month leases
- 24-month lease financed at 7 percent debt and 14 percent equity insertion
- 36-month lease financed as outlined in Scenario 1

Scenario 3:

- Lease HP Keystone equipment for 36 months
- Lease EMC equipment for 24 months
- Lease HP Netservers for 24 months
- Purchase software and professional services up front
- Purchase Cisco equipment
- 36-month lease financed as outlined in Scenario 1
- 24-month lease financed as outlined in Scenario 2

Next Steps

As Liss discussed with Eisert, since the acquisition the IT budget had been tight, and ideally the lease terms would match the company's cash flows. That is, the lease payments would start once the system was in production six months later; this would help compensate for the cyclical nature of the retail industry.
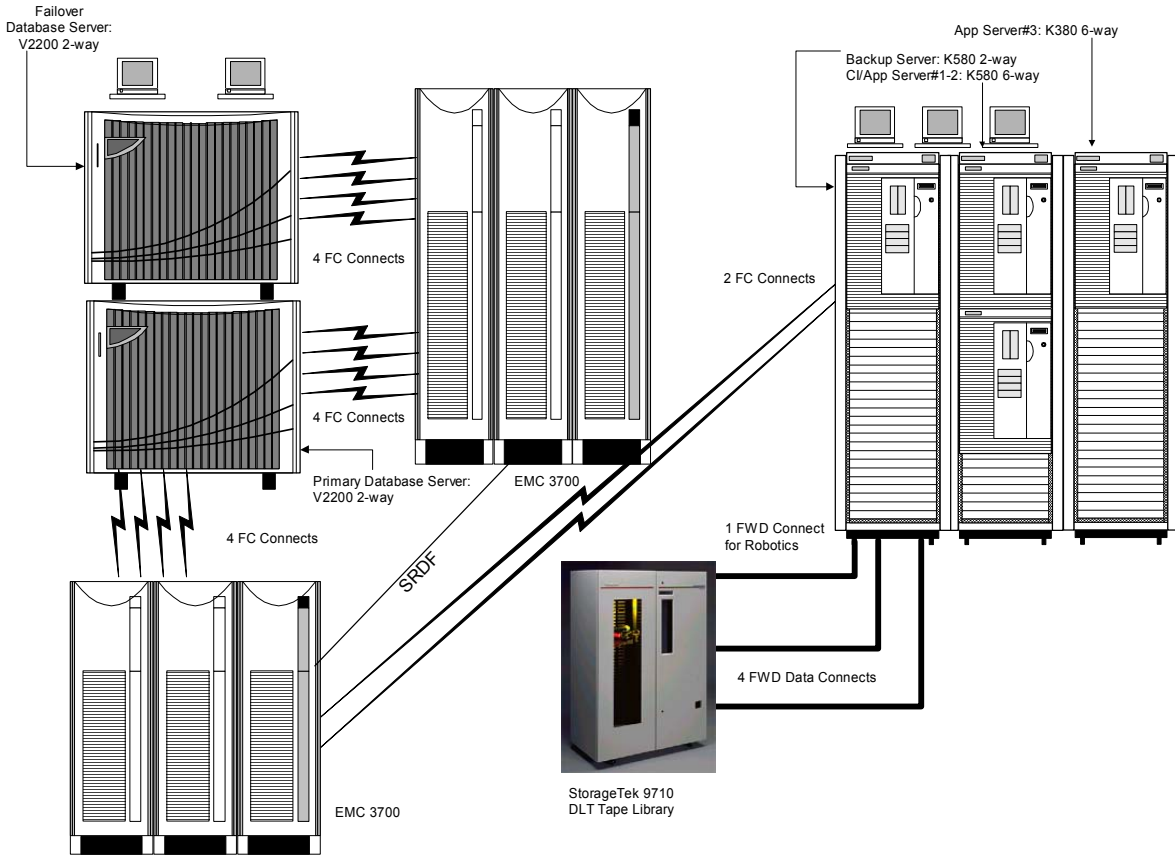
Eisert was working closely with Mike Conley, a district manager at Forsythe Solutions. Conley was helping Eisert define a scenario that best met Shilling & Smith's requirements.

The deadline was fast approaching, and Eisert knew that his future success at Shilling & Smith—as well as Liss's—would be greatly influenced by his recommendation. He was struggling to figure out the lease payments and the optimal scenario. The lease rate factor analysis felt foreign to the seasoned technology manager. He wondered which option would turn out best for the company.

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[1] Software and professional services purchased as part of a project must be capitalized. Here, for simplicity, an assumption of three-year straight-line depreciation should be used.

Exhibit 1: Corporate Data Center Architecture

Failover
Database Server:
V2200 2-way

App Server#3: K380 6-way

Backup Server: K580 2-way
CI/App Server#1-2: K580 6-way

4 FC Connects

2 FC Connects

4 FC Connects

Primary Database Server:
V2200 2-way

EMC 3700

4 FC Connects

SRDF

1 FWD Connect
for Robotics

4 FWD Data Connects

EMC 3700

StorageTek 9710
DLT Tape Library

Exhibit 2: HP rp8400 Server

TECHNICAL SPECIFICATIONS:

- 2 to 16 PA-8700 processors at 650MHz or 750MHz

- 2 to 64GB memory capacity

- Operating System: HP UNIX 11i

- Connectivity: Core I/O: 10/100/1000Base-T LAN Add-in cards: ATM, Token Ring, FDDI, 1000Base-SX, 1000Base-T, 10/100Base-T, Ultra2 SCSI, Ultra3 SCSI, FW, Fibre Channel, terminal MUX, X.25, Hyperfabric

- Chassis designed for several future generations of PA-RISC and Itanium processors. Interchangeable components with other HP servers and storage solutions

EXCERPT FROM THE HP WEB SITE (*WWW.HP.COM*) DESCRIBING THE HP RP8400:

"The feature-rich HP Server rp8400 leads the industry in the midrange UNIX server category. As the ultimate midrange server for your mission-critical applications, the HP rp8400 delivers unparalleled scalability, flexibility, and lasting value. The PA-8700-based HP rp8400 features full integration and partitioning services along with a complete array of support options. And when compared to competing solutions, the HP rp8400 is #1 in midrange performance across the board, which makes it your best choice for demanding enterprise, technical, and Internet-focused applications.

"The competitive landscape is driving more and more enterprise, service provider, mid-market companies, and global e-marketplace players to transform their businesses by embracing service-centric computing while increasing ROI and decreasing TCO. Rapidly transforming, price-conscious markets make the HP rp8400 the right UNIX midrange choice for delivering today's business-critical computing benefits."

Exhibit 3: EMC^2 Symmetrix 8000 Enterprise Information Storage Systems

EXCERPT FROM THE EMC WEB SITE (*WWW.EMC.COM*) DESCRIBING THE SYMMETRIX 8000:

"The Symmetrix 8000 family is EMC's fastest, highest capacity line of intelligent enterprise information storage systems. These systems enable you to consolidate storage from virtually all major mainframe, UNIX, Windows 2000/NT, PC LAN, and AS/400 servers—with unprecedented levels of performance, capacity, availability, and manageability.

"New Symmetrix lineup: increase productivity and lower costs through 'hyper-consolidation.'

"Our newest three models offer over 100 enhancements and new technologies that deliver advanced performance and functionality—without adding chaos and increasing operational costs.

- Symmetrix 8830: Up to 70TB of storage with the throughput, capacity, and connectivity to support the largest data center consolidations and information infrastructures

- Symmetrix 8530: Increased capacity and performance for multiple applications

- Symmetrix 8230: Full Symmetrix functionality in the smallest footprint ever

Reduce cache queuing, improve system performance

"With our exclusive global cache directors with CacheStorm™ technology, cache queuing is drastically reduced for improved system and application performance. And, with new Fibre Channel directors, EMC offers the industry's first embedded switch technology—increasing server connectivity for enterprise-wide consolidation with less cost and complexity."

Exhibit 4: HP Netserver

TECHNICAL SPECIFICATIONS:

- Updated with latest Pentium® III technology

- Up to 50 percent increase in performance

- Dual Intel® Pentium® III processors at 1.26GHz, 1.13GHz, 1GHz, 933MHz, and 866MHz

- 4GB memory support, three internal hotswap drives, dual channel Ultra3 SCSI, dual 10/100 LAN adapters

- 1U form factor allows up to 42 servers in a two-meter rack

- Easy to deploy, tool-less rack solution

- Comprehensive remote manageability options

EXCERPT FROM THE HP WEB SITE (*WWW.HP.COM*) DESCRIBING THE HP NETSERVER:

"The HP Netserver LP 1000r is an ultra-thin rack-optimized server that offers superior performance and scalability for customers who want to grow their business without growing their valuable data center space. The LP 1000r is ideal for dedicated applications as well as Web hosting, Internet/intranet, proxy, caching, access, DNS, infrastructure, or file and print services for both fast-growing Internet service providers and corporate enterprise customers. The product's ultra-thin 1U form factor delivers rack space optimization without sacrificing performance, expandability, serviceability, or manageability."