

China Construction Bank

Improving Storage Utilization By 50 Percent with Symantec Solutions Helps Build Asia's Most Profitable Bank

Faced with increasing competition, China Construction Bank needed to consolidate, unify, and streamline its storage infrastructure. Symantec data management solutions delivered a 50 percent improvement in storage utilization, the ability to avoid 10TB in new storage, and the capability to manage a 50 percent annual increase in data without adding any administrative hours. The bank has 40 percent fewer storage administrators than many similar-sized competitors.

Organization Profile

Founded in 1954, China Construction Bank (www.ccb.com) is based in Beijing and is one of the top state-owned commercial banks in China, with more than 20,000 branches and 300,000 employees.

Industry

Financial Services

Solution

Data Management

Tough beginnings

Some of the most worthy success stories are about how to make the best out of a difficult beginning. They read less like a brochure from marketing and more like a solved ticket from the help desk.

This is the case with China Construction Bank (CCB). It was founded in 1954 as a state-owned bank with strictly enforced controls. Now with China's entry to WTO, CCB must compete in a rapidly decentralizing, market-driven economy against increasing competition. It is busy transforming itself, and had been gone public in 2004.

Giving people what they want

As demonstrated by its business results, CCB is adapting well. It continues to expand its full line of financial services in the corporate, personal, and treasury banking sectors. CCB is also aggressively rolling out new services such as online banking.

And it is surprising observers. The July issue of the Hong Kong-based financial journal Asiaweek ranked 300 financial institutions and determined that China Construction Bank is the most profitable bank in Asia.¹

Along the way, CCB has amassed assets that as of June 30, 2005, would put it among the five largest banks in the United States, if it were based there.²

Unifying a diverse infrastructure

One of the challenges of the bank's transformation has been to take a heterogeneous, less-than-ideal IT infrastructure and transform it into a highly efficient one, capable of supporting wins in a competitive environment.

“Veritas Command-Central Storage answers important questions: What data do we have? Where is it located? How is it being used? And is it in the right place?”

Zhishen Zhang

Head of Operation Center's Equipment and Environment Management department, Beijing Headquarters
China Construction Bank

Thanks to better storage utilization, the customer can roll out four new products while avoiding purchase of 10TB of added storage.

An important step in this direction occurred in early 2005. The bank consolidated 38 data centers from each of the provinces into two: a data center in Beijing to serve branches in Northern China, and one in Shanghai to serve branches in Southern China. Staffing the bank's 20,000 branches are 300,000 employees.

The storage infrastructure at CCB consisted of an EMC DMX Symmetrix 8530 disk array and a Hitachi Lightning 9970V disk array, devices that did not work together. As a result, the bank either had to make an expensive investment in additional storage, or find a management tool that could unify the arrays, pool their resources, and be capable of efficiently handling a 50 percent annual increase in data.

says Zhishen Zhang, head of Equipment and Environment management department of Operation Center of Beijing Headquarter, China Construction Bank. "We found Veritas Storage Foundation™ and Veritas™ CommandCentral™ Storage to be more reliable, complete, and stable software solutions than FalconStor. They offer administrative efficiencies that FalconStor could not offer. Symantec also has better support in China."

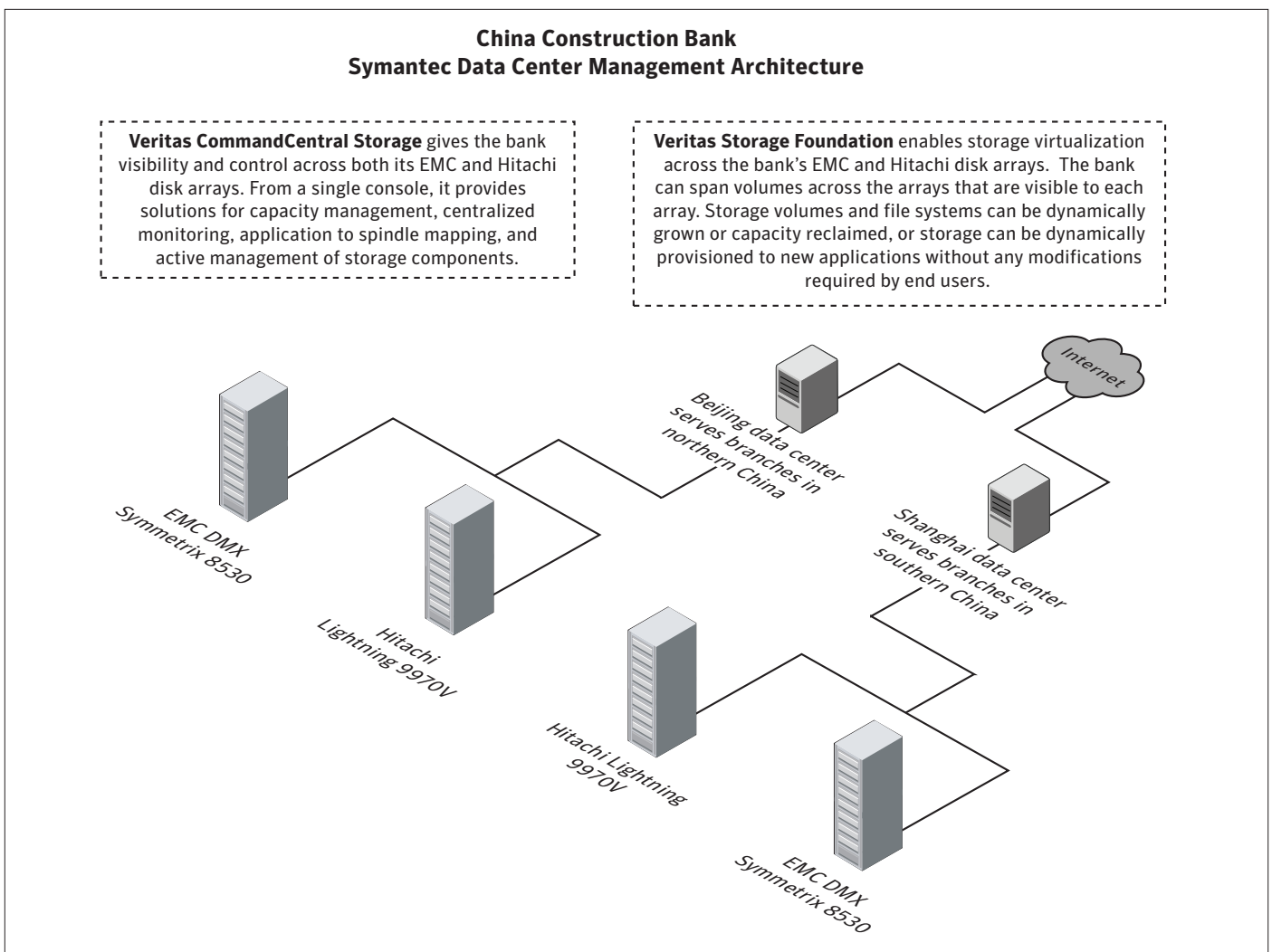
So in October 2005, CCB deployed Veritas Storage Foundation and Veritas CommandCentral Storage to pool, monitor, and manage its storage resources. The solution has since delivered many benefits.

Which tool is best?

"We evaluated data management solutions from FalconStor, and also Veritas solutions from Symantec,"

From a single console

"CommandCentral Storage gives us visibility and control across both disk arrays," Zhang says. "From a single console, it gives us solutions for



capacity management, centralized monitoring, application to spindle mapping, and active management of storage components.

“Veritas CommandCentral Storage makes it easy for us to identify wasted space and improve utilization. We can plan capacity better and spend our storage budget more efficiently. It answers important questions: What data do we have? Where is it located? How is it being used? And is it in the right place?”

The power to adapt fast

Drawing on the overview of resources that CommandCentral provides, the team uses Storage Foundation to efficiently make changes.

“Storage Foundation enables storage virtualization across our EMC and Hitachi disk arrays,” Zhang says. “We can span volumes across the arrays that are visible to each array. Our storage volumes and file systems can be dynamically grown or capacity reclaimed, or storage can be dynamically provisioned to new applications without any modifications required by our end users.”

The effect has been dramatic. “The Symantec solution,” Zhang concludes, “has improved our storage utilization by 50 percent.”

One benefit occurred when the bank recently rolled out four new product offerings. The IT team was able to avoid the purchase of 10TB in additional storage.

“Using CommandCentral, we identify storage that is stranded, orphaned, or unused. And we can easily reassign it,” Zhang says. “With the dynamic disk feature of Veritas Storage Foundation, we can do storage reallocations in minutes, on the fly, that would have previously required hours of downtime to accomplish.”

The dynamic disk feature of Storage Foundation has enabled the IT team to eliminate 10 hours a month of

SOLUTION AT A GLANCE

Business Drivers

- Consolidate, simplify, and centralize IT operations to support growth and profitability
- Reduce IT overhead
- Scale while leveraging existing investments in storage hardware

Technology Challenges

- Streamline and simplify storage administration to support massive storage consolidation
- Unify and centralize management of heterogeneous storage platforms
- Increase storage utilization
- Reduce planned downtime for maintenance and storage allocation changes

Solution

- Comprehensive Symantec data management

Symantec Products

- Veritas Storage Foundation™
- Veritas CommandCentral™ Storage

Technology Environment

- Applications: CCBS (custom core banking application)
- Databases: IBM Informix 9.3, Oracle 9i
- Server Platform: 10 IBM System p 670 running IBM AIX, 10 HP 9000 Superdome running HP-UX
- Storage: EMC DMX Symmetrix 8530, Hitachi Lightning 9970V
- Tape Library: Sun StorageTek L180

Symantec Products

- Symantec Technical Support
- Symantec Consulting Services

downtime that had been scheduled for routine storage allocation changes. “An hour of planned downtime can cost the bank tens of thousands of RMB in lost productivity,” Zhang says. Based on an estimate of 20,000 RMB an hour (2,500 USD) for lost productivity during downtime, the Symantec solution returns 2.4 million RMB (300,000 USD) a year of productive uptime to the bank from the Storage Foundation dynamic disk feature alone.³

Migration made easy

Storage Foundation also made the bank's data center consolidation easier. “With Storage Foundation's Portable Data Container feature, our IT team can deport data from one operating system and import it on another in minutes, without ever

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BUSINESS VALUE AND TECHNICAL BENEFITS

Operational Efficiency

- 50% improvement in storage utilization
- Ability to make storage allocation changes in minutes instead of hours
- 50% annual increase in data accommodated with no increase in storage administration overhead

Cost Avoidance/Savings

- 50% savings projected from freedom to choose from multiple storage vendors
- Purchase of 10TB of storage avoided due to improved utilization
- 2.4 million RMB (300,000 USD) annual savings by eliminating 10 hours/month of planned downtime
- 40% fewer storage administrators than many similar-sized banks

Payback

- 100 percent payback on Symantec solution within one year

“Recently, the bank surveyed our IT department on the quality of service we’re receiving from outside vendors. We gave Symantec Technical Support one of the highest ratings.”

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creating a copy of the data or moving the data,” Zhang explains. “Storage Foundation quickly and automatically converts the data for a new platform, either UNIX or Linux. That and many other features help us migrate data faster.”

The Symantec solution has streamlined storage administration at CCB. It provides one storage tool for both the EMC and Hitachi arrays, simplifying training. It also has an easy-to-use graphical interface and wizards that simplify and automate many processes. “With the Symantec solution, our administrators manage a 50 percent annual growth in data with no increase in hours or staff,” Zhang says.

Lean, efficient staff and budget

The bank has 40 percent fewer storage administrators than many similar-sized banks, contributing to its profitability.

“One of the most important benefits of the Symantec solution will be down the road,” Zhang says. “Because Storage Foundation and CommandCentral span heteroge-

neous hardware and platforms, we have the freedom to choose and negotiate more widely among storage vendors. That will mean as much as a 50 percent savings in storage hardware acquisition costs as we grow.”

The bank is pleased with its Symantec solution. “We have achieved 100 percent payback on it within one year,” Zhang says.

“Symantec Consulting Services has been very valuable to us in the design and planning of our storage solution,” Zhang concludes. “They were helpful advising us on how to solve any challenges that arose during deployment.

“Symantec Technical Support has paid off, also. Recently, the bank surveyed our IT department on the quality of service we’re receiving from outside vendors. We gave Symantec Technical Support one of the highest ratings of all vendors.” ■

¹ “CCB rises as the most profitable bank in Asia” press release at www.ccb.com.

² CCB’s assets as of June 30, 2005 were 4,224 billion RMB (528 billion USD). According to “United States’ Largest Banks” at infoplease.com, this amount would make it among the five largest banks in the United States if it were based there.

³ 20,000 RMB/hour*10 hours per month*12= 2,400,000 RMB/year=\$300,000 USD.