

# PREMIER Bankcard Improves Data Warehouse, Gains Over \$5.6 Million in First-Year Benefits with HP Server and Storage Solution



Based on the wealth of detail available, analysts can better determine the profitability of potential customers.

In order to sustain high rates of growth, credit card companies must find ways to continually find new high-value customers. To continue its high growth rate, PREMIER Bankcard relies on targeting new, profitable customers through the use of business intelligence software used by its analysts. Its data warehouse had a difficult time supporting the analysts— it took too long for analysts to get data out of the warehouse, and it took a substantial amount of time to load new data into the warehouse as well. Additionally, the performance of the business intelligence platform was not keeping up with analysts' needs. To solve the problem, PREMIER Bankcard chose HP 64-bit Integrity servers and HP StorageWorks Enterprise Virtual Array systems. The solution has allowed PREMIER Bankcard to develop a high-performance, unified data warehouse and business intelligence platform to support its analysts. As a result, the company has been able to continue growing at a rapid pace, and the solution has led to a first-year benefit of over \$5.6 million, and will yield a projected five-year cumulative benefit of nearly \$63 million.

## Benefits

Objective	Benefits Achieved
Maintain a highly available, centralized data warehouse	Improved data warehouse performance; all data is kept in a single, central location, rather than spread out between the data warehouse and users' desktops.
Speed up access to information in the data warehouse	Query time has been significantly reduced; complex queries that previously took 22 hours now only take 45 minutes.
Ensure that information in the data warehouse is up to date	Data can be loaded into the data warehouse 30 percent faster, giving analysts the most up-to-date information possible.
Decrease application contention and improve application performance	Performance increases have been dramatic; some tasks that used to take 14 minutes now take less than two minutes. There has been a 100 percent performance increase for many features.
Increase the productivity of analysts	Improved access to data, and better application performance, allows analysts to spend more time analyzing data, and less time accessing it. They now spend from 80 to 90 percent of their time analyzing data, up from 50 percent previously.

## Challenge

PREMIER Bankcard needed to improve the productivity of its data warehouse, support and grow its internal analytic workforce, better target potential customers, and centralize data access and storage.

## Solution

HP 64-bit Integrity servers and HP StorageWorks Enterprise Virtual Arrays (EVA5000 systems)

## Results

A first-year benefit of over \$5.6 million and a projected five-year net benefit of nearly \$63 million, driven by increased revenue from improved analyst productivity. An annual ROI of 740%, a payback period of five months, and a total five-year net benefit per analyst of almost \$1.5 million. Improved performance of its data warehouse, centralized data access and storage, and enhanced ability to target the most profitable customers.

### About PREMIER Bankcard

PREMIER Bankcard, headquartered in Sioux Falls, South Dakota, is one of the nation's leading credit card providers to the underserved, yet creditworthy market. Since its founding in 1989, it has offered credit cards to customers who in the past have had a poor-performing credit history, and has helped millions of individuals and families re-establish their credit.

PREMIER Bankcard is now among the top 14 credit providers in both VISA® and MasterCard®, serving over 3.1 million customers nationwide. It has achieved some of the highest service levels in the industry, and is the eleventh largest Microsoft data warehouse in the world. It has 2,200 employees located in five locations in South Dakota and is the sister organization to First PREMIER Bank, also located in South Dakota.

### The Challenge: Improve Performance of the Data Warehouse and Analytic Applications

PREMIER Bankcard has experienced explosive growth since its founding, going from 1,000 credit card accounts in 1989 to approximately 2.5 million accounts by late 2004. By the end of 2004, it was adding accounts at a rate of 140,000 each month.

Growing at this rate, it had become more difficult to find new, high-value customers. In order to continue to sign up these customers, PREMIER Bankcard had to do a better job of data mining and analysis. The company needed to be able to find potential customers, and once it found them, had to be able to make the right decision about whether to offer them its credit cards.

The key to finding customers and making the right applicant decisions was its data warehouse and business intelligence applications. PREMIER Bankcard was experiencing difficulties with them, however. It was taking too long to load data into the warehouse, and once the data was in the warehouse, data access was slow. In some instances, it took 22 hours for a query to complete.

“We had to find a way to improve the performance of our analysts. They are responsible for helping us gain new customers and new revenue, so making them more productive is key to the growth of PREMIER Bankcard”

— Scott Erkonen, Managing Officer of Networking, PREMIER Bankcard

PREMIER Bankcard chose the HP solution because it had found HP hardware to be error-free, reliable, and easy to maintain, and HP support extremely responsive. HP's sophisticated and easy-to-use management tools were a key contributing factor, because they allowed PREMIER Bankcard to easily deploy computing resources where they are most needed. It also wanted a scalable solution, and 64-bit architecture for the performance boost it would offer.

#### Driving the Need for a New Solution

PREMIER Bankcard needed to upgrade its data warehouse and business intelligence solution for a variety of reasons. It was looking to do the following:

- Improve the speed of data loading. It was taking too long for PREMIER Bankcard to load data into its data warehouse, so analysts did not necessarily have the most up-to-date information possible for their work.
- Speed up data queries. A single query could take as long as 22 hours, affecting analyst productivity.
- Eliminate application slowdown and contention. PREMIER Bankcard's servers could not keep up with demand, and so applications performed slowly. There was contention between applications when users loaded and ran them.
- Maintain a centralized data warehouse. Because of the problems with the data warehouse, and the slowness of queries and poor application performance, analysts were not relying on the existing data warehouse. They would take data out of the warehouse and store it locally, where they processed and worked with it. This led to problems because there was then no single, centralized location for data.
- Hire more data analysts. PREMIER Bankcard wanted to increase the number of in-house analysts. To do so, it needed to upgrade the infrastructure so that it could support additional analysts.
- Improve the performance of its analysts. Because data was not always easily available, and because processing queries could take a significant amount of time, PREMIER Bankcard analysts were not as productive as the company wanted them to be. In order to sustain high growth, the company needed to make the analysts more productive.

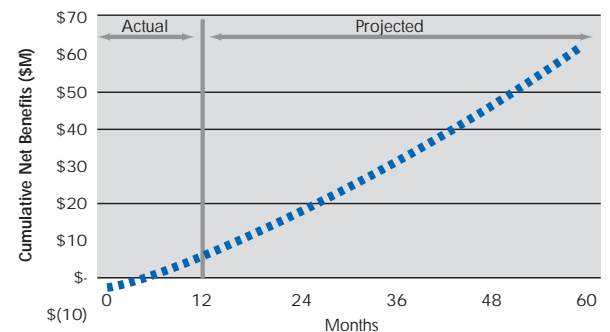
#### PREMIER Bankcard Chooses HP Servers and Storage

PREMIER Bankcard recognized that it needed to upgrade its infrastructure, data warehouse, and business intelligence system. It formed a committee to examine potential solutions from a variety of vendors. The committee examined several solutions, including those from IBM, Teradata, and Oracle. It chose a 64-bit Itanium 2-based solution from HP, Microsoft, and SAS, as well as HP StorageWorks Enterprise Virtual Arrays for the data warehouse.

PREMIER Bankcard had already standardized on HP for its storage, PCs, laptops, and servers. It had found HP hardware to be error-free, reliable, and easy to maintain, and HP support extremely responsive. Based on its positive experience and comfort level, it chose the HP solution.

The HP solution was chosen for other reasons as well. HP's sophisticated and easy-to-use management tools were a key contributing factor, because they allow PREMIER Bankcard to easily deploy computing resources where they are most needed. The company also wanted a scalable solution, and 64-bit architecture for the performance boost it would offer.

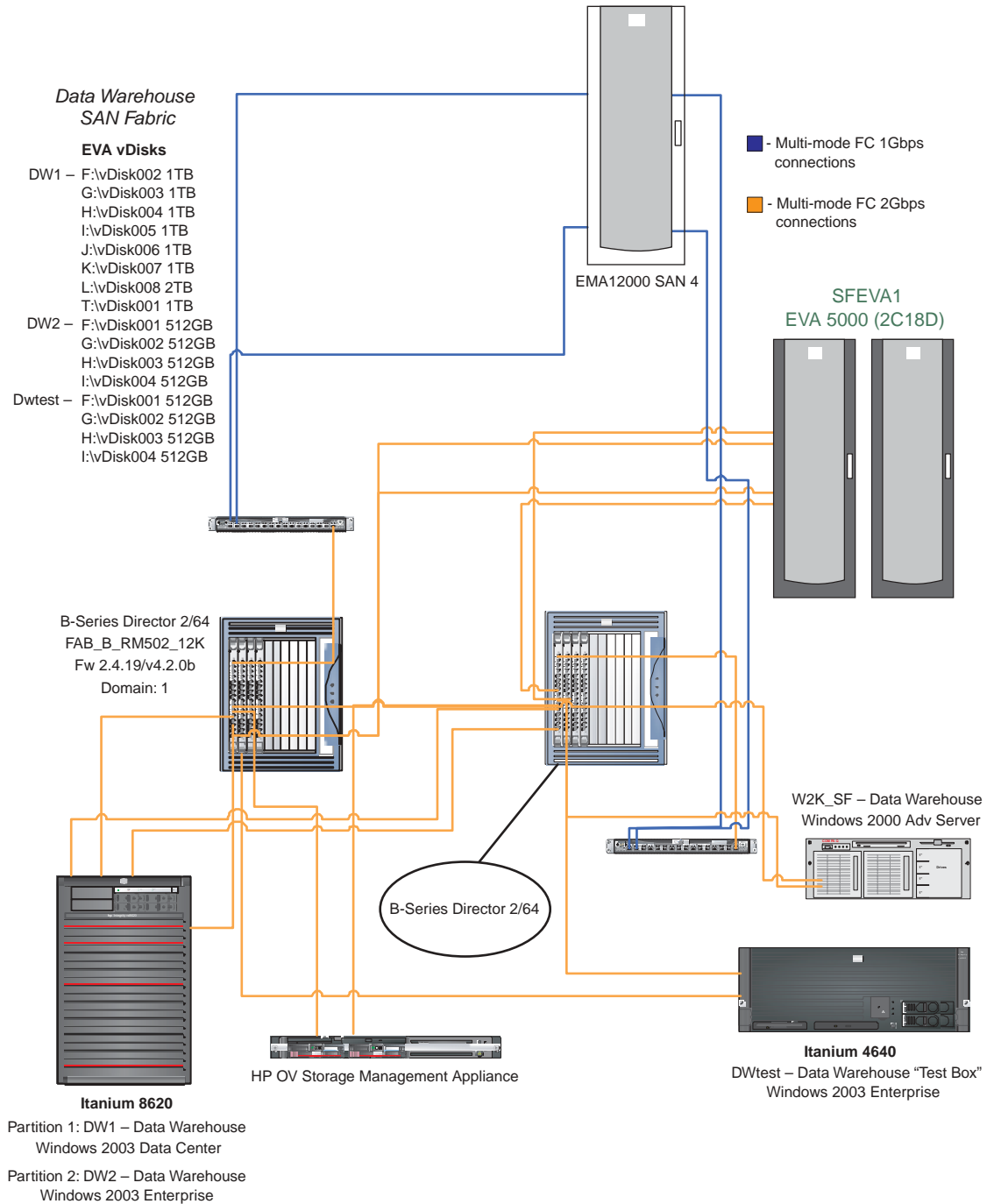
Cumulative Value from HP 64-Bit Implementation at Premier Bank



The greater horsepower and improved data warehouse performance of the new solution allows PREMIER Bankcard to have a “bottom-up” detailed view of its customers and transactions.

## An Inside Look at the HP Solution

The following figure shows how PREMIER Bankcard has deployed the HP solution.



# PREMIER Bankcard's bottom line for the project: A first-year benefit of over \$5.6 million, a projected cumulative five-year net benefit of nearly \$63 million, an annual ROI of 740%, a payback period of five months, and a total five-year benefit per analyst of almost \$1.5 million.

## The Bottom Line for PREMIER Bankcard

A detailed analysis of the solution shows that PREMIER Bankcard gained a first-year benefit of over \$5.6 million and will get a projected cumulative five-year net benefit of nearly \$63 million. The project will have an annual ROI of 740%, and has a payback period of five months. The projected total five-year benefit per analyst is almost \$1.5 million.

That benefit is made up primarily of additional revenue that PREMIER Bankcard will gain because of the increased productivity of analysts. Increased productivity means that each analyst will be able to find and approve more high-value customers over the course of a year.

The solution has allowed PREMIER Bankcard to keep all its data in a single, central data warehouse, rather than have it spread out among the data warehouse and users' desktops. Queries that used to take 22 hours now only take 45 minutes, so there is no need for users to check data out of the warehouse and process it locally. A profitability query that previously took 13 minutes now takes

36 seconds. This lets analysts make decisions more quickly about which customers to accept.

Data is loaded into the data warehouse much more quickly — the time it takes to load the data has been reduced by 30 percent. Application performance has increased as well, significantly improving analyst productivity. Performance has been improved up to 100 percent in some instances. As a result of all this, analysts now spend from 80 to 90 percent of their time analyzing data, up from 50 percent previously.

The greater horsepower and improved data warehouse performance of the new solution allows PREMIER Bankcard to have a "bottom-up" detailed view of its customers and transactions. This makes its data mining and decision-making more effective, and provides the company with information that can be used to make more effective strategic and tactical decisions. It also makes it easy for the company to provide required information to the FDIC and other regulatory bodies.

## Business Analysis of the Solution

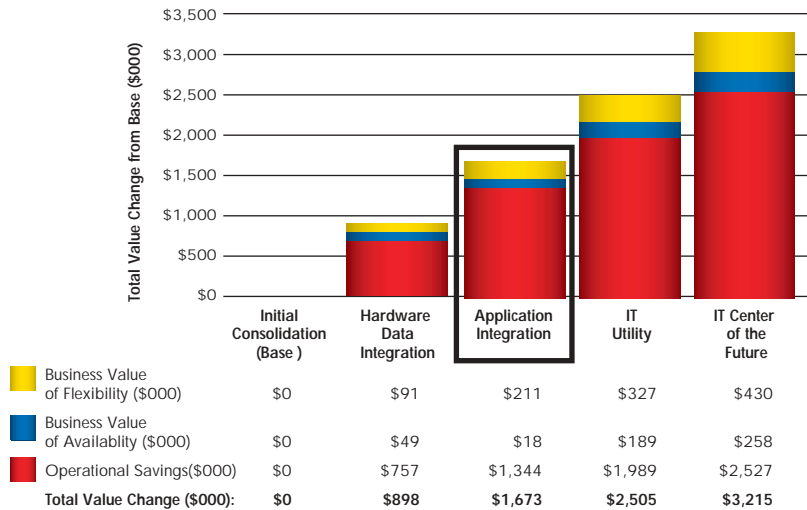
Project Summary							
Annual ROI							740%
Cumulative Five Year Net Benefit							\$62,913,627
Payback Period (months)							5
Total 5 Year Benefit/Analyst							\$1,483,294
Project Costs (\$000)							
	Startup	Year 1	Year 2	Year 3	Year 4	Year 5	
Cost of 64 Bit Equipment & Storage	\$1,100	\$0	\$198	\$178	\$160	\$144	
Cost of Software	\$600	\$0	\$108	\$97	\$87	\$79	
Cost of Maintenance		\$330	\$389	\$443	\$491	\$534	
Cost of IT Staff		\$400	\$408	\$416	\$424	\$433	
Total Project Cost	\$1,700	\$730	\$1,103	\$1,134	\$1,163	\$1,190	
Benefits (\$000)							
		Year 1	Year 2	Year 3	Year 4	Year 5	
Analyst Staff Savings		\$0	\$143	\$161	\$172	\$184	
Increased Revenue from increased analyst productivity		\$8,051	\$13,664	\$14,650	\$15,822	\$17,088	
Total Benefits		\$8,051	\$13,807	\$14,811	\$15,994	\$17,272	
Financial Analysis (\$000)							
	Startup	Year 1	Year 2	Year 3	Year 4	Year 5	
Net Value	(\$1,700)	\$7,321	\$12,704	\$13,676	\$14,831	\$16,082	
Cumulative Value	(\$1,700)	\$5,621	\$18,325	\$32,001	\$46,832	\$62,914	
Net Present Value	\$51,749						
Annual ROI							740%
IRR							477%
Payback Period(months)							5
Key Performance Indicators (KPIs)							
Total 5 Year Benefit/Analyst							\$1,483,294

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“We can now target our resources at high-growth areas. With this solution in place, we’re well-positioned to take advantage of any opportunities that we target.”

— David Geiver, Vice President of Technology, PREMIER Bankcard

Overall Value of IT Consolidation Solution for PREMIER Bankcard



This figure shows the business benefit of consolidation on larger HP 8620 64-bit servers and EVA storage, rather than smaller servers and co-located storage. In particular, the solution allowed quicker implementation of the 64-bit project.

Domain Name: Data Warehouse  
 Server Target: Application Integration  
 Storage Target: Virtualization  
 Planning Period: 5 Years  
 Array Type: EVA  
 Workload: Industry Windows

**PREMIER Bankcard Looks to the Future**

With the new system in place, PREMIER Bankcard has more information available for strategic planning and for examining customer information at a more granular level. Analysts can now generate daily reports based on a wide variety of criteria, and those reports will have the most up-to-date information because they are based on

information that has been recently loaded into the data warehouse. Based on the wealth of detail available, analysts can better determine the profitability of potential customers.

The performance gains provided by the HP solution have enabled the company to shift resources away from maintenance, and instead direct those resources at areas that can fuel future growth.

This case study was authored by the Case Study Forum. The Case Study Forum is dedicated to writing and publishing case studies for the IT community. The financial analysis was Powered by Precision IQ and the IT Consolidation Model, leading project evaluation & selection software. Precision IQ and the IT Consolidation Model were provided by ITCentrix, the premier software and services company for measuring and managing the business value of information technology investments.

For a customized Business Value assessment, including financial analysis, contact your HP storage sales specialist or send an email to [BVMModel@hp.com](mailto:BVMModel@hp.com).

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