

# Brocade VDX Data Center Switches and Brocade VCS Fabric Technology **Total Cost of Ownership Analysis**



**Brocade**

130 Holger Way  
San Jose, CA 95134  
(408) 333-8000  
[www.brocade.com](http://www.brocade.com)

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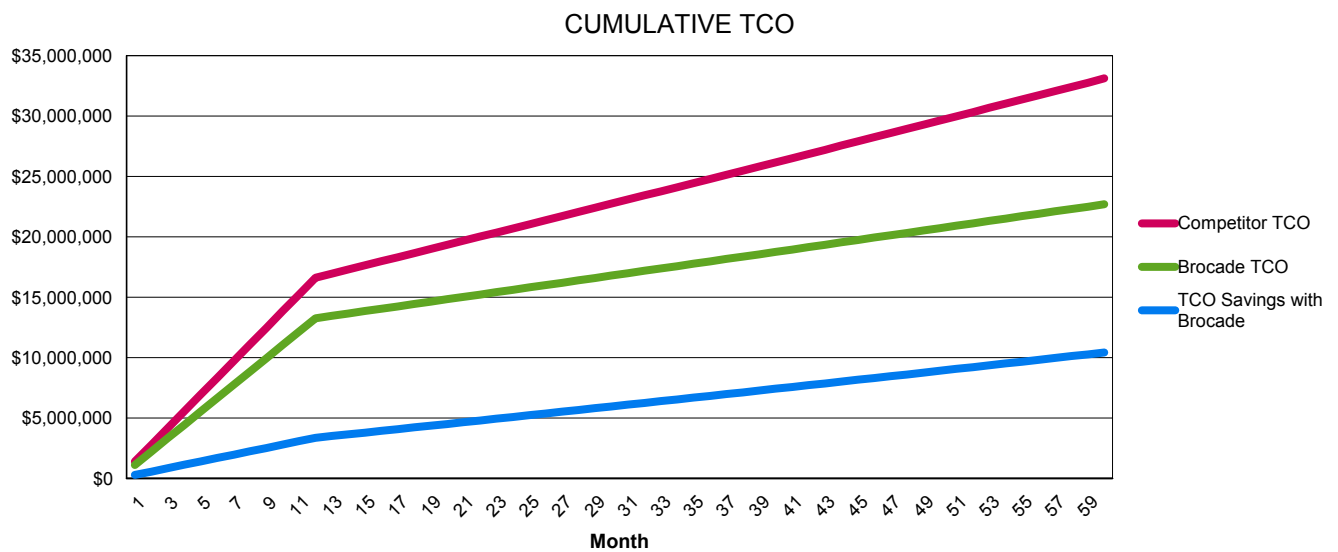
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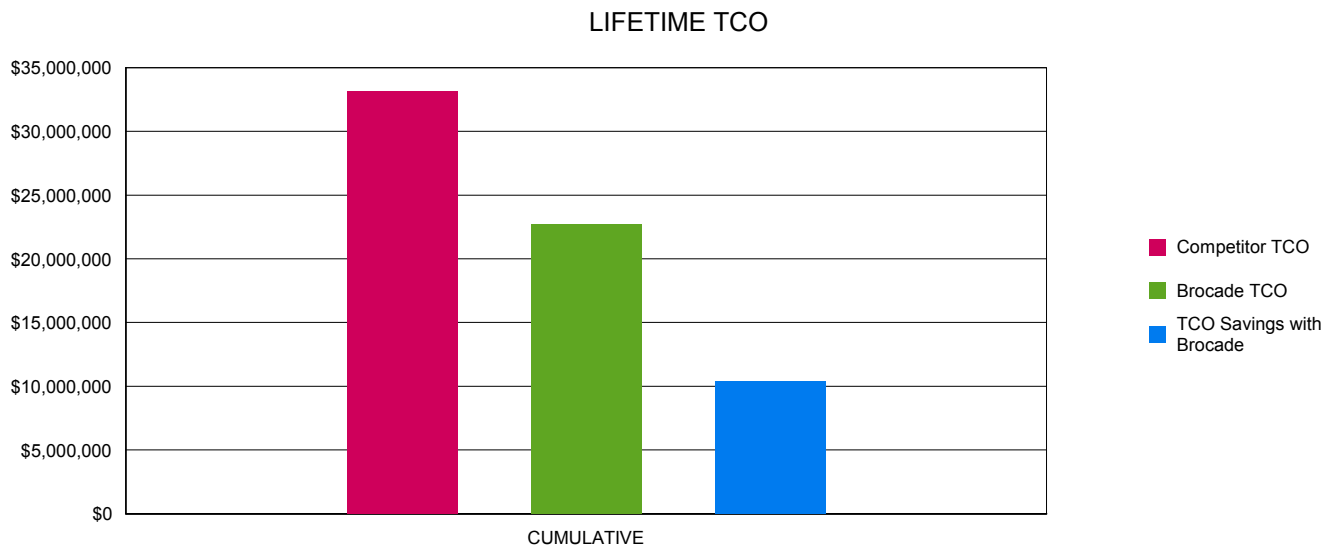
## Section 1: Overview & Key Financial Projections

Our 90,000 customers use our cloud solution every day to optimize more than 200 billion metrics for 3 million applications. When your brand and customer experience depend on the performance of modern software, Brocade provides insight into your overall environment.

Net Present Value of TCO Savings	<b>\$8,772,332</b>
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## Section 2: LifeTime TCO



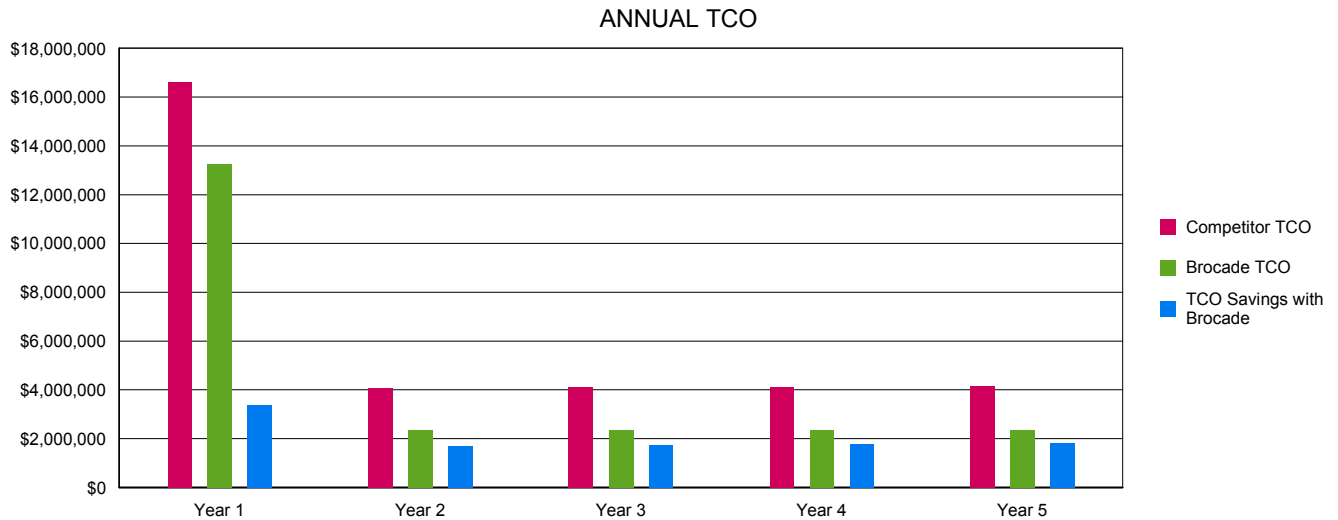
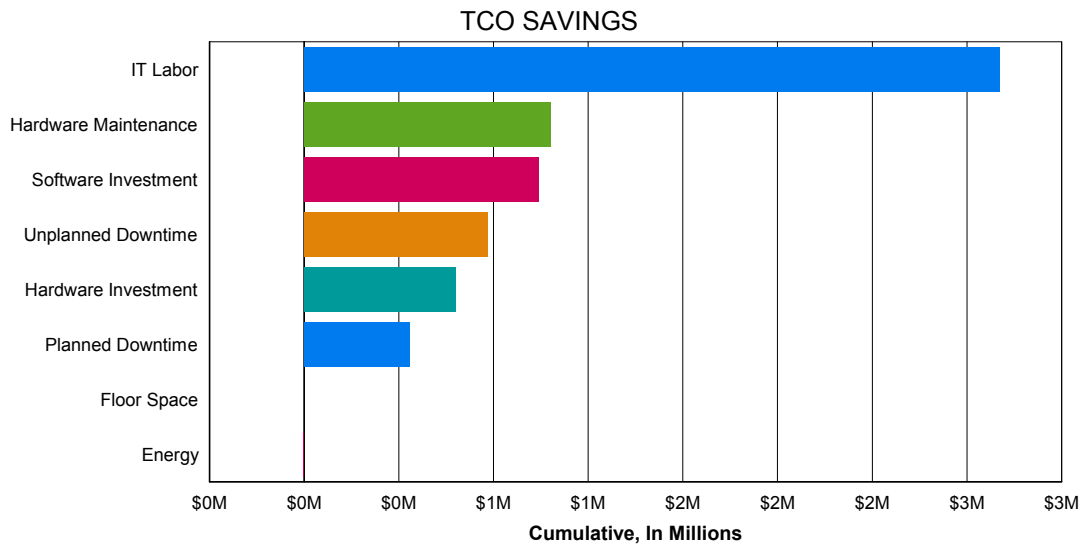
## Section 3: Benefit Explanation

CapEx Savings	
<b>Hardware Investment</b>	High port density in 1U and 2U form factor and innovative Ethernet Fabric technology eliminates STP protocol and delivers more active ports and greater network utilization.
<b>Software Investment</b>	High port density in 1U and 2U form factor and innovative Ethernet Fabric technology eliminates STP protocol and delivers more active ports and greater network utilization.
OpEx Savings	
<b>Unplanned Downtime</b>	Brocade VCS Fabric technology eliminates using any CLI commands for significant configuration tasks like ISL trunk setup and port profile updates, which significantly lowers unplanned downtime.
<b>Hardware Maintenance</b>	High port density in 1U and 2U form factor and innovative Ethernet Fabric technology eliminates STP protocol and delivers more active ports and greater network utilization.
<b>Planned Downtime</b>	Brocade VCS Fabric technology, including embedded, hypervisor-agnostic automation of VM-network automation and auto forming of ISL trunks, offers simplified port management.
<b>Floor Space</b>	Consolidation of leaf and spine layers via transition to Ethernet fabric could require fewer number of switches for server connectivity.
<b>Energy</b>	Brocade VDX data center switches use state-of-the-art ASIC design, air flow, automatic fan-speed control and power-efficient optics to ensure the most efficient use of power.
<b>IT Labor</b>	Brocade's 15 years of SAN heritage provides unmatched agility and automation.

## Section 4: Benefit Summary

<b>CapEx Savings</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Hardware Investment	\$637,914	\$0	\$0	\$0	\$0
Software Investment	\$990,000	\$0	\$0	\$0	\$0
<b>OpEx Savings</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Unplanned Downtime	\$258,188	\$258,188	\$258,188	\$258,188	\$258,188
Hardware Maintenance	\$346,630	\$346,630	\$346,630	\$346,630	\$346,630
Planned Downtime	\$279,040	\$83,906	\$83,971	\$84,037	\$84,102
Floor Space	\$0	\$0	\$0	\$0	\$0
Energy	(\$1,156)	(\$1,156)	(\$1,156)	(\$1,156)	(\$1,156)
IT Labor	\$850,000	\$1,030,000	\$1,060,900	\$1,092,727	\$1,125,509
<b>Total Gross Benefits</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Total Gross Benefits	\$3,360,616	\$1,717,567	\$1,748,533	\$1,780,425	\$1,813,272

## Section 5: Benefit Breakdown



## Section 6: Strategic Benefits

Aside from the tangible benefits that can be quantified, a customer can expect to receive several strategic benefits as well. Strategic benefits can be just as important to an organization, but are either more challenging to quantify or vary widely from customer to customer. Brocade contributes to the following strategic benefits:

<b>Improved customer and supplier satisfaction</b>	Enhanced employee productivity and business processes enable faster responses to customers and suppliers.
<b>Higher employee job satisfaction</b>	Employees have fewer events to deal with, reducing stress and frustration.
<b>Fewer business interruptions</b>	A reduction in business interruptions can lower operational risk and legal liability risk.
<b>Improved corporate sustainability profile</b>	Lower consumption of energy resources helps support sustainable development for the future.
<b>Increased financial flexibility and business agility</b>	Enhanced scalability and capacity planning help organizations better meet changing business requirements.
<b>Greater focus on core competencies</b>	Corporate resources are more focused on responding to changing customer, market, and competitive dynamics.



## Section 7: About Brocade

Brocade (Nasdaq: BRCD) networking solutions help organizations transition smoothly to a world where applications and information reside anywhere. Innovative Ethernet and storage networking solutions for data center, campus, and service provider networks help reduce complexity and cost while enabling virtualization and cloud computing to increase business agility. ([www.brocade.com](http://www.brocade.com))

## Section 8: About FutureSight

This scenario modeling tool was developed by FutureSight based upon the business value that can be achieved by using Brocade's VDX Data Center Switches and VCS Fabric technology. FutureSight helps its clients gain a deeper understanding of their markets, customers and value proposition, and create and deploy strategies based upon these insights.

## Section 9: Terms of Use

Brocade scenario modeling tools are designed to present economic decision makers a top-level summary and detailed report with solid, quantified benefits and supporting analysis. However, there are many factors that can significantly influence the actual results. Time to deploy, cost overruns, competitive developments, and changes in business management or strategy can all dramatically influence the attractiveness of any investment. Consequently, Brocade can offer no guarantees, whether explicit or implicit, regarding the actual financial results of your investment.

## Section 10: Confidentiality

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## Appendix 1: Glossary of Financial Terms

TCO savings with Brocade is the value in today's dollars of all cash benefits received at a future date given a discount rate (cost of capital). If the cost of capital is set to zero percent, the TCO savings with Brocade is the cumulative difference over five years between the competitor TCO and Brocade TCO.

## Appendix 2: Inputs Used to Calculate Solution Value

CapEx Savings	
Leaf switches (competitor)	<b>\$7,758,000</b>
Spine switches (competitor)	<b>\$1,914,000</b>
Core switches (competitor)	<b>\$844,000</b>
Cabling (competitor)	<b>\$212,394</b>
SFP+ transceiver (competitor)	<b>\$861,900</b>
Brocade VDX leaf switches	<b>\$7,290,000</b>
Brocade VDX spine switches	<b>\$1,470,000</b>
Brocade core switches	<b>\$1,366,000</b>
Cabling (Brocade)	<b>\$163,380</b>
SFP+ transceiver (Brocade)	<b>\$663,000</b>
Software investment (competitor)	<b>\$990,000</b>
Software investment (Brocade)	<b>\$0</b>

OpEx Savings	
Minutes of downtime	<b>90</b>
Cost of downtime per minute	<b>\$7,500</b>
% of downtime events caused by human error	<b>45%</b>
Decrease in downtime cost caused by human error with Brocade (%)	<b>85%</b>
% of hardware investment spent on maintenance annually (competitor)	<b>20%</b>
% of hardware investment spent on maintenance annually (Brocade)	<b>18%</b>
Trunk ports	<b>436</b>
% of trunk ports reconfigured annually (competitor)	<b>30%</b>
Average hours spent on initial configuration and reconfiguration per trunk port	<b>0.25</b>
Fully loaded network engineer hourly compensation	<b>\$60</b>
Hourly business disruption costs of planned downtime	<b>\$2,500</b>
Decrease in trunk port reconfiguration costs with Brocade	<b>100%</b>
Leaf switches per rack (competitor)	<b>2</b>
Spine switches per rack (competitor)	<b>2</b>
Core switches per rack (competitor)	<b>2</b>
Footprint per rack (square meters)	<b>2.5</b>
Annual data center floor space cost/square meter	<b>\$3,000</b>
Brocade VDX leaf switches/rack	<b>2</b>
Brocade VDX spine switches/rack	<b>2</b>
Brocade VDX core switches/rack	<b>2</b>
Leaf switches (competitor)	<b>18</b>
Power draw in watts per leaf switch (competitor)	<b>390</b>
Spine switches (competitor)	<b>6</b>
Power draw in watts per spine switch (competitor)	<b>840</b>
Core switches (competitor)	<b>2</b>
Power draw in watts per core switch (competitor)	<b>1,680</b>
Power usage effectiveness (PUE)	<b>2.0</b>
Power cost per kWh	<b>\$0.10</b>
Brocade VDX leaf switches	<b>18</b>
Power draw in watts per Brocade VDX leaf switch	<b>360</b>
Brocade VDX spine switches	<b>6</b>
Power draw in watts per Brocade VDX spine switch	<b>1,200</b>
Brocade core switches	<b>2</b>
Power draw in watts per Brocade core switch	<b>1,200</b>
Average fully loaded compensation for an IT administrator	<b>\$100,000</b>
FTE time spent on network administration (competitor)	<b>12</b>
FTE time spent on network administration (Brocade)	<b>2</b>

## Appendix 3: Adjustment Factors

The Adjustment Factor represents the probability of achieving the full value of the benefit in a given year; this adjustment is intended to provide a conservative estimation of the benefit and quantify potential risk factors.

CapEx Savings	Year 1	Year 2	Year 3	Year 4	Year 5
Hardware Investment	100%	0%	0%	0%	0%
Software Investment	100%	0%	0%	0%	0%

OpEx Savings	Year 1	Year 2	Year 3	Year 4	Year 5
Unplanned Downtime	100%	100%	100%	100%	100%
Hardware Maintenance	100%	100%	100%	100%	100%
Planned Downtime	100%	100%	100%	100%	100%
Floor Space	100%	100%	100%	100%	100%
Energy	100%	100%	100%	100%	100%
IT Labor	85%	100%	100%	100%	100%

