



ROI for VirtualWisdom

Introduction

The VirtualWisdom App-centric Infrastructure Performance Management (IPM) platform provides real-time and historical insights into the performance, availability, health and utilization of your data center infrastructure—across physical, virtual, and cloud environments. It intelligently collects machine and wire data via agentless software probes and purpose-built hardware devices. Our Applied Analytics transforms the data into actionable insights that can be used to optimize your environment and proactively find and resolve issues before users are affected. VirtualWisdom is the leading real-time, application-centric, vendor-independent, cross-domain performance monitoring and analytics solution in the industry.

Given today's budget realities, all IT purchases must be clearly shown to result in a positive return on investment. The purpose of this document is to provide guidelines for estimating the Return on Investment for deploying VirtualWisdom in a typical datacenter pre-production test environment. We have tried not to suggest broad, unsubstantiated, sweeping generalizations like "you'll pay for your solution in 6 months". Instead, we've suggested specific, concrete problems and solutions that you can relate to your own experiences. Not all examples herein will apply to every IT shop as needs vary across different organizations. The reader is encouraged to select the subset of problems and benefits that most closely applies to his/her data storage environment. The primary economic benefits of VirtualWisdom come from five areas: (1) CAPEX savings due to fewer SAN links (2) Reduced CAPEX by optimizing storage tiering (3) Reduced CAPEX improving VM density (4) Reduced OPEX through improved collaboration and productivity of your IT team (5) Improved your application service levels by avoiding problems or fixing existing problems faster. We discuss the definitions and how to calculate the financial benefits of these below.

Capex Savings Due To Fewer San Links

Calculation

$$\begin{array}{l} \text{Annual forecast for number of storage links added} \\ \text{or refreshed} \\ \times \text{ Cost per link (switch port, storage port, cabling and} \\ \text{associated maintenance)} \\ \hline = \text{ Annual forecasted cost of new/refreshed storage links} \\ \times \text{ Percentage reduction in links} \\ \hline = \text{ Net annual benefit of reduction in SAN / storage links} \\ \text{due to VirtualWisdom} \end{array}$$

Example Calculation

$$\begin{array}{l} \mathbf{200} \text{ Annual forecast for number of storage links} \\ \text{added or refreshed} \\ \times \mathbf{\$1000} \text{ Cost per link (switch port, storage port, cabling} \\ \text{and associated maintenance)} \\ \hline = \mathbf{\$200,000} \text{ Annual forecasted cost of new/refreshed} \\ \text{storage links} \\ \times \mathbf{30\%} \text{ Percentage reduction in links} \\ \hline = \mathbf{\$60,000} \text{ Net annual benefit of reduction in SAN /} \\ \text{storage links due to VirtualWisdom} \end{array}$$



I believe we've saved nearly \$100,000 per storage array by understanding performance bottlenecks better and not having to buy extra cache on the HDS arrays.

Christopher Carlton
STORAGE TEAM LEAD
JPS HEALTH NETWORK

Capex Savings Due To Optimized Storage Tiering

Calculation

Tier I storage costs

- Hardware costs of tier I storage, per TB
 - + SW costs of tier I storage, per TB (or apportioned from other types)
 - + HW and SW maintenance costs of tier I storage, apportioned per TB
 - + Professional services costs of tier I storage, apportioned per TB
-
- = Total tier I cost per TB

Tier II storage costs

- Hardware costs of tier II storage, per TB
 - + SW costs of tier II storage, per TB (or apportioned from other types)
 - + HW and SW maintenance costs of tier II storage, apportioned per TB
 - + Professional services costs of tier II storage, apportioned per TB
-
- = Total tier II cost per TB

Total Tiering Benefit

- Total tier I cost per TB
 - Total tier II costs per TB
-
- = Per TB difference in tier I and tier II storage

Example Calculation

Tier I storage costs

- \$3,000** Hardware costs of tier I storage, per TB
 - + **\$1,000** SW costs of tier I storage, per TB (or apportioned from other types)
 - + **\$800** HW and SW maintenance costs of tier I storage, apportioned per TB
 - + **\$100** Professional services costs of tier I storage, apportioned per TB
-
- = **\$4,900** Total tier I cost per TB

Tier II storage costs

- \$1,000** Hardware costs of tier II storage, per TB
 - + **\$100** SW costs of tier II storage, per TB (or apportioned from other types)
 - + **\$100** HW and SW maintenance costs of tier II storage, apportioned per TB
 - + **\$50** Professional services costs of tier II storage, apportioned per TB
-
- = **\$1,250** Total tier II cost per TB

“With VI, we were able to track link utilization and it enabled us to save a boatload of dough by reducing the number of storage front-end ports. We went from 128 ports to 64, and then to 32 per new frame. That’s a savings of over \$300K per array.”

Anonymous
ECOMMERCE BUSINESS

Total Tiering Benefit

	\$4,900 Total tier I cost per TB
-	\$1,250 Total tier II costs per TB
<hr/>	
=	\$3,650 Per TB difference in tier I and tier II storage
	1000 Expected tier I TB growth + expected tier I TB refresh in the next year
x	30% Expected percentage of tier I that can be accommodated on tier II
<hr/>	
=	300 TB of storage that can be on tier II, instead of tier I, over the next year
x	\$3,650 Per TB difference in tier I and tier II storage (from above)
<hr/>	
=	\$1,095,000 Potential cost savings when performance of tier II storage meets SLAs



VirtualWisdom has given us the capability to monitor our critical IT infrastructure in real-time through a series of easy to use dashboards and alerts. It's saving us time and money by accelerating problem identification and resolution.

Brad Dart

PERFORMANCE & CAPACITY
PLANNING MANAGER
BMO FINANCIAL GROUP

Capex and Opex Savings Due to Higher VM Density

Calculation

	Current number of physical servers
x	Est annual growth in physical servers %
<hr/>	
=	Number of new physical servers per year
x	(Average CapEx of physical servers + Annual OpEx per physical server)
<hr/>	
=	Yearly cost of new physical servers
x	Estimated % increase in VM density with VW
<hr/>	
=	Yearly cost avoidance of new physical servers

Example Calculation

	150 Current number of physical servers
x	30% Est annual growth in physical servers %
<hr/>	
=	45 Number of new physical servers per year
x	(\$22,000 Average CapEx of physical servers + Annual OpEx per physical server)
<hr/>	
=	\$1,080,000 Yearly cost of new physical servers
x	20% Estimated % increase in VM density with VW
<hr/>	
=	\$216,000 Yearly cost avoidance of new physical servers

Opex Savings Due to Higher Staff Efficiency

Calculation

$$\begin{aligned} & \text{Full-time equivalent staff (FTEs) required} \\ & \text{to manage your infrastructure} \\ \times & \text{ Hours/ FTE/ Week} \\ \hline = & \text{ Total FTE Hrs/week} \\ \times & \text{ Per hour burdened personnel cost} \\ \hline = & \text{ Weekly FTE cost total} \\ \times & \text{ Percentage efficiency improvement due} \\ & \text{to Virtual Wisdom} \\ \hline = & \text{ Efficiency improvement/week} \\ \times & 52 \text{ weeks} \\ \hline = & \text{ Yearly efficiency improvement} \end{aligned}$$

Example Calculation

$$\begin{aligned} & 6 \text{ Full-time equivalent staff (FTEs)} \\ & \text{required to manage your infrastructure} \\ \times & 40 \text{ Hours/ FTE/ Week} \\ \hline = & 240 \text{ Total FTE Hrs/week} \\ \times & \$150 \text{ Per hour burdened personnel cost} \\ \hline = & \$36,000 \text{ Weekly FTE cost total} \\ \times & 20\% \text{ Percentage efficiency improvement} \\ & \text{due to Virtual Wisdom} \\ \hline = & \$7,200 \text{ Efficiency improvement/week} \\ \times & 52 \text{ weeks} \\ \hline = & \$374,400 \text{ Yearly efficiency improvement} \end{aligned}$$

App Service Levels Opex

Calculation

$$\begin{aligned} & \text{Outage/ slowdown incidents per year} \\ & \text{related to unacceptable performance} \\ \times & \text{ Average cost to your business of} \\ & \text{each incident} \\ \hline = & \text{ Total yearly cost of outages and slowdowns} \end{aligned}$$

Example Calculation

$$\begin{aligned} & 2 \text{ Outage/ slowdown incidents per year} \\ & \text{related to unacceptable performance} \\ \times & \$500,000 \text{ Average cost to your business} \\ & \text{of each incident} \\ \hline = & \$1,000,000 \text{ Total yearly cost of outages} \\ & \text{and slowdowns} \end{aligned}$$



Sales
sales@virtualinstruments.com
1.888.522.2557

Training
training@virtualinstruments.com

Website
virtualinstruments.com