

**SHUNRA**

# WAN Optimization Evaluation for a Fortune 100 Financial Company

## Background

One of Shunra's customers – a Fortune 100 Financial Company - was experiencing application performance problems with their core business applications that were managed from a central datacenter, but deployed around the globe. To eliminate these problems, the company decided to deploy a WAN optimization solution. The customer engaged Shunra to evaluate three WAN Optimization solutions and provide objective results that would enable them to decide which solution would provide the most value if purchased.

## Challenge

With so many compelling WAN optimization solutions on the market, the challenge lied in choosing the best solution given this company's unique environment and performance problems. Best practices dictate that such a decision be based on a thorough evaluation of each WAN optimization solution. Shunra's ultimate goal of engagement consisted in enabling the customer to decide which, if any solution to purchase, by providing comprehensive reports that measure application performance changes for key business processes with and without each WAN optimization solution.

## Solution

To address their concerns, this Fortune 100 Financial Company engaged Shunra's Professional Services to leverage Shunra's Virtual Enterprise (VE) Suite. Shunra's consultants created an exact, lab-based replica of the customer's production WAN environment, emulating network connectivity between the desired remote locations and the data center.

The first step in modeling the WAN characteristics of the company's production network was to understand the network components and conditions. The customer provided Shunra with network diagrams which detailed the type of network and bandwidth utilization percentage for the existing network topology.

## Highlights

### Challenge

Choosing the best WAN optimization solution given this company's unique environment and application performance problems

### Solution

Shunra's consultants created an exact, lab-based replica of the customer's production WAN environment using Shunra's Network Catcher and VE Appliance. These tools enabled various scenarios to be executed over the simulated production network, through LAN, native WAN, and optimized WAN conditions.

### Results

Validated a decision based on comprehensive reports that measure performance ROI of each WAN optimization solution.

Shunra's VE Network Catcher was installed on a machine at the company's main data center. This captured the network characteristics between the desired remote locations and the data center. Network templates were then created using Shunra's VE Modeler to represent the production network.

The second step involved the collaboration between Shunra and the customer to define the business processes which would be used in the simulation. The user activities chosen were financial trades (swaps, options, and exchanges) and physical trades. These transactions were scripted using HP's Mercury LoadRunner application automation tool.

Geared with these tools, Shunra's consultants were able to replay the LoadRunner scripts from the WAN remote locations. These scripts simulated business users employing the application as if they were located at a variety of remote locations.

Overall 10 test scenarios were executed, for each WAN optimization solution during the testing. The business processes were executed to validate the virtual enterprise's functionality and to provide meaningful metrics for evaluating each vendor. The trades were confirmed on the back end systems. Various scenarios were then executed over the simulated production network, through LAN, native WAN, and optimized WAN conditions.

## Results

Based on the benchmark metrics captured across all testing scenarios, Shunra's consultants were able to produce results illustrating average performance gain per business process across all sites, for the tested WAN optimization solution (Fig.1).

However, to calculate the performance ROI, the total cost of ownership (TCO) needs to be taken into consideration as well. This total cost accounts for the number of remote sites, hardware costs, setup costs, management costs, integration costs, and any professional services required. Hence, the performance ROI for each solution can be calculated by dividing performance gain to TCO (Fig. 2).

As a result, Shunra's consultants delivered comprehensive reports that measure performance ROI of each WAN optimization solution. These results are important influencers for decision-makers to consider when selecting the optimal WAN Optimization solution for their business.

Figure 1 - Average performance gain for a given WAN Optimization solution

Business Process	Average Performance Gain with Vendor A (Sec)	Average Performance Gain with Vendor B (Sec)	Average Performance Gain with Vendor C (Sec)
Swap Trade	5.34	2.45	3.18
Physical Trade	6.72	7.70	4.06
Paper Trade	7.50	3.30	4.20
<b>Total</b>	<b>19.56</b>	<b>13.45</b>	<b>11.44</b>

Figure 2 - Performance ROI for each solution



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