Global Financial Services Provider

Credit Card Issuer Deploys VirtualWisdom to Help Ensure Application Performance & Accelerate Bringing New Projects Online Faster

Overview and IT Environment

This Virtual Instruments customer is one of the leading credit card issuers in the United States today. They've got a strong presence through co-branded credit cards and a focus on customer satisfaction. As a result, this organization is one of the fastest growing institutions in the market.

Their IT department supports multiple data centers spread throughout North America, with several data warehouses totaling over 35TB, generating heavy I/O workloads (over 40,000 IOPS sustained). Because IT is considered a competitive advantage against their competitors, their goal is to continually push the envelope and to be more leading edge. Projects are expected to be turned around quickly, while maintaining 99.99% uptime. Storage is primarily split between tier 1 and tier 2 EMC arrays. Servers mostly run AIX and Windows, but their IT department supports virtually every flavor of OS within their infrastructure.

Because this institution considers IT to be a competitive edge, there is pressure to not only maintain superior customer-facing application performance and overall high application availability, but also to deploy the newest technologies quickly. Existing measurement tools and testing methodologies were simply not up to the challenge of optimizing existing application performance, improving customer service, and making technology leaps all at the same time.

Solution Evaluation

As a big EMC shop, the IT department first attempted to solve the performance monitoring issue by using EMC's WLA (Workload Analyzer). WLA was not able to offer the most critical metrics. NetApp SANscreen was also brought in for a proof of concept, and was immediately eliminated from consideration for performance monitoring due to the lack of granularity it could provide for user experiences. It was however, retained for use for its core strength, change management.

Virtual Instruments' VirtualWisdom was the only product found to give detailed views of the essential infrastructure performance and utilization data to base decisions on, as well as troubleshooting performance issues. VirtualWisdom clearly provided both the raw data and the polished graphing utilities to help solve problems.

VirtualWisdom Value

Once deployed, VirtualWisdom became an indispensible infrastructure performance management platform for the team. It's been used to troubleshoot large data warehouse performance issues, solve an SRDF replication issue, verify new vendor's marketing claims, test various configuration settings for a new OS platform, and even monitor for failing SFPs.

VirtualWisdom has enabled accelerated deployments by providing real-time visibility to rollouts; to ensure that all is performing as expected, with no mis-configurations or version incompatibilities. By providing measurements in a de-duplication proof of concept, IT was able to validate this new technology without negatively impacting the SAN infrastructure.

On an ongoing basis, the IT department has reduced both the number of trouble tickets and has resolved issues much faster. For instance, by measuring the historical trends of database queries on applications, performance problems that may have eventually occurred have been averted. By supplying unbiased, third-party metrics and analysis to the key vendors, finger pointing has effectively been eliminated.

VirtualWisdom Example Use Case

The backup administrator was complaining that his level zero backups of a particular system were taking a long time to complete. He had consulted with the application owner and they had determined that the best time to run a backup would be after 7pm and before 2am. Users typically would leave around 5:30-6pm, and a batch processing schedule would kick off around 2am. Any extra disk activity between 7pm and 2am should not face any contention for disk IO.

After using VirtualWisdom, the IT department learned that the quiet time was from 11pm-6am. It turned out that users were queuing up one final command, hitting enter, and leaving for the day. This increased load would run until about 10:30pm. Batch processing, as it turns out, was relatively light on the disks themselves. The backup administrator was able to reduce his backup window by sliding the backup times into the quiet disk periods.

VirtualWisdom Going Forward

The near-term plan for VirtualWisdom includes rolling out more software and Fiber Channel probes to specifically and directly monitor the most

> *My organization has used VirtualWisdom to solve countless issues. Each issue has more than paid for its purchase.*

> *I must show our SAN's performance and pitfalls to the CIO every quarter. I use only VirtualWisdom to prepare that report.*

> *Virtual Instruments' VirtualWisdom is a must in any IT Infrastructure. The kinds of metrics gathered and data stored by VirtualWisdom are already taken for granted by other IT groups. VirtualWisdom has given me the ability to participate as a peer with these other groups during root cause analysis sessions.*

critical databases. By instrumenting WAN links, IT will be able to more accurately predict replication needs. Finally, the NOC will begin to use the VirtualWisdom Dashboard to monitor and view SAN performance in real-time.

VirtualWisdom Experience

The SAN team considers VirtualWisdom to be the single most important and useful platform they have to monitor and manage performance. Other IT teams are requesting read access to it, and it has "saved countless hours of troubleshooting, and given the whole department a new direction in improving performance".

Lessons Learned...the Customer Perspective

According to the SAN team, "our first goal is to understand what our goals are". You have to have a clear understanding of what results upper management is seeking. What's important? Is it agility, cost effectiveness, stability, or ultimately, application performance? With those metrics in mind, you can utilize VirtualWisdom to proactively manage your environment.

A basic trick is to "arm ourselves with as much information as possible". It's all too common to see SANs that are over-designed on purpose, and usually over-provisioned because of a lack of information and data about what is truly going on within your infrastructure. Knowing when your ever growing demand from a specific server actually requires an additional HBA is invaluable. Being able to see an applications' system-wide traffic pattern across the IT infrastructure—including heavy traffic as well as less intensive moments—can mean the difference between a levelO backup failing or completing within the backup window without investing in more infrastructure.

According to Ryan Perkowski, the SAN Manager, "The VirtualWisdom experience will seem a bit odd at first, having the type and amount of information at your fingertips. Once you get over the 'drinking from a fire-hose' feeling, you instantly start to see its power. Trending out usage, actually seeing a non-biased response time on exchanges, or even just showing block sizes on the SAN in real-time is invaluable as you attempt to squeak out a little more performance every day."

Managing and optimizing the sytem-wide IT infrastructure is a daunting task at best, and consumes a big percentage of the overall IT budget. Ryan adds, "Virtual Instruments' VirtualWisdom is a must in any IT infrastructure. There are metrics gathered and data stored by VirtualWisdom that other groups already take for granted. VirtualWisdom has given us the ability to participate as a peer with these other groups during root cause analysis sessions. Our only regret is not installing it sooner, as its historical data and trending ability would have greatly improved our quarterly review sessions".

VIRTUAL INSTRUMENTS

Sales
sales@virtualinstruments.com
1.888.522.2557

Training
training@virtualinstruments.com

Website
virtualinstruments.com