

Benefits

- Vastly accelerated Root Cause Analysis (RCA)
- Dramatically improved MTI and MTTR
- Increased performance across multiple mission-critical apps
- De-risked infrastructure upgrades

Business Impact

- Practically eliminated unplanned outages and slowdowns, saving \$Ms every month
- Significantly increased utilization, reducing capital expenditures by \$Ms per year

“Virtana is a trusted partner that helps us ensure the superior performance and uptime of the infrastructure that underpins our payment platforms.”

Bob Lembo

Director, IT Systems, PayPal

VirtualWisdom offers deep, real-time visibility to assure performance and availability



Company Background

PayPal is a leading financial services organization that is committed to democratizing financial services and empowering people and businesses to thrive in the global economy. Their mission-critical digital payments platform gives their 270+ million active account holders the confidence to connect and transact in new and powerful ways, whether they are online, on a mobile device, in an app, or in person.

Environment Overview

The digital payments division runs a multitude of mission critical applications that they classify as Platinum, Gold, Silver or Bronze. The company deploys a very large quantity of Dell, HP, Lenovo and Oracle/Sun servers, mostly running Oracle RAC-based applications connected to both NetApp and Hitachi enterprise storage interconnected by Brocade director-class switches. The Platinum and Gold apps require sub-second infrastructure monitoring visibility whereas the Silver and Bronze apps require granularity to the minute level.

IT Challenges

The IT organization is very dynamic and continues to grow year over year. Innovation in services and the ability to adopt innovative new technologies is essential to their growth strategy. IT plays a crucial role in the company’s ongoing transformation through infrastructure planning, efficiency, cost reduction, automation, and the ability to respond to the business quickly. Their goal is to continue to provide new services that consumers love with the ability to proactively control IT costs. The financial impact of Platinum and Gold apps going down or even slowing down can be measured in the millions of dollars per incident. Experiencing such incidents are simply unacceptable.

Results

VirtualWisdom was brought in to help PayPal determine root causes of infrastructure issues. They needed to understand where latency problems were coming from – the hosts, the switch fabric, improperly set queue depths, or within the storage arrays. VirtualWisdom has been an integral

part of their monitoring and reporting ecosystem for many years.

“Before the VirtualWisdom deployment, during major incidents vendors pointed fingers at each other. Troubleshooting many of our infrastructure performance and physical layer issues would take days to detect with lost revenues during payment impacting issues. The inability to see end-to-end within our server and SAN infrastructure created a bad experience for our user community.”

Caleb Torres

Systems Engineer, PayPal

The payments business relies upon finding critical issues in the infrastructure within seconds to prevent them from impacting the business.

“Virtana’s VirtualWisdom has given us the ability through their end-to-end dashboards to detect, troubleshoot, and correct payment impacting issues within minutes. Their ability to maintain the infrastructure in a healthy state and pro-actively identify any significant issues has brought incredible value to PayPal and its customers.”

Slade Weaver

Senior Manager, Core Data Platform, PayPal

A specific example of how Virtana was instrumental was when one of their customers was experiencing long wait times processing their nightly batch runs and asked the operations team to investigate the issue. In a short period of time, using VirtualWisdom data, they determined that the customer was pushing a massive amount of data in a very short period. They were able to determine that the customer’s workload had significantly changed during the times of the excess latency and were able to prove this with the long-term trending and AI-powered analytics capabilities of VirtualWisdom. The customer went back and adjusted their workload, and the problem was resolved.

The Role of Virtana Professional Services

PayPal has a dedicated Virtana professional services engineer onsite that works hand-in-hand and is fully

integrated into the operations team to ensure successful deployments and optimal benefits from the Virtana products. Additionally, Virtana supports the cross-functional remote team for additional backup, support, and project management. “This individual plays a huge role in our success.” Stated Bob Lembo.

The Virtana services resident has also provided detailed onsite product training for the operations team. Most of the training has been with live data in the production environment. New team members are continually trained in one of their three primary production centers in Scottsdale, San Jose and Chennai.

Virtana Solution Benefits

The biggest benefits to PayPal have been the dramatic improvement in MTI and MTTR. They also leverage the application workload analysis and trending features to assess architectural changes and upgrade decisions in production.

In addition to VirtualWisdom, PayPal leverages WorkloadWisdom to test vendor platforms before deployment to validate their storage performance and capabilities. Before every significant infrastructure upgrade, PayPal tests firmware updates and conducts vendor bake offs to determine the optimal technology and product for each application workload. Most recently, PayPal has used WorkloadWisdom to evaluate new protocols and designs for object storage.

Additional benefits of the Virtana platforms:

- Significantly improved performance across the environment due to the ability to understand and balance workloads appropriately.
- Practically eliminated unplanned downtime by proactively attacking issues before they become critical.
- Shifted workloads from Gold and Platinum to Silver and Bronze based on latency sensitivity analysis, saving the company \$Ms by using lower cost products.

- Reduced the over-provisioning of switch ports and links by monitoring bandwidth over time.
- More intelligently planned infrastructure capacity based on trends and forecasting features.
- Eliminated the use of NetApp OnCommand, saving \$Ms in support and maintenance fees.

Summary

PayPal made a strategic decision nearly five years ago to deploy VirtualWisdom to ensure the performance, availability and utilization of the infrastructure that supports their mission-critical applications. They found that VirtualWisdom was and still is the only real-time monitoring and analytics platform that meets their needs. They later added the WorkloadWisdom infrastructure performance validation platform to ensure upgrades went smoothly and to eliminate over-provisioning. Financial applications simply can't go down or slowdown without significantly impacting the business. With the help of Virtana products and professional services, PayPal has set the bar for service availability for payment platforms and enables them to be more responsive to their customers. The business continues to thrive!



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