virtana | Case Study

Telecommunications company deploys Virtana Infrastructure Monitoring to monitor its system-wide IT infrastructure and ensure availability and performance

ABOUT

Industry
Telecommunications

Location
USA

OBJECTIVE

Escalating costs of IT in hyper-competitive market puts pressure on staff to do more with existing CAPEX and OPEX

RESULTS

- Causes of application slowdowns definitively identified and corrected before users aware of a problem.
- Reduction in CAPEX and OPEX costs due to reduction in MTTR and early detection of infrastructure component problems.

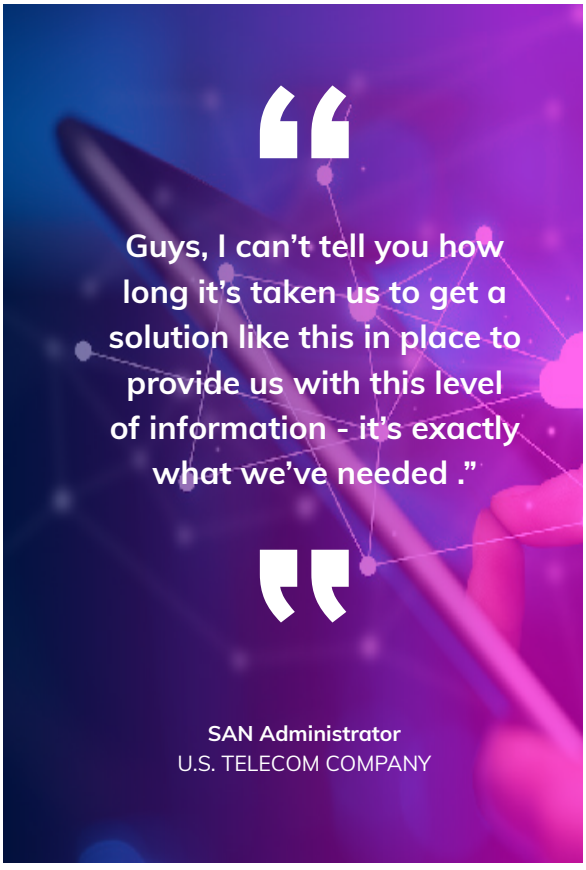
OVERVIEW:

This U.S.-based telecommunications company provides fixed and mobile telephony, broadband, and subscription television and internet services to tens of millions of customers.

IT ENVIRONMENT:

Their IT environment supports three major U.S. data centers, wth data warehouses generating heavy infrastructure workloads. Activities often peak during significant product launches of new mobile phones when hundreds of thousands of activations occur in a short period of time. IT is considered a strategic advantage and the goal is to continously push the envelope to grow competitive advantage. Product launches must be full supported with 99.9999% availability and no negative impact to response time.

Storage is split between tier 1 and tier 2 arrays, with customer-facing services on tier 1 using primarily HDS and Dell EMC enterprise-class arrays. Tier 2 storage is based primarily on HP EVA systems. Total online storage exceeds 75 PB and is growing.



Servers mostly run Unix and Linux but the IT organization supports many host operating systems connected to their SAN. The Fibre Channel switches are nearly all director-class devices. The SAN infrastructure is provided by a variety of top tier vendors.

Because IT is considered a competitive edge, there is pressure to maintain superior customer-facing application performance and high availability. Existing measurement tools and testing methodologies were not up to the challenge of optimizing existing applications, improving customer service, and making technlogy leaps at the same time.

CHALLENGES:

One of the key challenges was maintaining high service levels in the face of accelerating data growth and huge spikes in workload while keeping costs down. Response time and availability are critical - any negative user experiences become front-page news around the world.

Due to a growing number of ports and storage, lack of standards amongst vendor-supplied tools, and an inability to proactively avoid problems, it was challenging to manage and optimize the IT infrastructure.

Simply buying more hardware and over- provisioning was becoming cost-prohibitive.

THE SOLUTION:

The IT team was challenged with tight budgets and squeezing better performance from existing resources while anticipating issues before users and application owners were impacted.

They needed to proactively automate the monitoring and analysis of the effect of IT infrastructure on application availability. The team assembled a list of criteria to look for a solution that met the following requirements:

- Complemented existing vendor management and monitoring solutions and provided reporting that provided a deeper look than vendor tools - something that could reveal problems at the hardware level that were impacting application performance
- Provided centralized monitoring to accommodate multiple data centers
- Alerted them to issues before they became business-impacting problems
- Unbiased, and vendor-neutral solution to avoid finger-pointing and empower vendors to offer better advice

THE RESULTS:

After an initial consulting-only engagement, the Virtana Infrastructure Monitoring Infrastructure Monitoring platform was deployed, eventually supporting over 35,000 fibre channel ports, including over 500 ports connected to the SAN Performance Probe. Specific benefits to the IT team include:

- Improved communications between the server team and storage vendors. Customer can now send vendors their Virtana Infrastructure Monitoring reports and ask for their advice. The vendor and device-independent support of Virtana Infrastructure Monitoring virtually eliminates vendor finger pointing.
- A non-intrusive monitoring solution with no impact on application hosts.

- Problems are identified before they affect application performance or availability.
- Storage tiering strategies can now be validated via a neutral third-party solution to help align application requirements with the appropriate tier of storage.
- Quantitative modeling helps eliminate "rules of thumb" capacity and performance planning, providing critical input for future purchasing decisions.
- Faster troubleshooting — incident identification and resolution process is dramatically improved via trend analysis and access to metrics there was simply no other way to see before.
- Helps enable the IT infrastructure to comply with service level agreements.

Ultimately, the IT staff is judged by how effectively they support the application consumers. According to a senior administrator, "reducing the instances of response time problems has probably been the most obvious benefit to deploying Virtana Infrastructure Monitoring. Getting fewer trouble tickets is an obvious way to point to a solid ROI for this decision."

LESSONS LEARNED:

When asked what the IT team would recommend to new Virtana Infrastructure Monitoring customers, the person who uses Virtana Infrastructure Monitoring most frequently replied "Take advantage of the collective experience of the Virtana consultants and of other Virtana customers.

Virtana Infrastructure Monitoring generates a lot of metrics and learning quickly to pay attention to the most important ones is critical."

The company found that most vendors welcomed the additional reports they got from Virtana Infrastructure Monitoring.

It's interesting to see which vendors like the idea of a third party monitoring solution like Virtana. Since the company has a redundant IT infrastructure, it was easy to add the SANInsight Fibre Channel TAPs (signal splitters) during maintenance windows with no effect on users.

Having said that, it would be better to provide TAPs when the initial IT infrastructure is deployed, and make it a corporate standard. The cost is small, and the upside is significant.