NetBrain enables Saudi Telecom to operate their large complex network

Quick Facts
Saudi Telecom

Employees Served:
7000 – 10,000

Data Centers: Five

Network Devices:
4000 – 5000

NetBrain Use Cases:
Network Mapping, Visualization

> " NetBrain's support is the best I've ever seen. "
>
> **Mahmoud Elgebaly**
> Data Center Solutions Architect, Cloud Infrastructure

About Saudi Telecom

Saudi Telecom (stc) is the leading telecommunications provider in the Kingdom of Saudi Arabia, offering a broad range of consumer and business communications services, including broadband, mobile wireless, IPTV and managed IT services. stc's enterprise IP network (which supports the user network and IT server farm) includes upwards of 5,000 devices, encompassing five main data centers (with more on the way) and roughly 100 remote sites. The company has adopted Cisco ACI SDN technology and has been gradually converting all of its traditional network connectivity to SDN. stc runs a private cloud based on VMware NSX-T for its IP network, and a separate telco cloud based on Huawei and Cisco technology.

The Challenge

stc has a fairly complex network configuration, with a combination of traditional networking devices along with a number of leading-edge deployments including software defined networks (SDNs) and a private cloud. The company is in the final phase of a data center migration, transitioning its existing traditional data center infrastructure to Cisco ACI.

stc has been a NetBrain customer since 2016, with its network operations team initially licensing a small number of user seats primarily for network mapping, documentation and troubleshooting. stc's Cloud Infrastructure GD team quickly realized that NetBrain also included a complete no-code automation capability and immediately became an advocate for the product within the organization. Over time, a growing number of design and operational teams and their engineers began using NetBrain as word spread throughout the company.

In 2021, stc had a significant service impact which affected service delivery of a key application. It took nearly 30 days – and a lot of guesswork – before network operations, server, application and security teams were able to definitively identify the contributing factors and then determine the proper means to entirely restore production network services. The highly publicized outage caused stc's Group CTO to realize that the organization needed end-to-end visibility and a strategic cross-sector automated incident management plan that spanned from infrastructure to application. To meet this need, Cloud Infrastructure GD proposed utilizing the additional automation capabilities already available within the NetBrain products they had as he and his team believed it was the only enterprise-class solution capable of building and maintaining the entire network infrastructure automatically. They knew that the detailed visibility and operational automation would allow them to resolve any future issues with any application much more quickly - or better yet proactively identify and fix potential issues before users are affected.

The Solution

Today, NetBrain has done all of this and more and has become their core solution for managing stc's diverse network. There are now six or more teams of 10-15 people using the product as their basis for network operations, and it is focused on leveraging its preventive automation capabilities which is driving even greater adoption. NetBrain has replaced many other network monitoring tools and is being incorporated into stc's NOC Incident Management Dashboard. And stc is already planning an integration between NetBrain and its BMC Remedy trouble ticketing system. Within their NOC dashboard, NetBrain will provide an always up-to-date representation of the topology and complete visibility into network connectivity and performance status. stc is even using NetBrain for comprehensive inventory management - for example to find end-of-life devices dynamically rather than tracking them in an Excel spreadsheet.

The data center and design teams use NetBrain's network intent features regularly for application performance health checks, protected change management, and proactive infrastructure monitoring. They have even found it useful for capacity planning. As stc continues implementing NetBrain and its network automation in its IT cloud, it's also exploring the possibility of using it with its telco cloud and public MPLS network.

According to Mahmoud Elgebaly – Data Center Solution Architect in Cloud Infrastructure GD, "It's on my screen all day, every day. I use NetBrain every few minutes - as the data center network design team, we need full visibility on all network devices all day long for routing, switching, connectivity, and other design purposes." He believes it will see even higher usage from operations teams as the rollout continues.

The Results

For troubleshooting, NetBrain is particularly useful in helping to resolve A-B path issues, eliminating the tedious and time-consuming need to manually track paths from hub to hub. Elgebaly estimates that NetBrain has saved 80% of the time it would otherwise take to execute these tasks. For instance he noted that he can now do new routing implementations with a single click rather than the arduous and very manual processes his engineers had been accustomed to for years.

From a customer support standpoint, Elgebaly has been impressed with NetBrain's responsiveness and flexibility. He notes specific examples, like NetBrain's team designing a script to fix a problem while on a call and NetBrain helping stc to develop a capacity planning dashboard. stc's top management is very confident in NetBrain's ability to provide help when needed, which has made them far more receptive to using NetBrain elsewhere. In fact, management has been so impressed with the results of using NetBrain in the data center that they have specifically asked how the product can be used across stc's entire network.

From an onboarding standpoint, users find NetBrain quite easy to use, even without training and as more users begin using NetBrain, additional uses become apparent.

What the Future Holds

stc is in the process of a massive buildout of sixteen new data centers. NetBrain is playing a significant role in network planning, validating network design, and discovery of new and existing networks. stc will also use NetBrain for performance monitoring (taking full advantage of its ability to integrate with APM tools) as well as change analysis and intends to create a performance management dashboard for its complete infrastructure. And after seeing a demo of NetBrain's latest network visibility capabilities, stc's management agreed that it will be the perfect solution to implement a capacity planning dashboard, which is currently in progress. They expect NetBrain to eventually replace their entire current infrastructure management toolset.

Ultimately, stc sees NetBrain as the single, central solution to provide full visibility and outage prevention through network automation across its entire network infrastructure for design, management and troubleshooting.