NetBrain

NetBrain Simplifies Device Audits, Eases Troubleshooting and Enables Self-Service IT at Electric Vehicle Manufacturer

Quick Facts

Employees:
More than 100,000

Locations:
More than 1000

Network Devices Managed:
More than 12,000

NetBrain Use Cases:
Network Mapping, Visualization, Compliance, Security, Troubleshooting, Change Management

> " The security team uses NetBrain data every day for their investigations. Everybody wants NetBrain data. "
>
> Network Manager at North American EV manufacturer

About the Customer

This NetBrain customer is a North American electric vehicle (EV) manufacturing company. Their IT department functions like a managed service provider, supporting several distinct tenants that are all complicated in their own way. The company's seven business functions each has its own unique network design, making the overall network "extremely complex," according to one Network Manager. They are a multi-vendor shop with network products from Cisco, Juniper, Arista and several other vendors, and make heavy use of all major cloud providers, with multiple layers of redundancy.

The Challenge

This customer's Network Operations team had two problems. First, they were drowning in service requests for specific networking data from other IT departments. For example, the security and IT infrastructure teams often needed to know the switch port that a specific device like a camera was plugged into or wanted to find ports that were not being utilized where they could deploy additional devices. Second, managing the inventory and configuration of thousands of network assets was a time-consuming, manual process. Tasks like identifying all the devices globally with certain older firmware versions or non-compliant configurations were consuming their available resources due to scale. Their team was also spending hours building countless topology maps related to ongoing operational tasks to see things like which firewall was blocking a crucial bit of traffic. All this repetitive work was taking away valuable time that NetOps could be spending on other more strategic projects. Staying on top of weekly device change requests, password rotations and hardware refreshes was challenging. Keeping all this running and in support of the business while responding to the stream of constant requests from other IT departments was overwhelming.

The Solution

When the Network Manager responsible for automation and tooling joined this EV manufacturer more than 5 years ago, a proof of concept of NetBrain was already in process, having been identified as a potential solution to their network operations scale problems by a former employee. Much of their initial work was partnering with NetBrain to assure the solution would support all their infrastructure products supplied by all the industry's largest network infrastructure vendors.

This manager had prior experience using NetBrain and noted that it had worked flawlessly in their all-Cisco shop in a past role but needed to confirm that NetBrain could support all the vendors currently in use at their new organization. They had full partnership and commitment from NetBrain's implementation and support organizations throughout this process. NetBrain assured this customer that the platform would be able to interface with any network component that had a native management interface and, working with NetBrain's deployment team, they began to add devices from all the manufacturers that made up their network. After the comprehensive multi-vendor support was confirmed, adoption of NetBrain grew quickly.

Since then, NetBrain has become an essential solution among this customer's network engineers and support engineers; there are now hundreds of unique users with about three dozen of them using it every day. One particular firewall engineer uses it many times per week for application-related traffic path analysis. Also, many more facility engineers, security engineers and Tier 1 support team members use the data from NetBrain's live digital twin through one of the many custom reports, tables and integrations that the NetOps team has built themselves.

One of these custom reports has solved a major headache for NetOps: sharing device-level networking data with other IT departments. They export a wide range of NetBrain data to Splunk and have created a custom JSON table that allows any user to look up IP addresses, MAC addresses, and switch port location information in a self-service model. Other teams, like security and facility engineers, use this table to find the IP addresses or switch ports of devices without needing to resort to emailing or opening a ticket with NetOps. Now they can quickly check the details for any number of devices with the touch of a button. "It's really a lifesaver," said the Network Manager responsible for NetBrain. "We have so many users who leverage the NetBrain data every day."

Since this customer has an extraordinarily complex network that spans more than a thousand sites globally and processes that rely on older workflows, it has not yet taken advantage of NetBrain's no-code automation capabilities. But their network manager says they see the value it provides for customers that aren't in that unique situation. They praised how NetBrain's intent-based network automation allows network engineers to be self-sufficient and create their own parsers without the need for developers to know advanced Python.

And for those staff developers that do use Python, this customer plans to incorporate NetBrain's extensive API support to enable their development efforts to be more informed and contextual.

The Results

NetBrain has become this customer's single source of truth for infrastructure details like network device inventory and audits. The NetOps team finds NetBrain and its real-time digital twin technology especially useful for finding devices that are intrusive, or those operating with operating systems that do not match current configuration and design standards. It's also a key part of their troubleshooting workflow; they use NetBrain to generate network topology diagrams on demand to easily visualize critical network information, like the exact firewall and firewall policies that may be blocking specific application traffic. One senior network manager also singled out how helpful NetBrain is for password rotations as part of their security task list; NetBrain can detect any network devices still using old passwords (perhaps because they were offline during the refresh). Detecting security and compliance issues automatically across their entire global network is a huge time-saver.

The integrations and device tables enabled by NetBrain have dramatically helped related IT departments (like security and Tier 1 support) to resolve issues themselves in a self-service fashion, rather than escalating to other teams, involving remote experts, or opening additional service requests to the NetOps team. The network manager responsible for NetOps tooling estimates that this operational change has saved them personally more than 10-20 hours each week.

> "
> Personally, (NetBrain) has saved me 10-20 hours per week that I used to spend on email or people pinging me. Now it's all self-service. "
>
> Network Manager at North American EV manufacturer

What the Future Holds

This customer's NetOps team continues to find new use cases for NetBrain. Later this year, they are planning a pilot to explore managing their growing AWS and Azure virtualized infrastructure services. They're also interested in the ability to overlay additional third-party monitored data on top of a NetBrain topology map and in streamlining the process of tagging devices in a topology map based on geolocation to get a better picture of their global WAN logical to physical alignment. Building self-service IT tools based on NetBrain's core data model has already been a success - and this customer sees many more opportunities to explore.

"
Network intents is a good idea... I see the improvements. For a network engineer that needs to be self-sufficient and doesn't have a software engineer to help them, NetBrain is a perfect product. "

Network Manager at North American EV manufacturer

About NetBrain Technologies

Founded in 2004, NetBrain is the market leader for NetOps automation, providing network operators and engineers with dynamic visibility across their hybrid networks and low-code/no-code automation for key tasks across IT workflows. Today, more than 2,500 of the world's largest enterprises and managed service providers use NetBrain to automate network problem diagnosis, generate real-time documentation, accelerate troubleshooting, and enforce enterprise architectural rules.

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