SOLUTION BRIEF

Proactively Assuring Network Performance

If you've been working with enterprise networking for a while, you've likely seen the phrases **"intent-based networking"** or **"network intent"** and perhaps some promises that these technologies will revolutionize networking or lead to the rise of the self-healing network. While this sounds exciting, the impact that intent-based networking has had on the enterprise, although positive, has been more incremental than revolutionary.

One of the limitations of intent-based networking systems (IBNS) is that these technologies focus on Day 0/1 network operations – deployment, configuration, and other tasks involved with the building and rollout of new networks. **But what about intent for Day 2 operations? What could it mean for the enterprise if network intent technology could be applied to ongoing maintenance tasks and the resolution of tickets?**

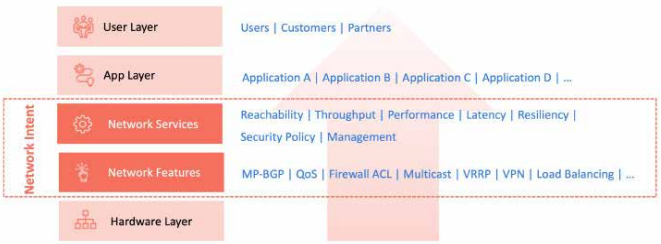
Before getting into that, it would probably be helpful to discuss just what we mean by "network intent".

Networks are Collections of Intents

We may be conditioned to think of enterprise networks as stacks of box-shaped appliances and bundles of cable. However, beyond the physical (or virtual) shell of network infrastructure, networks are comprised of thousands of intents. Network intents are simply put, the outcomes we expect our network infrastructure to deliver.

Intents include things such as network design, performance expectations, security policies, and application paths, among many others.

Intents range from the purely technical (e.g. packet size) to domain specific (e.g. access policy) to business-driven (e.g. throughput levels for a customer-facing network application). Intent-based networking requires automation and configuration-level access to the network infrastructure to convert intents to desired infrastructure configuration outcomes.



And the above is great for making sure networks are deployed correctly and optimally on Day 1. However, networks are comprised of a vast array of types of infrastructure, vendors, and protocols and are impacted by myriad internal and external forces. Using network intent to optimize the full enterprise network lifecycle requires a different approach.

Intent-Based Problem Diagnosis Automation

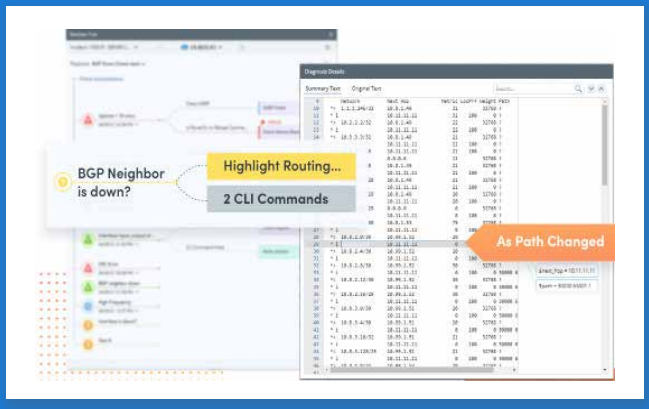
Applying the IBN paradigm to the full network infrastructure lifecycle is the logical evolution needed to empower IT teams to future-proof their operations. **The NetBrain Problem Diagnosis Automation System's (PDAS) Intent-based automation allows network operations teams to increase the autonomy of their infrastructures, allowing for faster resolution of service impacts, with increasing levels of efficiency throughout the network lifecycle.** This proactive intent-based operations approach drives networks closer to that lofty goal of being self-healing. What makes NetBrain different is its ability to pull in contextual, real-time data from the network's day-to-day operations and to continually validate and verify that the network is providing the exact level of service needed by every business application, based upon the agreed performance intent or baselines.

Like any data-based automation, IBA requires constant access to **real-time data sources** on how the network is performing. Ideally, this involves a network operations platform that can **provide insights based on historic, baseline, and current information about how the network is behaving.** Further, the automation system must be able to execute rapid scale diagnostic checks against those key aspects of the network that enable good performing applications - reachability, resiliency, performance, and security.

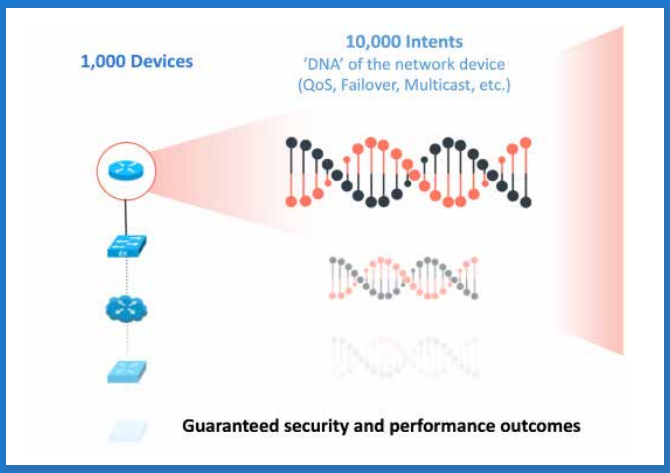
These things combine to provide an intent-based operations approach that can catch network behaviors going awry prior to becoming a bigger problem.

How does it work?

Intents ride on top of infrastructure, offering an end-to-end perspective of "how do I get my application from Point A to Point B and performing well". But individual outcomes, these are device by device, software feature by software feature. For example, we may have the goal of directing traffic to the Internet via one of two redundant service partners, but to accomplish this we would have configured BGP routing on my edge devices. We may have configured performance controls such as MTU or QoS. We'll have security policies configured to secure the device and network. And similar controls would have been applied to neighboring devices and so on.



We are therefore required to see the network in two, but combined, ways – first, a contextual view of the network, such as a node-by-node end-to-end application path; and second, a per-device view, to know that each device individually has its application affecting features properly configured and healthy.

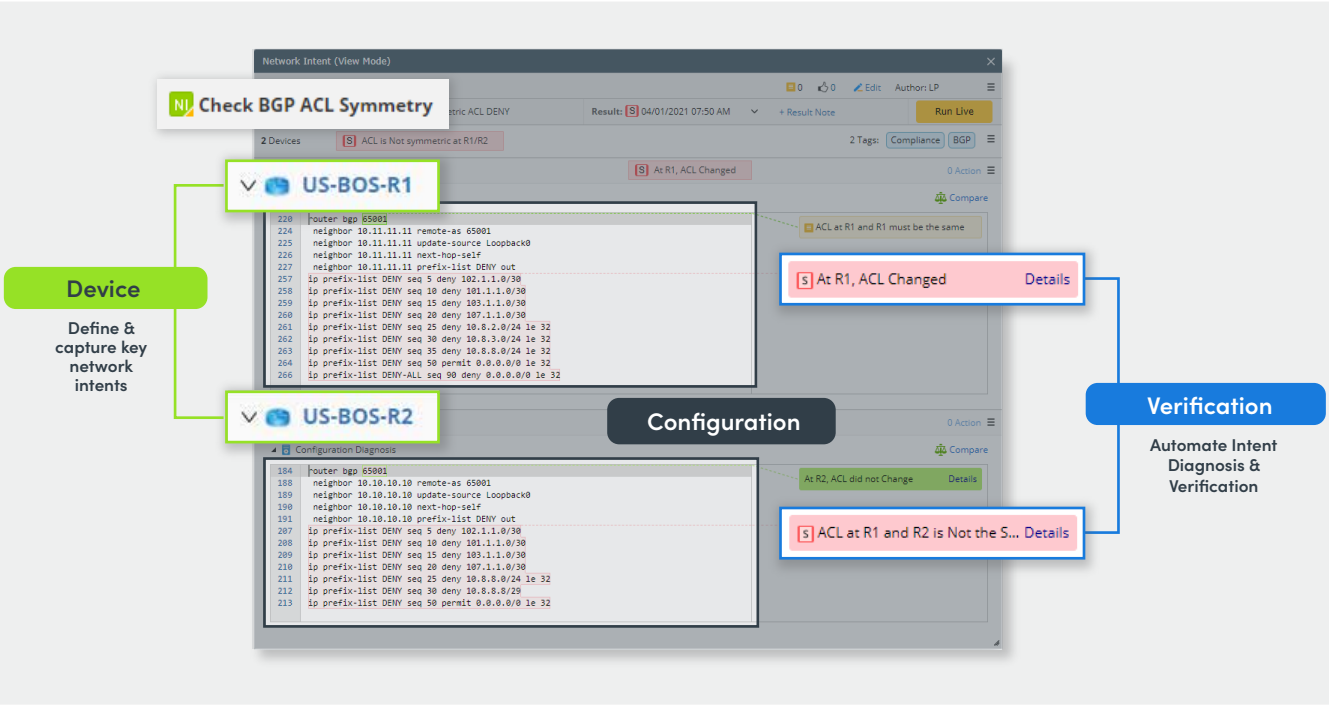


Once we have an array of device-level outcomes to validate, we have the necessary elements to feed into a loop of continual assurance. The validating and reporting of these key network characteristics, those things that need a specific configuration, that need to be in the correct operating state, informs network operators of a specific failure of function.

Rather than relying on residual problem symptom alerts, instead we **monitor for those core aspects that allow my application to perform well. This proactive approach to diagnostic automation with a focus on network design and function can enable teams to halt developing problems before they become huge outages.**

The Ultimate Benefit – Network Availability and Performance

NetBrain's proactive intent-based automation validates that the network is delivering the business outcomes it has been built to achieve. As new applications come online, NetBrain assures that previously deployed applications continue to work as needed by the business. And with large organizations typically deploying hundreds of applications, the NetBrain Problem Diagnosis Automation System's proactive automation becomes an essential risk reduction and business continuity tool. NetBrain Problem Diagnosis Automation System helps enterprises prevent network problems, 50% of which are preventable, by providing automated enforcement of rules and best practices. **NetBrain sets network operations on a path to efficiency that scales for every IT person, every network, and every task.**



About NetBrain Technologies

NetBrain Technologies offers an adaptive automation platform that aims to automate all NetOps workflows to reduce time and operating costs as well as to distribute IT resources more efficiently.

With the goal of continually reducing MTTR, NetBrain supports over 2,300 of the world's largest companies today. Dynamic maps and executable runbooks form the heart of the automation platform and are the basis for any problem analysis. This enables NetOps teams in any network - physical, virtual, SDN, SD-WAN and Public Cloud - to discover, isolate and fix problems faster and document the knowledge gained for future incidents. NetBrain is an adaptable multi-vendor platform which, through the integration of other network systems, offers a uniform view of all data and continuous transparency in the complex heterogeneous network.

Do you want to learn more about Intent-Based Automation from NetBrain and see it in Action?

REQUEST A LIVE DEMO

+1 (800) 605-7964
info@netbraintech.com
www.netbraintech.com