DATASHEET

NetBrain® for Public Cloud

Automating Service Ticket Management for Hybrid Networks

The Challenge

Today's enterprises are rapidly adopting hybrid computing strategies that incorporate one or more public cloud environments. With almost 40% of all computing workloads already being conducted in Amazon Web Services, Microsoft Azure and Google Cloud, it is becoming abundantly clear that the network operational management strategies that were put in place for traditional infrastructures need to be re-imagined to fully embrace this cloud-based computing strategy. Public cloud delivered IT services can no longer be treated as a fixed block box which is external to an organization's strategic network operational plan.

Network operational teams already understand that the number of tasks associated with keeping production networks up and running grows as computing capacity scales and its complexity increases. So, it is no surprise that as cloud-based architectures are increasingly adopted as part of an enterprise's computing strategy, the means to manage the entire network infrastructure must be re-designed to accommodate the hybrid network with end points inside the cloud. And that is where network automation and visibility from NetBrain comes in.

NetBrain is the industry's leading visual network management and automation platform that focuses on problem diagnosis for hybrid and multi-cloud networks at scale. NetBrain users can visualize and automate their entire hybrid network, including their cloud instances, their traditional equipment and all of the software-defined network components within a single management console.

Every detail about the end-to-end infrastructure is auto discovered, and that comprehensive data set then becomes the intelligent platform to facilitate change at scale by leveraging "no-code required" automation.

Scaling Network Operations in Multi-Cloud Environments

NetBrain offers complete native support for all the major public cloud providers and incorporates those structures into its single view and automation control plane. Your public clouds are no longer treated as a black box. And with this native support, you can scale your network operations as your cloud-based computing strategy evolves, regardless of which cloud providers are chosen.

NetBrain supports hybrid, multi-cloud architectures with detailed real-time understanding of:

- All virtual private cloud and network resources
- All accounts, subscriptions, organization, projects and tenants
- Application traffic flows and interconnects
- All network devices

With this real-time knowledge, NetBrain enables you to:

- **Accurately inventory cloud resources**
  Gain accurate and up-to-date visibility across your entire hybrid network.
- **Understand traffic flow between on-prem and cloud**
  Visualize the interconnections between on-prem and cloud to understand application traffic flows. When there's an issue, get a clear view on where a problem is.

- **Analyze and compare historical data**
  With an understanding of all cloud routing and state tables, compare changes across the entire network against a baseline to identify and resolve problems quickly.

- **Incorporate public cloud services into your existing end-to-end problem diagnosis and automation best practices**
  Unified visibility of on-premise, software-defined, and public cloud infrastructure helps users collaborate and resolve issues faster.

Automating Problem Diagnosis and the Cloud

NetBrain's rich visualization of the end-to-end network provides the foundation to apply automation to any operational task, by anyone, without software development or coding. NetBrain reduces ticket duration by identifying the root cause through a dynamic map, which includes the public clouds, and allows for collaborative remediation with any subject matter expert all while building a repository for automated resolution along the way.

Leveraging Your Subject Matter Experts

NetBrain transforms your SME's knowledge and experience into no-code units of automation, which can then be leveraged in the future by anyone to solve reoccurring network problems and execute repetitive tasks. NetBrain's automation tasks are abstracted, so the same action can be executed across any network, including the cloud, to attain the desired results.

Auto-Discovery and the Digital Twin

NetBrain auto-discovers your end-to-end hybrid including its multi-cloud components through its native API support. Its discovery engine continuously inventories all devices, their configurations, the connectivity, and the protocols with support for thousands of accounts and millions of virtual servers. NetBrain keeps track of all VPCs, VNets, and other resources including accounts, projects, organizations, tenants and subscriptions in real time. And it understands interconnections between on-premises resources and clouds, so when an issue occurs, you can quickly pinpoint where it is regardless of where it is. NetBrain maintains this operational knowledge continuously, and create a robust Digital twin of the entire infrastructure, including its cloud services, to assure that the model is always up to date with easy identification of historical trends and changes.

Seeing is Believing, the Real-Time Dynamic Map

NetBrain visualizes your entire hybrid network in real time as a map showing application dependencies across clouds, software-defined and on-premises infrastructures. NetBrain Dynamic Map technology provides a single consolidated view of end-to-end operational data that is integrated with the cloud providers' own native cloud monitoring, logging, and billing tools.

NetBrain's Dynamic Maps provide critical information about interface statistics and conditions of resources (e.g. CPU, memory, and storage). The Dynamic Map becomes the single pane of glass for data correlation for the entire network, spanning physical, software-defined, and public cloud infrastructure including virtual machines (AWS EC2, Azure VM and Google Cloud Compute Engine). And, you can extend this visibility to new devices and new people without tedious cloud querying.
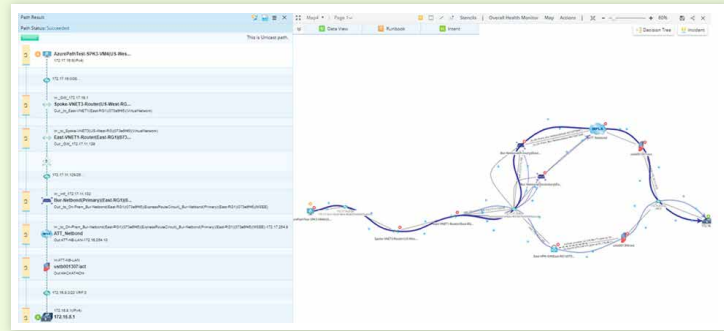
Amazon AWS

Discover AWS public cloud resources, visualizing not only all AWS resources like TGW, VGW, EC2 but also topology and techniques like Direct Connect and Site-to-Site VPN used from on-premises to AWS cloud. This enables service tasks to be thoroughly investigated and automated best practices to extend into the cloud structures programmatically, ending any boundaries previously created by the public cloud.
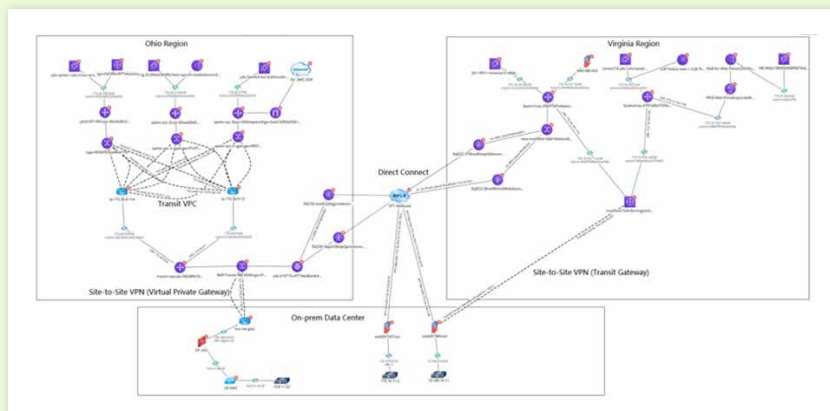
Microsoft Azure

Discover Microsoft Azure public cloud resources, visualizing not only all Azure resources like VPN Gateway, ExpressRoute Gateway, VM but also topology and techniques like ExpressRoute Connection and Site-to-Site VPN used from on premises to Azure cloud.

Google Cloud

Discover Google Cloud public cloud resources, visualizing not only all Google Cloud resources like Cloud VPC, Cloud Router, VM but also topology and techniques like Partner Interconnect, Dedicated Interconnect and Site-to-Site VPN used from on premises to Google Cloud.
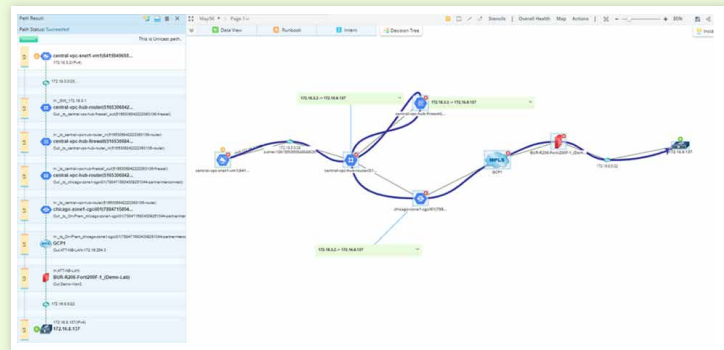
Map Multi-Cloud Traffic Flows with NetBrain's A/B Path Calculator

When it comes to operational tasks like troubleshooting application slowness, operational teams must be able to discover the hop-by-hop path the application takes. NetBrain's A/B Path Calculator performs this analysis automatically, all the way from the public cloud to the network edge. This enables true end-to-end path calculation in hybrid and multi-cloud environment - even if both ends are in the public cloud!

Mapping a multi-cloud traffic path with NetBrain requires only the endpoints (via IP or hostname). Its path logic assesses many traffic-forwarding characteristics like Security Groups and ACL across subnets, VPCs/VNets, Network Virtualization Appliance like firewalls, data center to cloud private connectivity, and more. In addition, NetBrain uses self-designed algorithm to calculate the NCT Virtual Route Table for VGW, Direct Connect Gateway, etc., which is not in the route table on the cloud console but provides more connectivity information for users.

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.

Authorized NetBrain Partner