NetBrain

Network Automation Catalog

Dynamic Map

Executable Runbook

Workflow Integration

ADAPTIVE NETWORK AUTOMATION

NetBrain

NetBrain's Adaptive Network Automation platform integrates with existing IT workflows to improve data visibility and streamline network assessment. NetBrain relieves engineers from manual CLI-digging and empowers collaboration through a shared analysis console.

NetBrain automation powers over 1,500 enterprises and managed service providers worldwide including one-third of Fortune 100 companies. NetBrain is headquartered near Boston, MA with offices around the world.

Sample Customers

Santander

verizon

DELL

FUJITSU

NASA

Walmart

dimension data

HARVARD MEDICAL SCHOOL

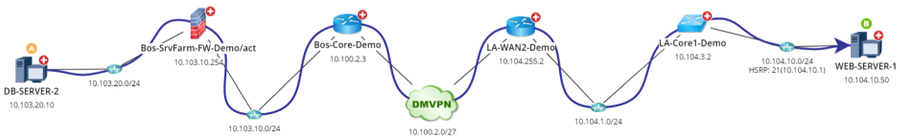
LifeLock

CONTENTS

Dynamic Network Map

Every Workflow Needs a Map

A Dynamic Map provides critical IT data at the moment it's needed, contextualized to the task at hand. With NetBrain, a Dynamic Map serves as the foundation for Adaptive Network Automation.



Criteria	Dynamic Map	Static Diagram
Time to Create	Seconds	Hours
Degree of Detail	Infinite	One layer
Update Method	Automated	Manual
Triggered via API	Yes	No
Track User Activity	Yes	No

Map the Network in Seconds

Any part of the network can be visualized in seconds. On-demand mapping is powered by a mathematical model of the network which is created through a deep network discovery.

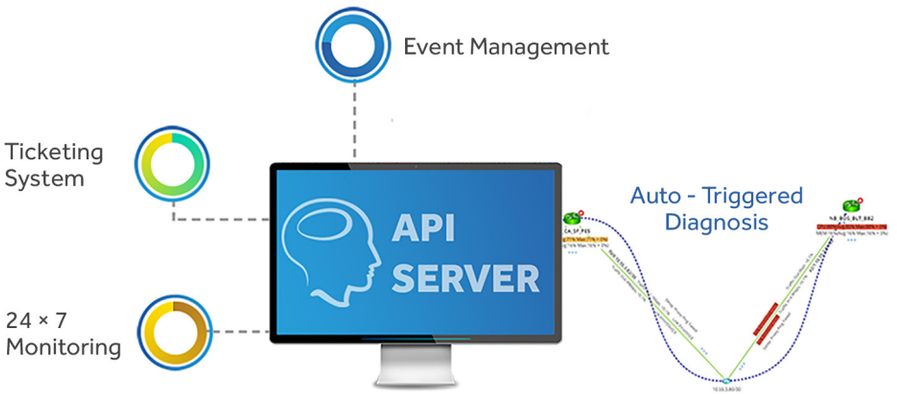
Visualize Any Data on the Map

A Dynamic Map serves as the single pane of glass for IT management. The map can be enriched with data accessible from third party IT solutions, and visualized as unique layers on a single map.

Data View Enhanced Via API

Trigger Map Creation from External Events

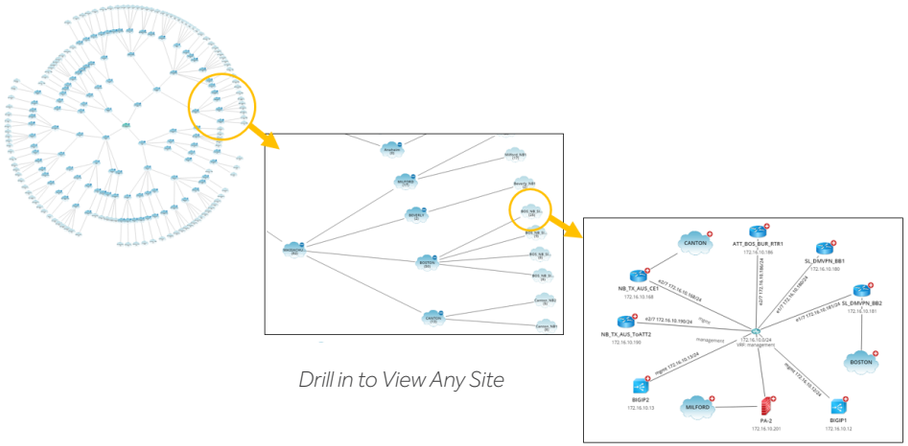
By integrating NetBrain with external monitoring or ticketing systems, engineers can visualize network data captured at the moment an event was detected.



Use Cases for Dynamic Map

Map 100 Branch Offices in Minutes

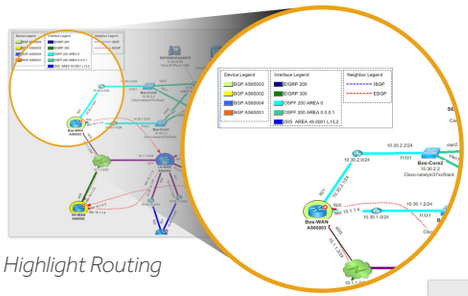
NetBrain can automatically discover, map, and organize hundreds of sites into a single, drillable, hierarchy diagram.



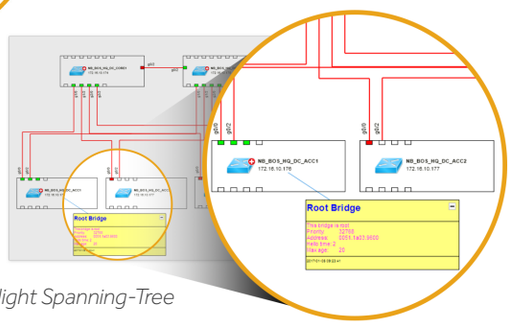
Drill in to View Any Site

Document Network Design

Static diagrams show only basic topology information. A Dynamic Map can display virtually infinite design details, for any technology.



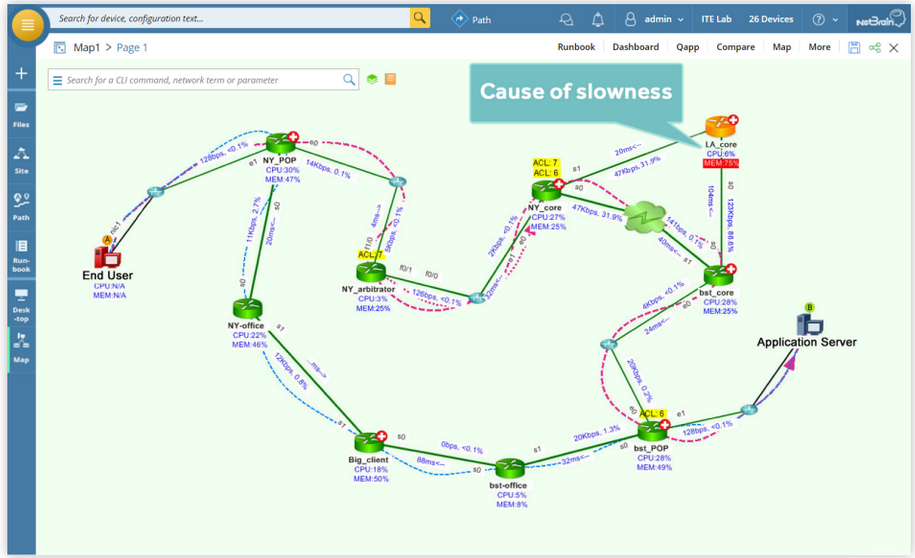
Highlight Routing



Highlight Spanning-Tree

Map a Slow Application End-to-End

The first step to diagnosing network slowness is to understand the flow of application traffic. NetBrain can help engineers visualize both forward and reverse traffic paths.



Map of Asymmetric Application Flow

Visualize a Denial-of-Service Attack

When the network is under attack, real-time visualization of the attack is critical. A path from a malicious host can be mapped automatically.

Map of a DoS Attack

Executable Runbook

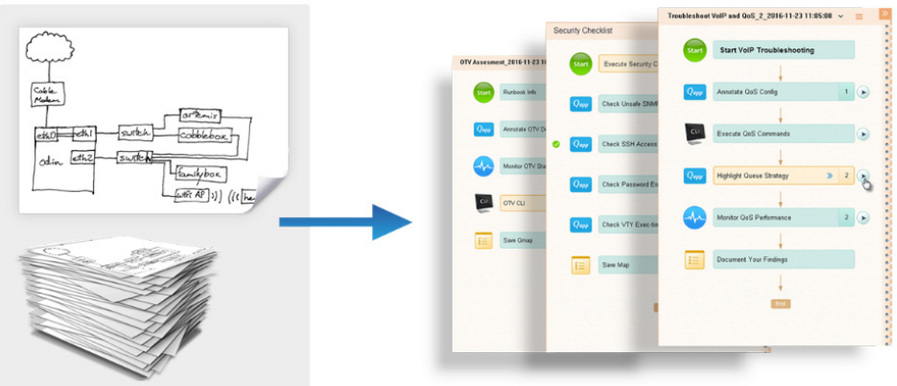
Every Workflow Needs Automation

Every IT workflow can benefit from automation. Executable Runbooks guide engineers with data analysis to help streamline critical tasks and improve knowledge transfer within an organization.

Criteria	Executable Runbook	Static Playbook
Digitize Processes	✓	✓
Track Results	✓	✗
Executable	✓	✗
Trigger via API	✓	✗
Community-Backed	✓	✗

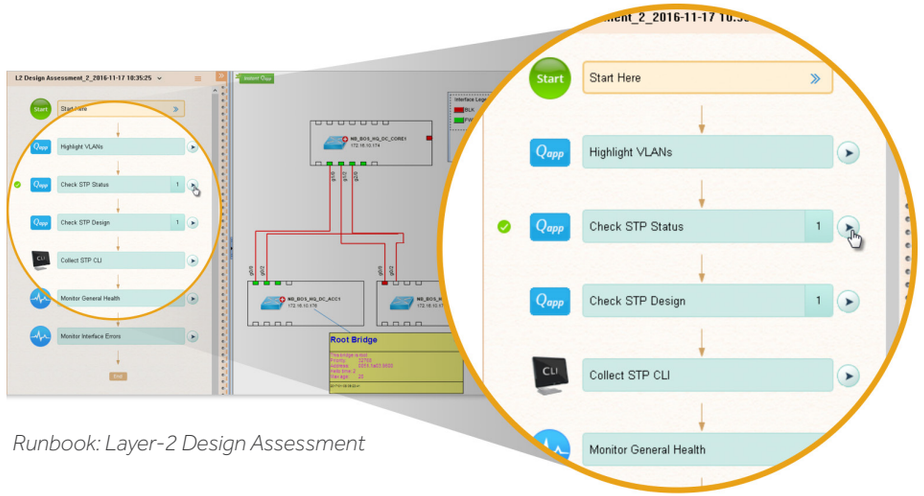
Codify Knowledge and Best Practices

Executable Runbooks are fully programmable, providing a framework for teams to codify knowledge and best practices into repeatable processes which elevate the team's capabilities.



Make Any Workflow Executable

Every step in a Runbook can be executed with the click of a button to automate data collection and analysis.



Runbook: Layer-2 Design Assessment

Document and Share Workflow Data Automatically

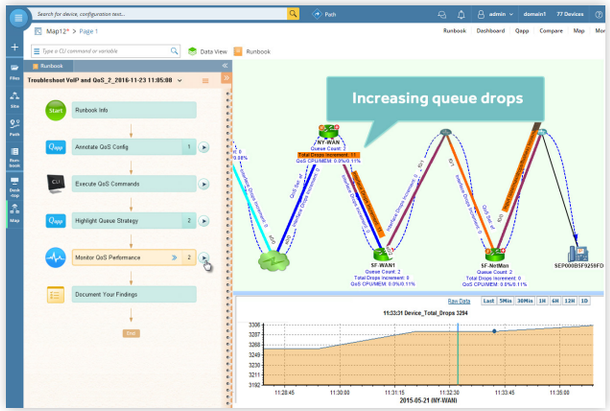
Runbooks are self-documenting. All data captured during Runbook execution is stored inside as a Runbook Result, and attached to the map. This data can be easily shared and replayed later.

Use Cases for Executable Runbook

Every workflow can be guided by an Executable Runbook. Runbooks help engineers analyze network data visually and with automation.

Troubleshoot Complex Technologies

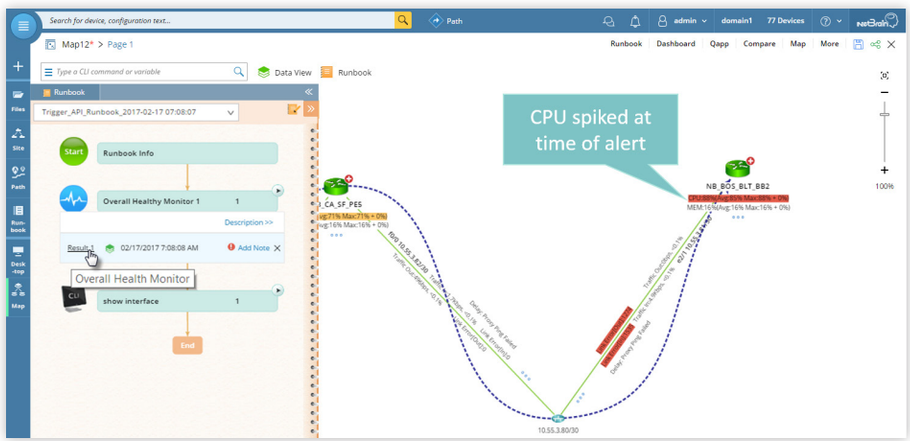
When a new technology is rolled out, only select engineers know how to troubleshoot it. This VoIP Runbook empowers the network team with a set of common QoS diagnoses.



Runbook: Troubleshoot VoIP

Isolate Intermittent Issues

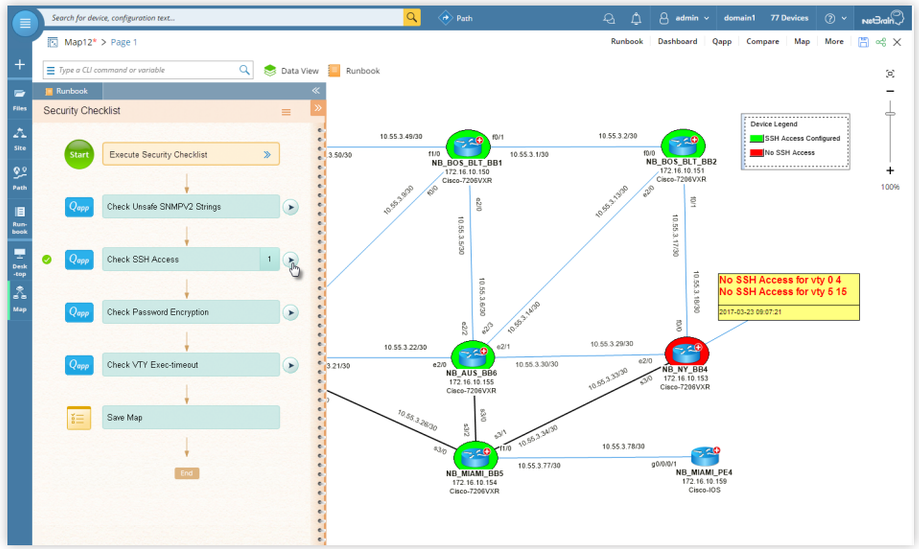
Intermittent issues are the most challenging to track down. A monitoring or ticketing system can trigger NetBrain to map the problem area and execute a Runbook diagnosis at the instance of the event.



Runbook Triggered via API

Automate Security Checklists

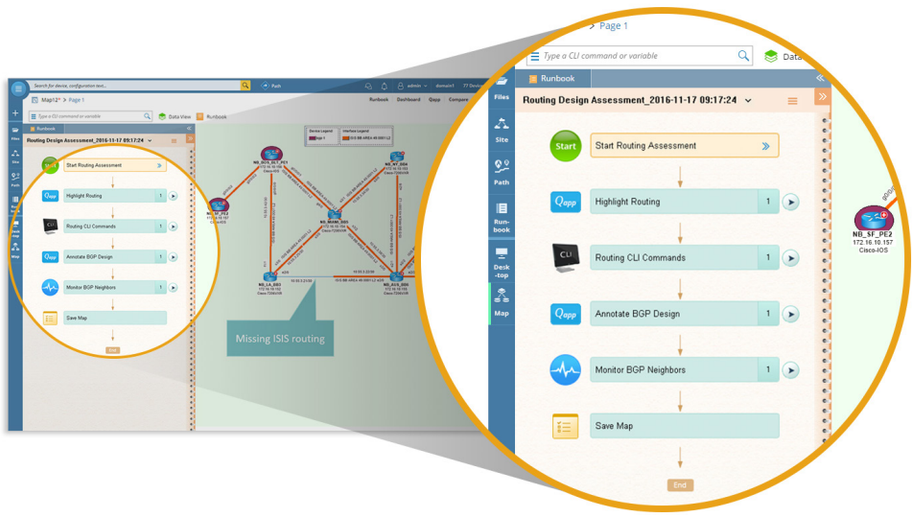
Implementation teams can validate that each network change adheres to a set of "golden" security standards, as defined by the Security team.



Runbook: Security Checklist

Validate a Network Design

Implementation teams can verify that changes are carried out according to the design plans. This minimizes the chance of network outages caused by change.



Runbook: Routing Design Assessment

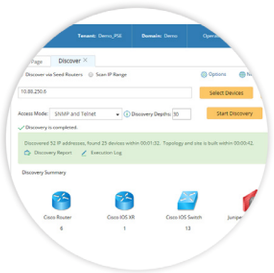
Network Documentation

Documentation is critical for maintaining a reliable and secure network and yet 80% of network teams can't keep it up-to-date because the workflow is manual. Automation is a must-have.

How Automated Documentation Works:

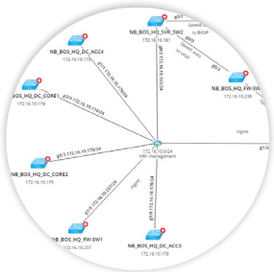
Discover the Live Network Instantly

Starting with a single device, NetBrain's neighbor-walking algorithm discovers the entire network topology and its underlying design.



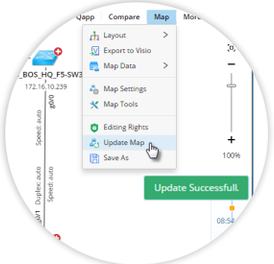
Create Documentation Dynamically

Whether its documenting a remote site, a key application flow, or a specific technology, engineers can map any part of the network on-demand, with virtually infinite detail.



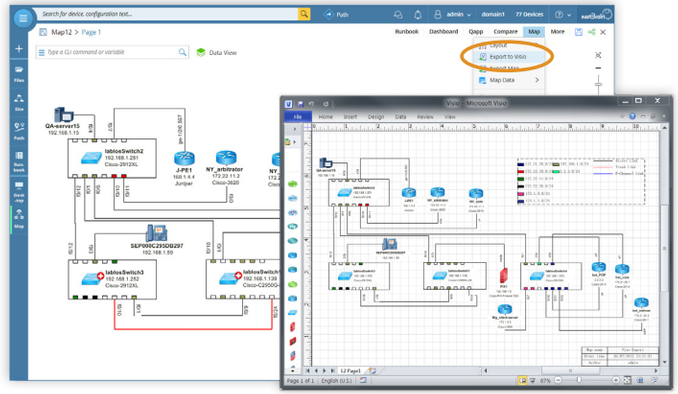
Update Documentation Automatically

NetBrain performs routine benchmarks to refresh documentation with the latest network data. This ensures the documentation is always up-to-date.



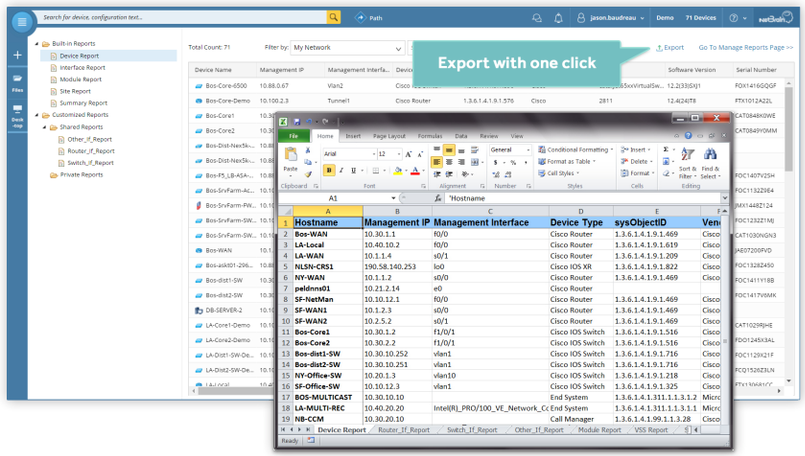
One-Click Visio Diagrams

If static diagrams are required for an audit or design review, a Dynamic Map can be exported to Microsoft Visio with one click. This export task can also be scheduled on the server.



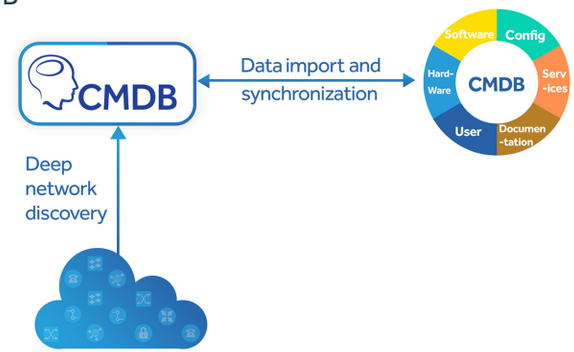
One-Click Asset Reports

A complete inventory of the network is quickly accessible and highly customizable. Any asset report can be exported to Microsoft Excel for easy sharing.



Data Synchronization with a CMDB

NetBrain can be synchronized with data from external CMDBs to provide a single source of truth for all asset data correlation. This ensures NetBrain's inventory information is accurate and comprehensive.

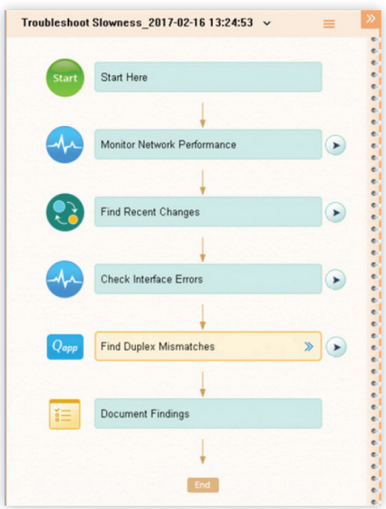


Troubleshooting and Escalation

Network troubleshooting requires an understanding of the network's performance and history so that engineers know where to diagnose. NetBrain helps engineers automate this workflow.

Automate Diagnoses with Runbooks

An Executable Runbook provides a guided troubleshooting workflow. Every step of the workflow is automated and the results are captured inside for review and collaboration.



Runbook: Troubleshoot Slowness

Monitor Network Performance

The Overall Health Monitor analyzes performance at the device level (CPU/Memory Utilization) and the interface level (delay, bandwidth utilization).

Visualize Historical Changes

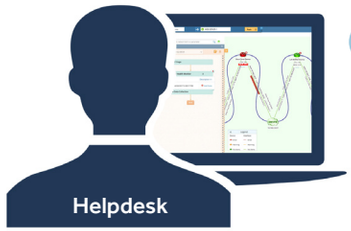
Roughly 50% of network outages can be traced back to a change. NetBrain helps teams visualize recent changes on the map.

Drill Down with Automation

For any problem, there can be hundreds of potential causes. Engineers can customize Runbooks to automate virtually any diagnosis.

Network Troubleshooting Escalation

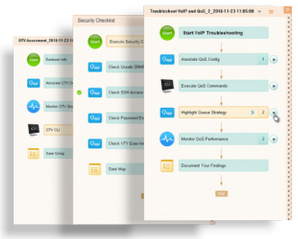
Challenging problems often require escalation. With NetBrain, teams can apply automation to every phase of escalation – from ticket creation, to data collection, and for sharing knowledge of best practices.



1 Ticket Received

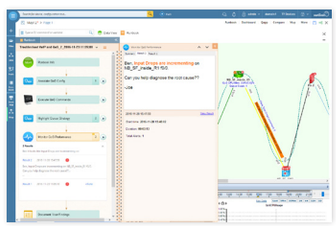
Helpdesk engineer receives a ticket with hyperlink to a Dynamic Map.

2 Automated Helpdesk Diagnoses



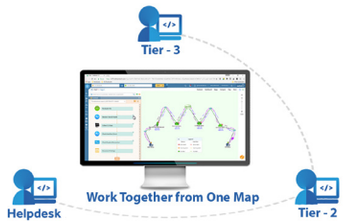
Engineer opens map and executes pre-built Runbooks to diagnose.

3 Escalation and Data Sharing



Helpdesk engineer escalates map with all Runbook data attached.

4 Collaborative Root Cause Analysis



Teams collaborate from a single map URL to resolve problem.

5 Knowledge Library Enhancements

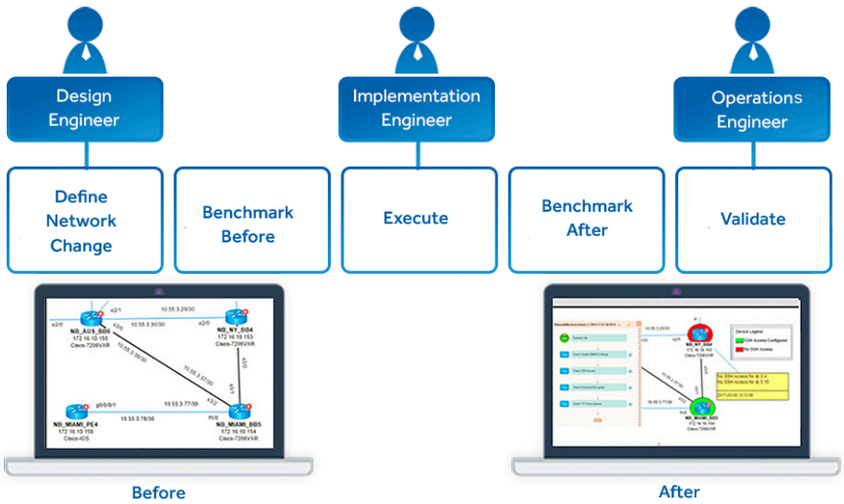
Senior engineer enhances Runbook library with lessons-learned from event.

Change Management

Network changes are prone to human-error. Applying automation to a change management workflow can streamline the change process and ensure safer network changes.

Reduce Human Error in Network Changes

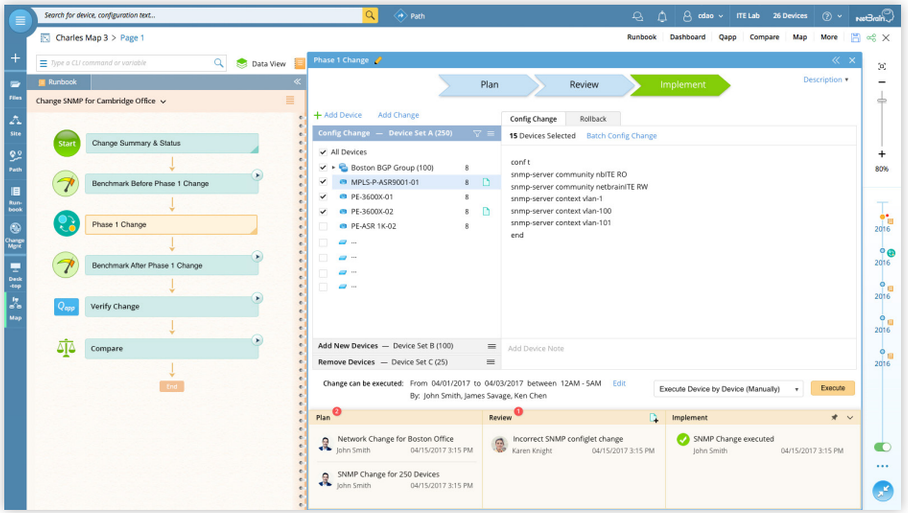
Design, Implementation, and Operations teams can leverage a single map to define and validate changes. Changes can even be deployed with automation.



Map-Driven Change Workflow

Push Changes with One Click

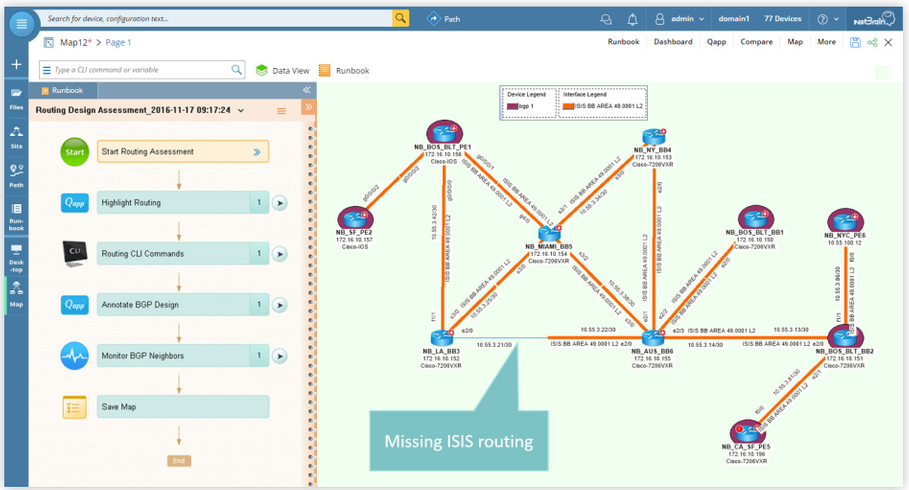
Design engineers can pre-define a configuration template which the Implementation team can execute with one click. If necessary, those changes can be rolled back just as easily.



Runbook-Guided Change Management

Validate Changes Visually

Using a pre-defined design validation Runbook, Operations teams can ensure the changes were implemented as-planned, without adverse impact.



Runbook: Rooting Design Assessment

Cyber Security & Defense

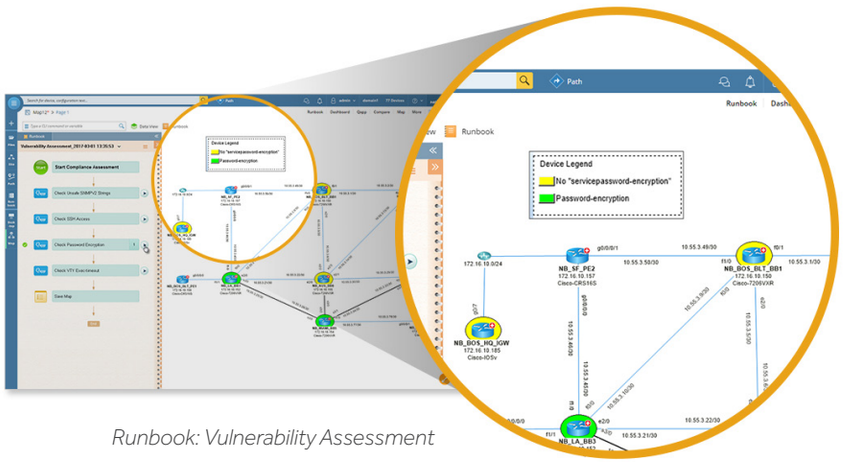
Network security requires both proactive network hardening as well as timely response to detected threats and attacks. NetBrain can enhance both types of security workflows.

Protect: Enhance Network Hardening

Network hardening requires that network configuration adheres to basic 'golden' rules of security. Such compliance reduces the vulnerability of network assets.

Phase 1: Automate Security Assessments

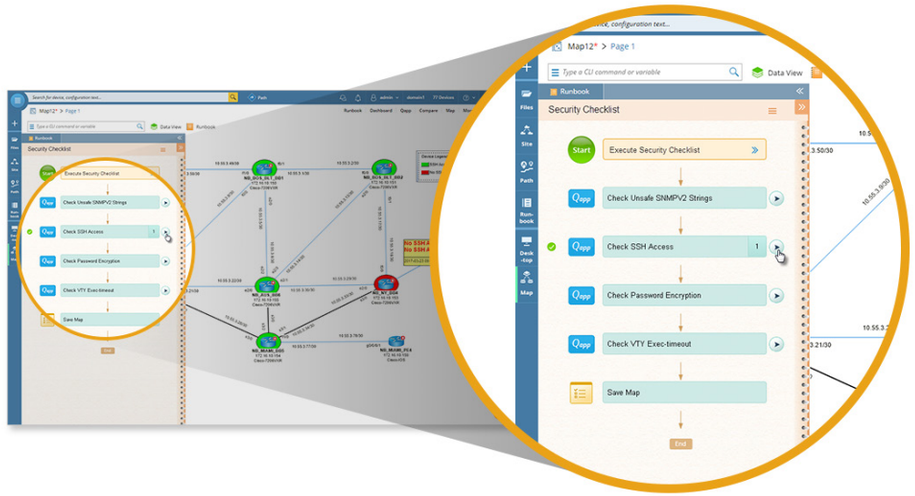
As a first level of network hardening, security teams can identify existing vulnerabilities in the network with Runbook automation.



Runbook: Vulnerability Assessment

Phase 2: Guide Engineers with Compliance checklists

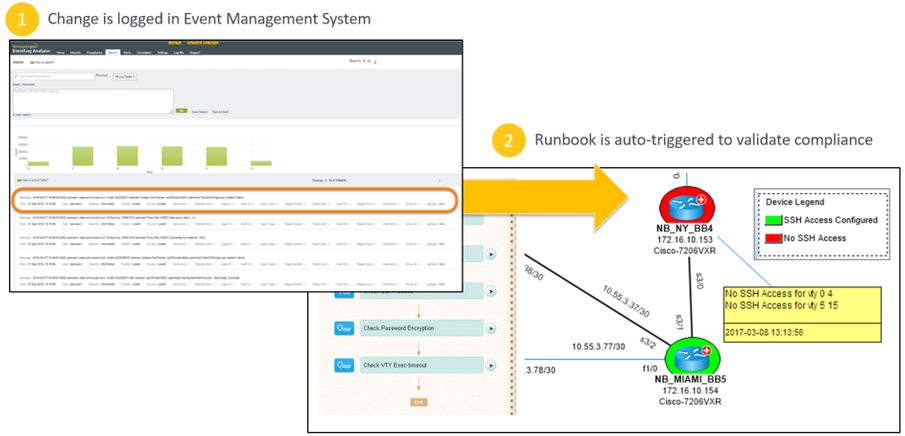
Network teams can minimize future security gaps by providing Implementation teams with executable security checklists which help ensure security compliance.



Runbook: Security Checklist

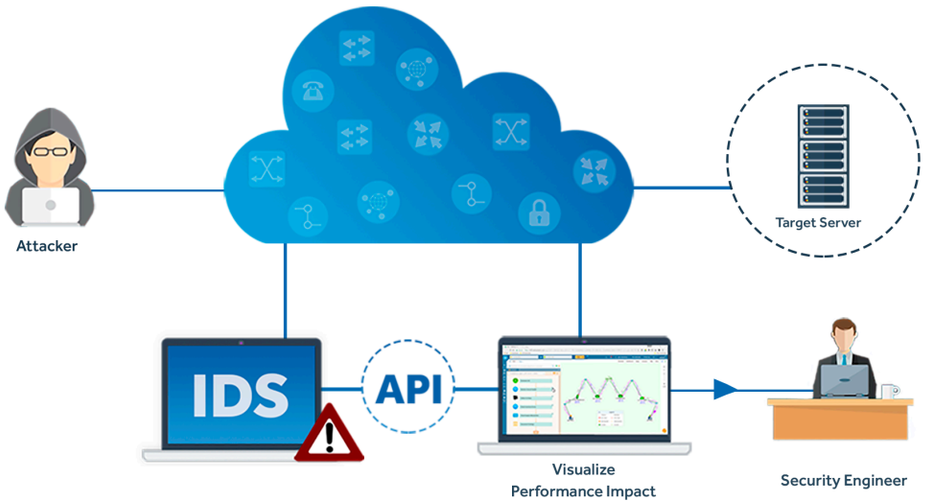
Phase 3: Proactively Guard against Non-Compliance

To ensure security checklists are being used, NetBrain can integrate with Event Management Systems. This integration will automatically trigger a design validation following each network change.



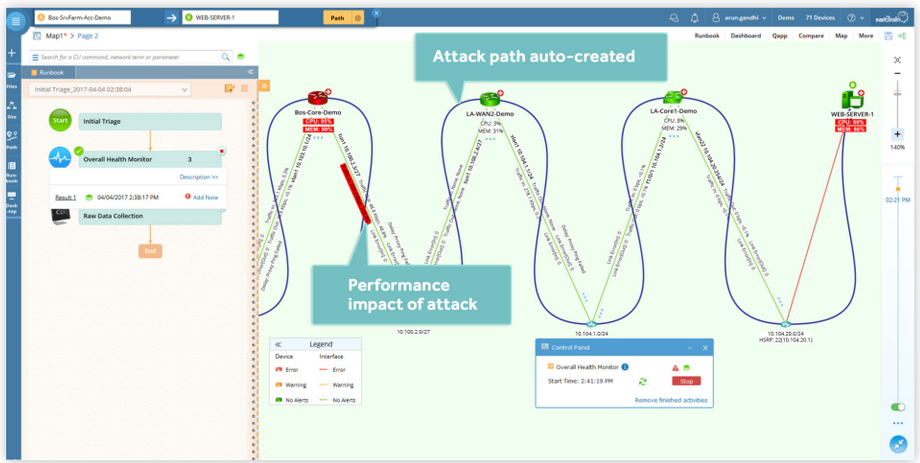
Isolate & Mitigate Cyber Attacks in Real-Time

When the network is under attack, teams scramble to understand the impact and mitigate the threat. NetBrain provides real-time visibility and helps teams visualize the effects on network performance.



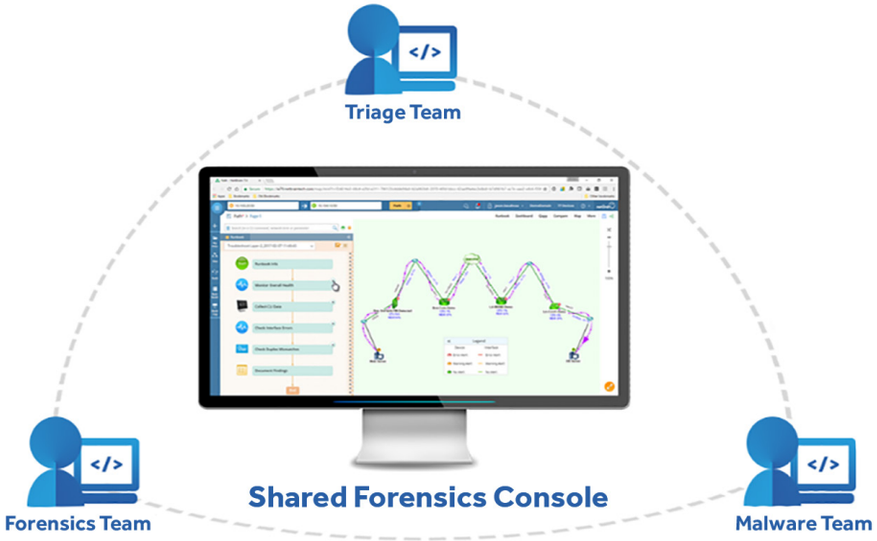
Phase 1: Automated Impact Analysis

NetBrain can integrate with security systems to trigger an API service call which will create a Dynamic Map and launch a diagnosis the instant a threat is detected.



Phase 2: Collaborative Forensics Analysis

When multiple engineers work together, they collaborate using a single map URL. All user activity and forensic analytics are saved inside the map.



Phase 3: Security Fortification

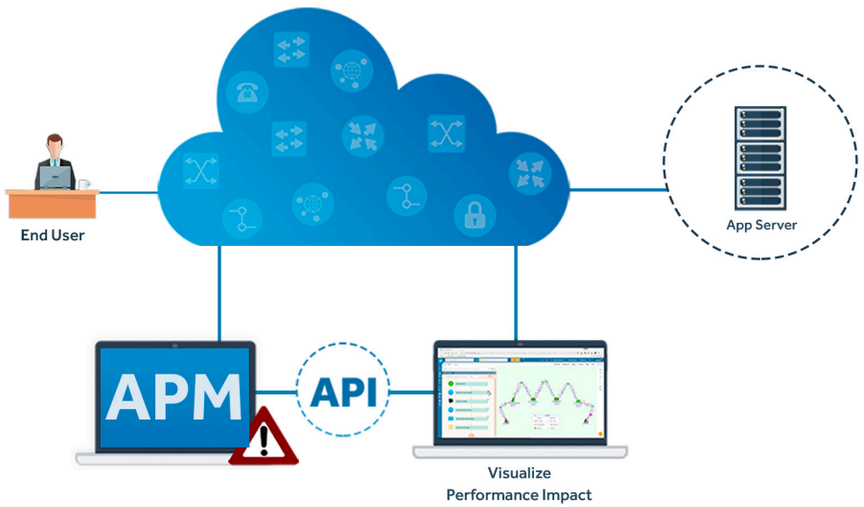
Once a threat has been mitigated, Malware and Threat Prevention teams enhance network hardening Runbooks with lessons-learned from the event.

Application Performance Management

When there's a slow application, the network is guilty until proven innocent. Application Performance Monitoring (APM) solutions detect issues before they affect end users, but don't help teams get on the same page when troubleshooting.

Isolate Application Performance Issues

NetBrain integrates with APM solutions to provide visibility into an application flow across the network the moment an application problem is detected.

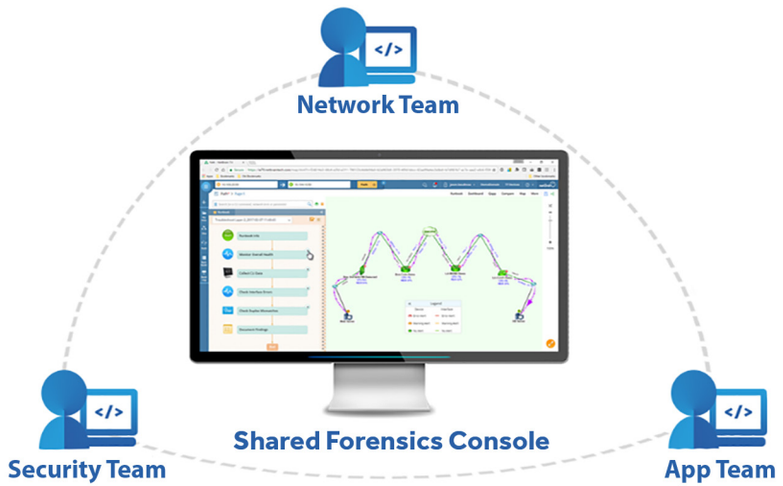


Accelerate Root Cause Diagnoses

Network teams can automate application performance diagnostics to identify network issues, or clear the network from blame.

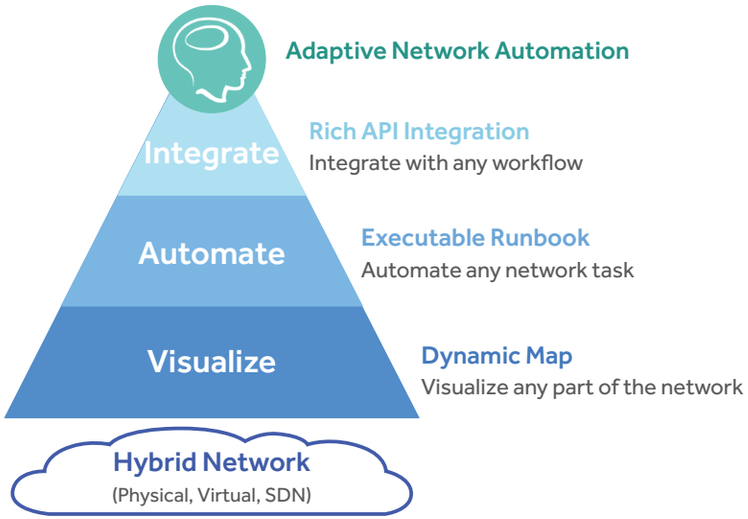
Enhance Collaboration between IT Teams

The Network team can share the map with Security and Application teams as a single pane of glass into all application performance data. This helps ensure all teams are on the same page.



How it Works: Adaptive Network Automation

NetBrain's Adaptive Automation Platform integrates with any IT workflow to enhance collaboration and knowledge sharing. NetBrain leverages a Dynamic Map as the foundation for Runbook Automation.



Dynamic Map – Data Visualization

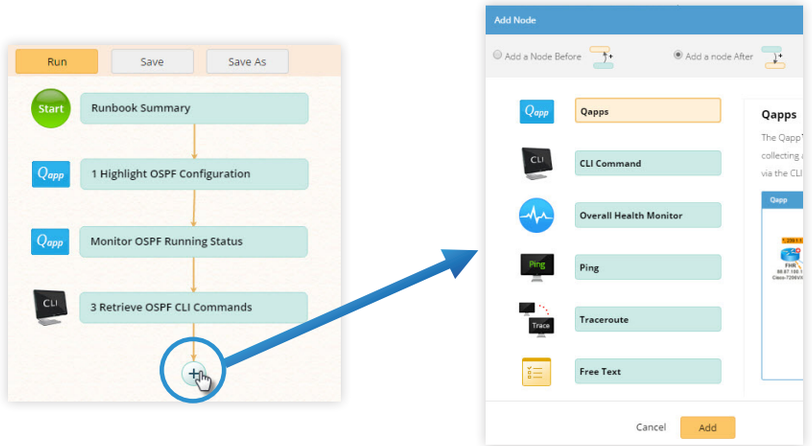
A Dynamic Map provides visualization of any IT data, without information overload. A Dynamic Map can contain hundreds of design attributes, powered by deep network discovery, and API integration.

Executable Runbook – Data Analysis

Executable Runbooks provide teams with powerful data analysis, customizable by programmers and non-programmers alike.

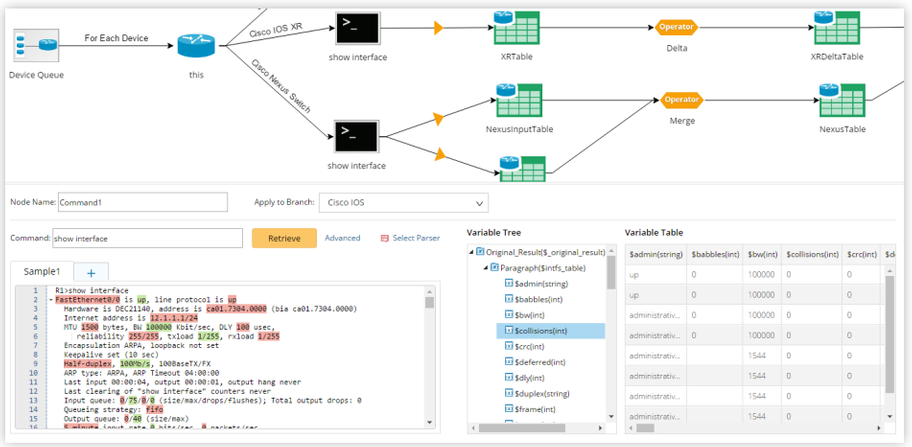
Dynamically Build Runbook Workflows

It's simple to add nodes to a Runbook workflow. In addition to simple CLI, ping, and traceroute nodes, more advanced diagnoses can be programmed in the form of NetBrain Apps, called Qapps™.



Build Custom Qapps™ without Scripts

A NetBrain App, called a Qapp™ executes CLI automation and overlays analytics on a Dynamic Map. Qapps™ are built leveraging NetBrain's visual programming environment, and many require no scripting knowledge to build.

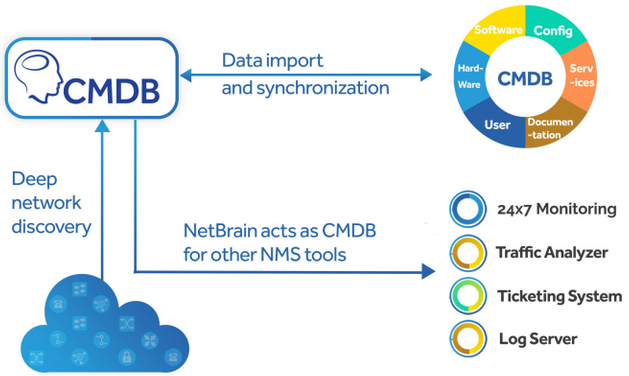


Rich API Integration

With a rich API framework, NetBrain can integrate with other network management tools, creating a true best-of-breed solution.

Single Pane of Glass

A Dynamic Map becomes the single pane of glass which helps engineers contextualize and correlate data across disparate NMS tools.

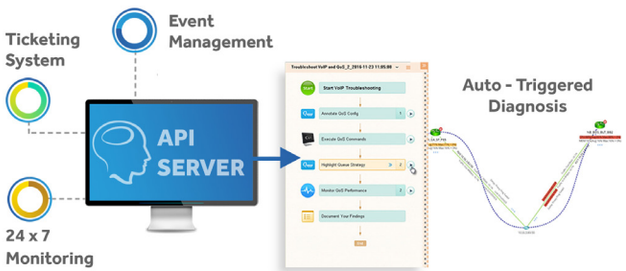


Single Source of Truth

NetBrain can be synchronized with data from external CMDBs while also providing Restful APIs for other NMS tools to read data from.

API-Triggered Diagnosis

A third-party system (e.g. monitoring or IDS) can trigger NetBrain to provide visibility and analytics into an event while it's happening.



NetBrain Deployment

NetBrain provides enterprise-grade scalability and performance, leveraging a highly available architecture, a thin client workstation, and a robust multi-vendor framework. NetBrain deployment is quick and easy.

Thin Client NetBrain Workstation

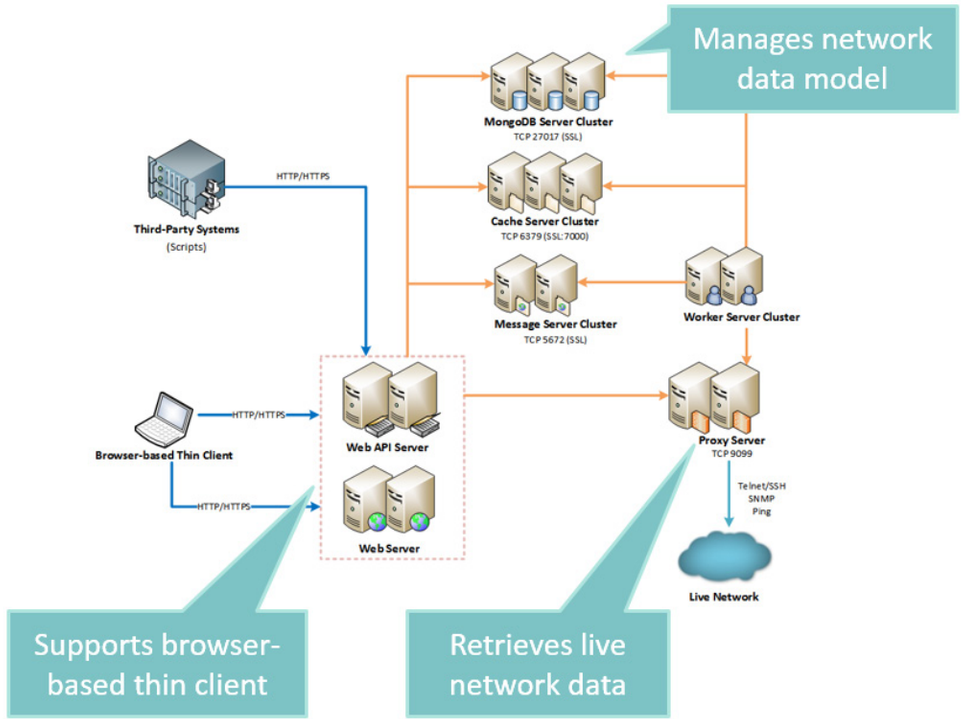
NetBrain uses a thin client (web-based) user interface which can be accessed from anywhere, providing seamless collaboration and easy upgrade management.

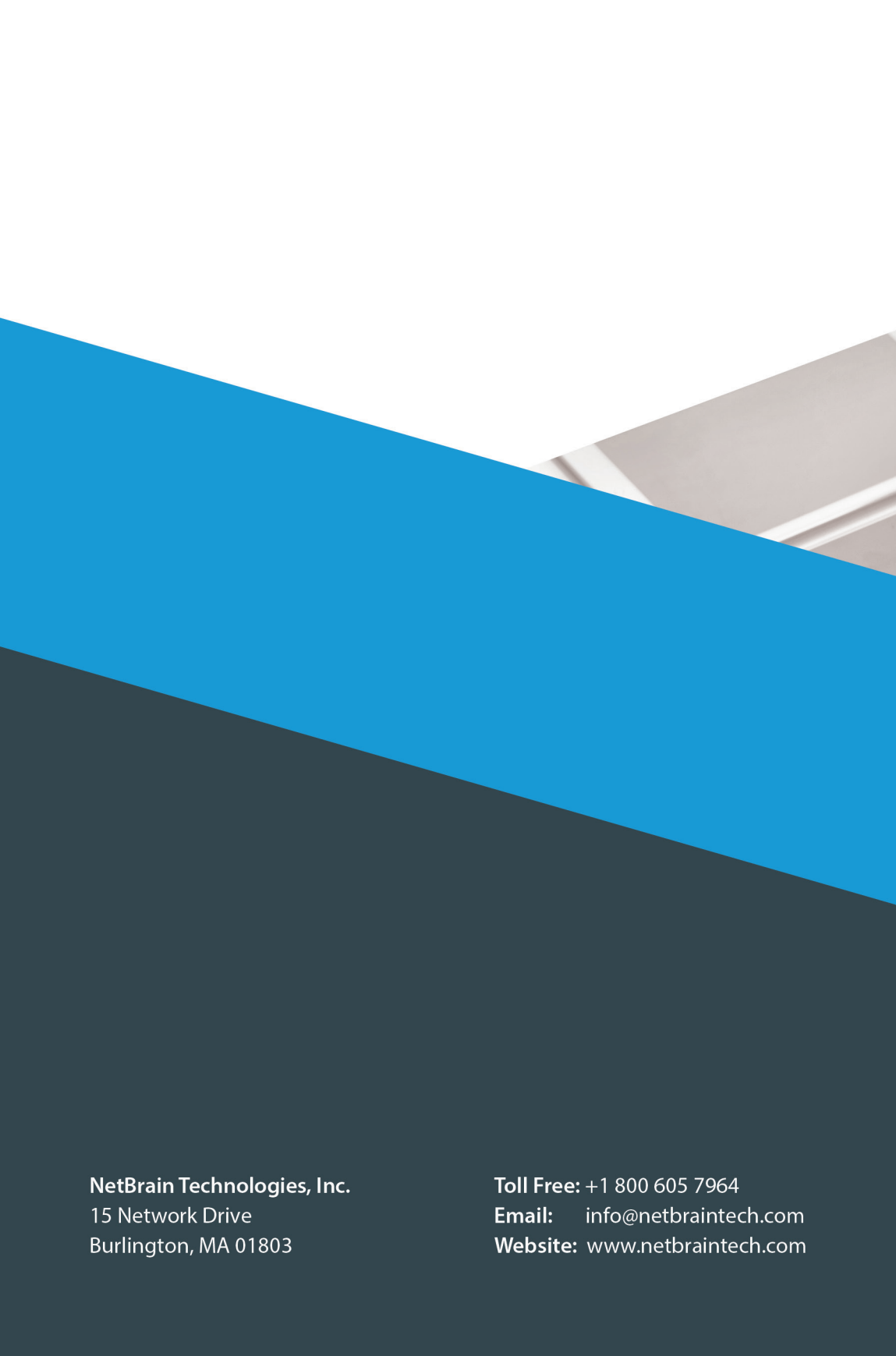
Highly Scalable Architecture

NetBrain's server architecture is horizontally scalable for distributed processing. This architecture provides scalability for the world's largest networks.

Hybrid Network Flexibility

NetBrain supports multivendor and hybrid (physical/virtual/SDN) networks, providing end-to-end visibility and automation.





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