

# NetBrain Next-Gen

## Addressing Automation Challenges through No-Code Network Automation Platform and Full Stack Digital Twin

### A Proven Solution

- Relied on by 2,500 companies globally
- 1/3 Fortune 500 customers
- Founded in 2004
- 15+ patents
- Outperformer and Leader in GigaOm Radar for Network Validation
- Rated Top Provider in Futurium innovative private companies

In a hyper-connected world, businesses depend on network operations to deliver services and experiences over the most complex hybrid, multi-cloud networks. Network operations must evolve to meet the demands of the most technologically advanced environments. Powering digital business in rapidly changing environments is no longer possible with today's manual or code-based automation approaches.

NetBrain elevates network operations from tactical to strategic with the first no-code network automation platform that brings simplicity and efficiency to NetOps with greater scalability. A multi-layer digital twin provides deeper network insight that goes beyond device-level understanding to achieve true application awareness. NetOps can now decipher the behaviors of the network and stay in lock step with the business throughout its lifetime.

### NetBrain's Next-Gen Platform Changes the NetOps Model

NetBrain's no-code network automation platform captures network engineers' 'tribal knowledge' leveraging existing troubleshooting methods, right down to the command interfaces, and abstracts the logic, without any code, for future use in a range of similar scenarios. No longer dependent on programmers, the no-code console captures network engineers' knowledge while they work enabling anyone to solve and prevent problems. Coupled with intent-based network automation, it digitizes and streamlines remedial workflows, provides a foundation for proactive compliance, transforms change processes to be defensible, enhances the user experience and boosts the overall efficiency of operational teams- all without developers!



#### NetBrain no-code network automation at a glance:

- Is built on top of a digital twin that uses an abstraction layer to auto-discover any multi-vendor hybrid-cloud network
- Scales to complex networks and automation tasks
- Requires no programming skills
- Translates every network goal with no-code logic
- Automates replication of captured logic across any heterogenous network
- Enforces network policies and requirements automatically
- Enhances collaboration of operations teams with portals to become a single source of truth

## Putting NetBrain's Next-Gen Platform to Work

While most automation projects have focused on deployment and initial providing of devices, no-code automation opens the door to applying scale to ongoing operations. NetBrain Next-Gen supports the automation needs of any operational task including:



**Outage Prevention** – Preventing service disruptions before they impact the business costs significantly less than repairing them after they occur. Proactive continuous network monitoring and health checks prevents outages by looking for any drift from required network conditions.



**Automated Diagnostics** – Provide re-usable triage-level work at the push of a button, capturing and automatically executing time-consuming and repetitive tasks. Automate initial and repetitive troubleshooting tasks and reduces escalations by leveraging pre-built automation for most incidents.



**Protected Change Management** –Facilitate network change without experiencing unintended consequences. Benchmark and then verify successful network operations and its application performance after changes. Easily batch configuration changes across similar devices in the network.



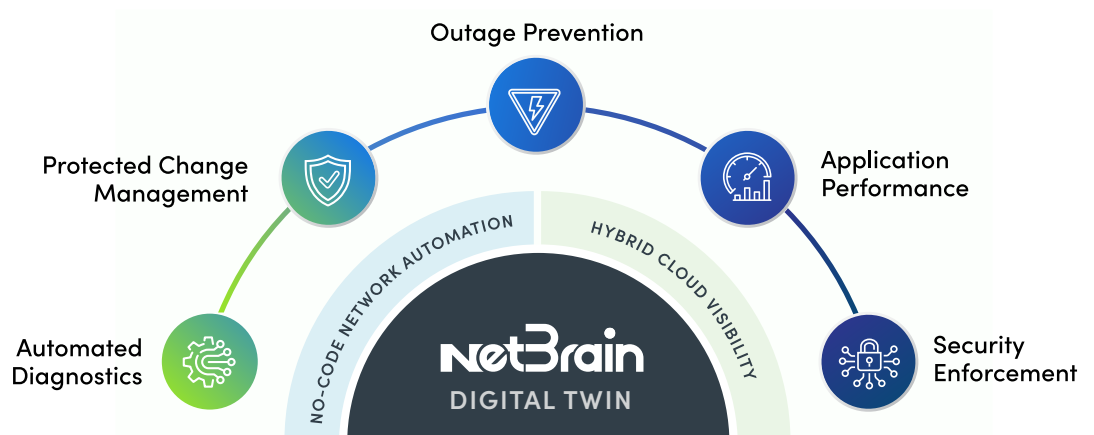
**Application Performance** – Maintain the requirements for each application's needs, preventing anomalous application performance threshold values. View the status of all application paths in a single dashboard to verify the architected network paths and performance conditions needed remain in place.



**Security Enforcement** – Continuously verify that security infrastructure is enforcing the defined set of secure conditions at the network device, zone, edge and border. Simplify compliance and mitigate risk with continuous network assessments that audit your network.



**Network Assessment** – Perform real-time assessments anytime to identify network bottlenecks, conflicts, and utilization of resources to make your network more cost-effective and efficient. Uncover potential network vulnerabilities and maintain regulatory compliance while ensuring you're prepared for audits.

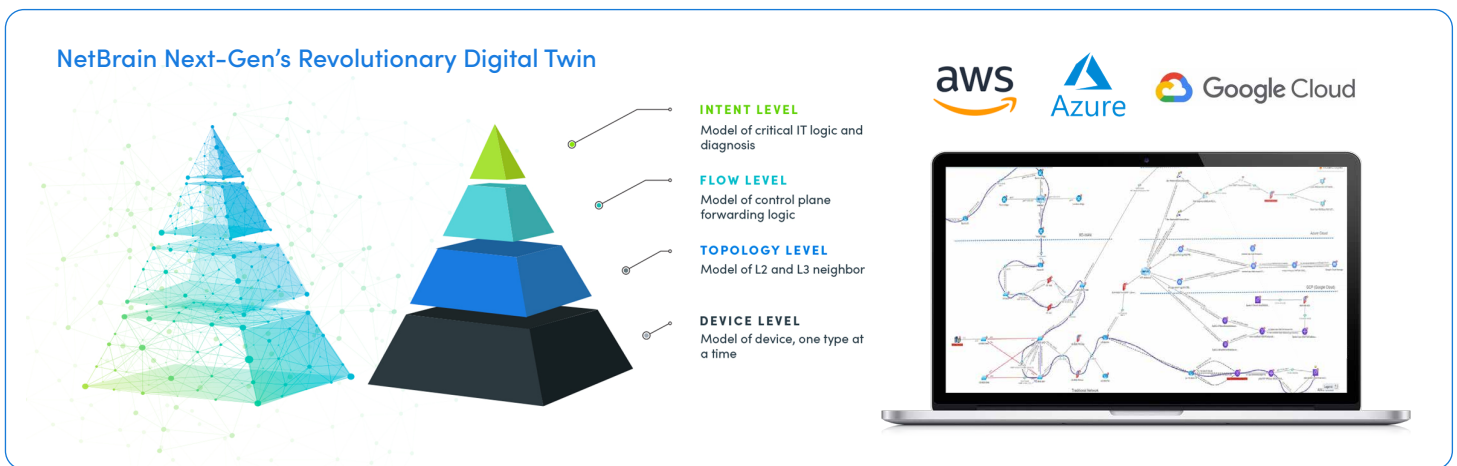


## Inside the NetBrain Next-Gen Platform

NetBrain Next-Gen is our 4th generation platform is based on a deep understanding of how networks are constructed including the goals of the network itself. The platform dynamically models any hybrid multi-cloud network in real-time and builds automation on top of it. The foundation is a full-stack digital twin that understands every aspect of the network, including the devices themselves, their connectivity in the topology, how traffic flows, and the expected behavior of the network. This model understands business requirements and translates them into Network Intents to drive automation.

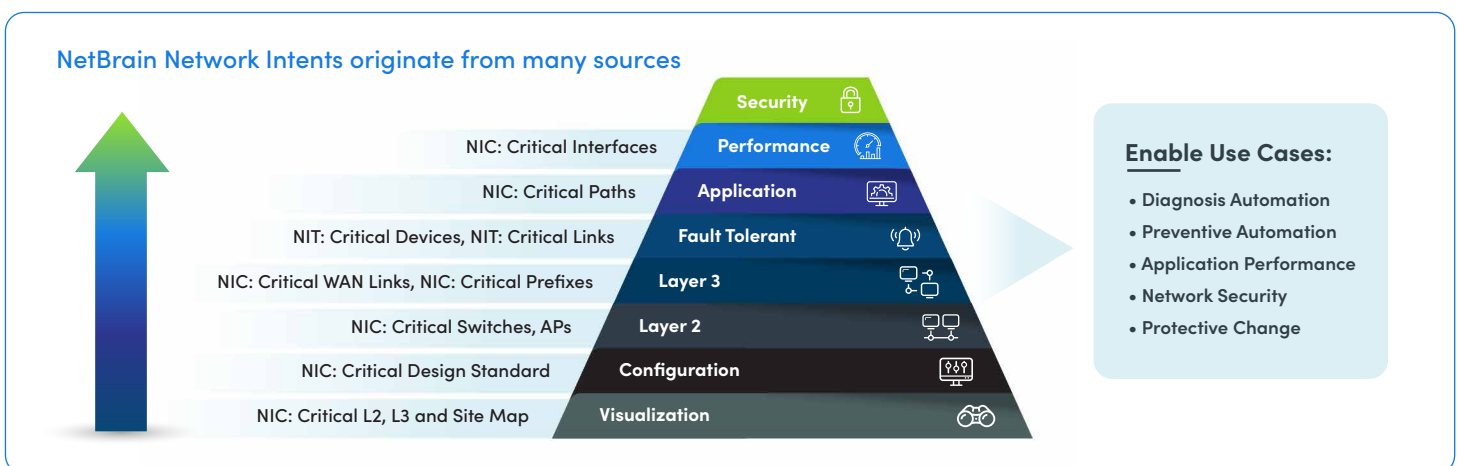
### 1. The full stack Digital Twin model of any live network includes:

- Hybrid, multi-vendor network data, edge-to-cloud, including device-level configurations
- The topology and understanding of how the network is logically connected
- Realtime understanding of traffic flows from neighbor to neighbor
- An Intent logic layer that uniquely understands business requirements and network design rules

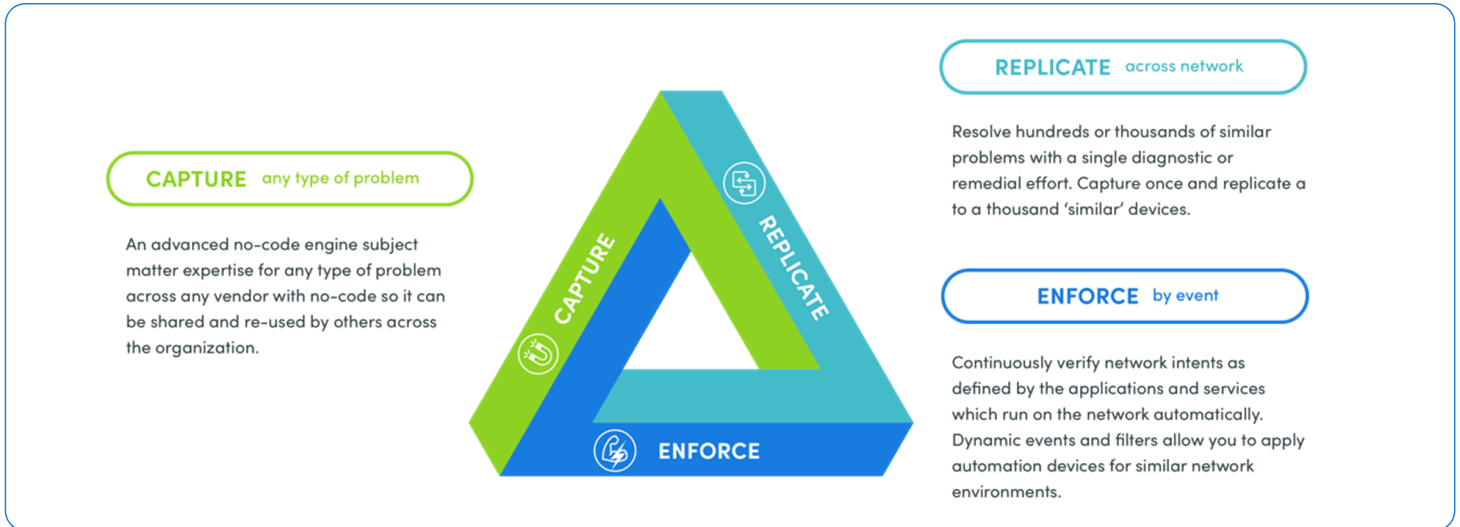


Describe any hybrid, multi-cloud network by all of the parameters involved in IT service delivery.

- ### 2.
- Network Intents describe various expected operating conditions which are compared to the real-time network to detect anomalies. These behaviors can come from the traditional Network Operations team, the Security Operations teams, the Data Center team, the Wide-Area team and a litany of other operational teams that rely on the network to facilitate their service delivery.



With a No-Code approach, NetBrain captures Intents for automated execution, for replication across the network where similar situations exist, and for on-demand enforcement, response to external events, or continuously to prevent problems before they affect product services.



### 3. Scalable Event-Driven Automation Platform

System-wide operations management simplifies the continuous automation of any complex hybrid network at scale by configuring events to run checks at scheduled times, based on network conditions, triggered by external events (API calls), from a self-service bot, and on-demand via a map to auto-validate its state, condition, and performance. Achieve successful outcomes with automated notifications so the right team can act immediately with the relevant information to resolve any problem.

#### Digital Transformation must include Operational Transformation



Automatically send emails, open and close service tickets, including warning tickets, to address rule violations then visualize in a customizable report dashboard to get an overview of all intent violations. A built-in Chatbot lets users solve problems anywhere by exposing the no-code platform through a fully configurable self-service bot.

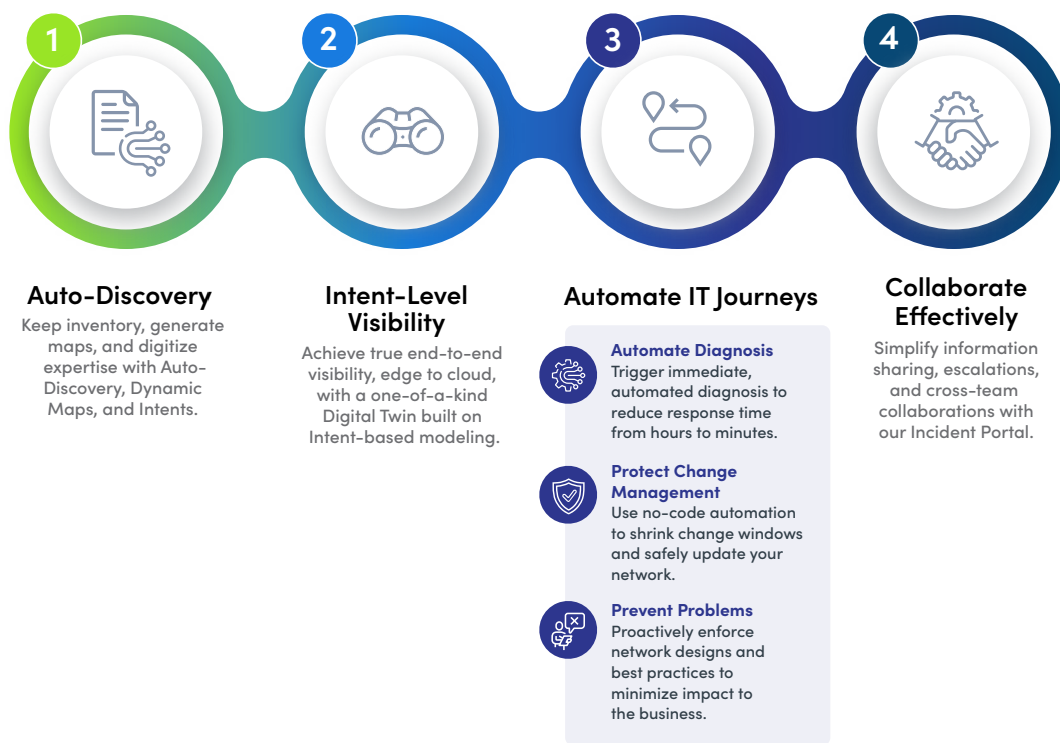
## NetBrain Next-Gen Fundamentally Transforms IT Workflows

NetBrain No-Code Network Automation powers IT workflows for scalable network operations over the lifespan of an organization’s infrastructure. Always up-to-date live documentation:

- Improves audit success and preparation effort
- Enables architects and application planners to make informed decisions on new deployments
- Reduces the time it take network engineers to complete remedial diagnostics
- Eliminates unintended consequences of configuration change, and
- Proactively ensures that the network and all of its components support IT business service delivery goals, including productivity, performance and security requirements.

NetBrain also brings the industry’s most inclusive collaboration capabilities to NetOps, enabling subject matter experts and stakeholders to perform problem solving in real-time, dramatically reducing MTTR and delays associated with escalations.

### Transforming NetOps with Intent-Based Automation



### Enhance Core IT Workflows:

- **Troubleshooting workflow** – External event-driven automated diagnosis, including ServiceNow ticket automation troubleshooting workflow, triggers a map of the network area and initial diagnosis followed by collaborative no-code troubleshooting that is captured and stored as automation.
- **Change workflow** – Capture critical parameters before and after a change and compare the network before and after the change. If anything doesn’t match, it generates an alert. The network design is verified and preserved from unintended consequences or configuration overrides.
- **Preventive workflow** – Enforce best practices and new design rules. A report dashboard shows violation summary and enforcement results.

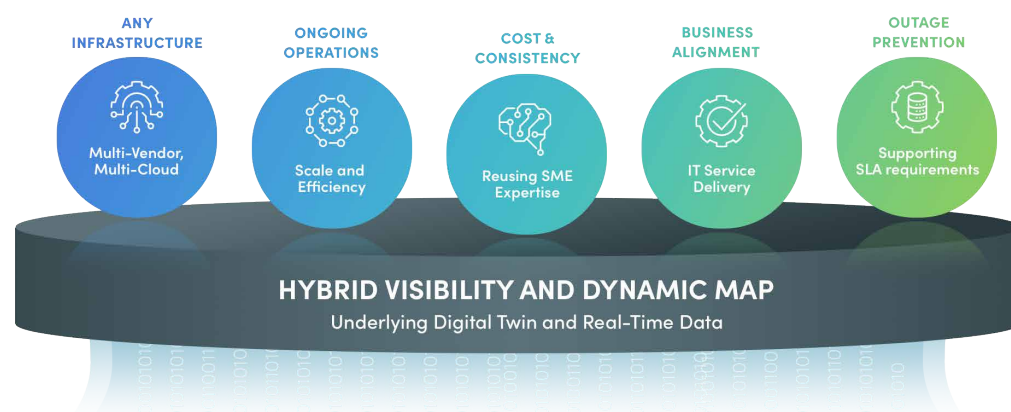
### 3rd-Party Integrations Maximize Automation Value

NetBrain works seamlessly with five types of external systems and enhances their value with triggered event-driven no-code automation. Pre-built API connectors provide a single source of truth integrating data and events from your existing IT monitoring systems.

1. ITSM systems – ticket data drives network troubleshooting workflow
2. Telemetry system – alerting drives continuous network rule and design enforcement
3. Application Performance Monitoring (APM) systems – drives application management workflow
4. Security information and event management (SIEM) systems – threat detection drives security management workflow
5. Change Orchestration, AIOps, etc. – other events drive network change workflow

### The NetBrain Next-Gen Platform Difference

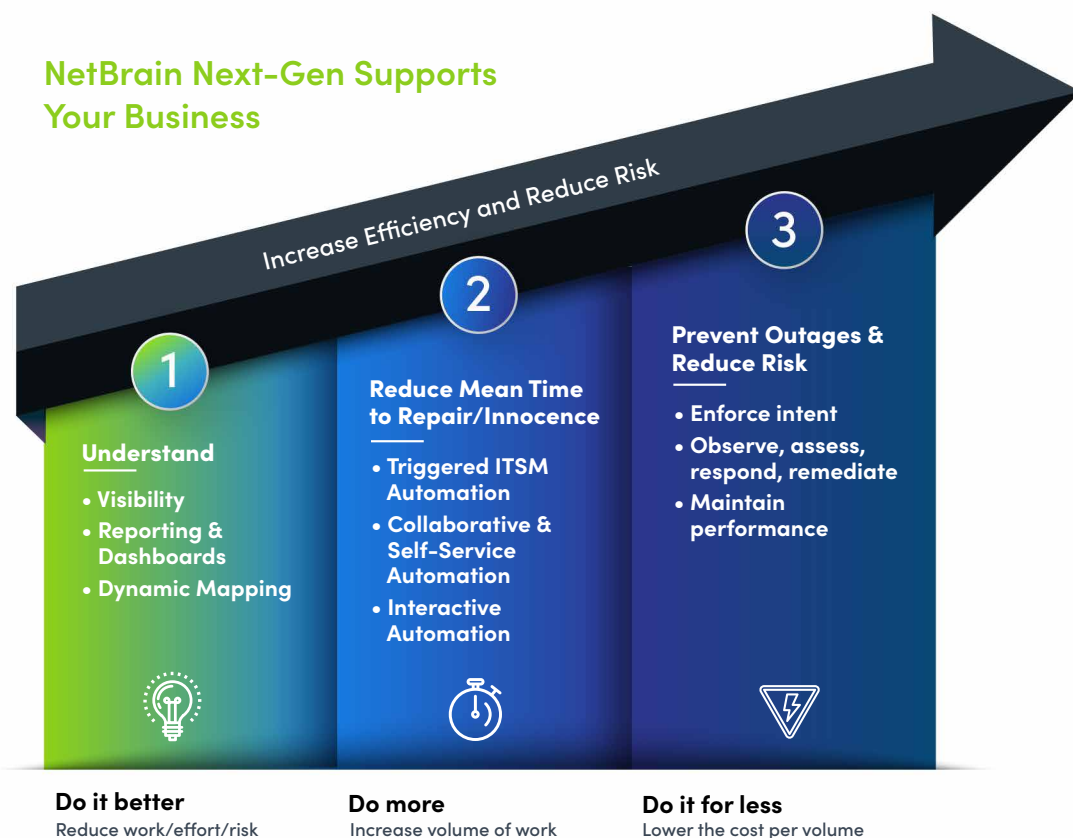
NetBrain Next-Gen is the only Day-2 Network Automation platform that manages any hybrid network by capturing, replicating, and enforcing network design intents to ease problem diagnosis and maintain ideal network conditions. It reduces disruptions, proves network innocence, resolves issues quicker, protects the network from unintended consequences of change, enforces a network that's secure by design, and meets every application's unique needs to ensure the best performance.



Network automation accelerates on-going, or Day-2, operations at scale. No-code network automation provides broad and tangible benefits over code-based approaches, increasing collaboration across service delivery teams.

Traditional “Code-based” Approach	Intent Based No-Code Approach
<ul style="list-style-type: none"> <li>• Applies to primarily fixed environments which can be specified precisely at the time of project commence – devices, connectivity, and application requirements identified</li> <li>• Focuses on device health and connectivity, not aware of any details of applications or service delivery required to support them</li> <li>• Rigid programming projects, with detailed functional specifications</li> <li>• Limited device-level abstraction; every vendor, model, and version must be treated separately and uniquely and code revised as device configurations are changed</li> <li>• Requires DevOps, SECops, WANops and DCOps engineers, and NetOps engineers to work together, long and costly development cycles, excessive costs, rigid deliverables</li> <li>• Challenges to scale since every situation, no matter how similar, must be programmed individually</li> <li>• Focuses on interactive usage, rather than responding to external events or prevention</li> <li>• Considered for only the biggest and most well-defined tasks that rarely changed</li> </ul>	<ul style="list-style-type: none"> <li>• Applies to any hybrid multi-cloud, multi-vendor network</li> <li>• Based on full stack Digital Twin, including devices, connectivity, real-time traffic flows and network intents</li> <li>• Captures subject matter expertise through no-code to create desired network behaviors, replicate behaviors across the network, and then leverage that knowledge before, during, and after issues are detected</li> <li>• Tackles all repetitive tasks throughout the lifespan of the infrastructure, from the smallest of tasks to the largest</li> <li>• Scales expertise to provide solution consistency and reduced overhead and escalations</li> <li>• Provides a robust change management platform to assure business services are preserved prior to making changes and after changes are complete, with roll-back as needed</li> <li>• Provides a comprehensive collaboration platform where resources can resolve an operational issue that spans organizational responsibility</li> <li>• Conserves engineering resources and reduces the staffing/skills needed for scale</li> </ul>

## NetBrain Next-Gen Supports Your Business



Charts/graphics created by NetBrain based on Gartner research. Source: Gartner, Inc. Ignition Guide to Creating an I&O Automation Strategy, January 17, 2023.

### Benefits

**Prevent Outages** - Automate monitoring, compliance, incident response, and change management to eliminate errors, detect anomalies, and enforce Intent before user-affecting disruptions and outages can happen.

**Scale Troubleshooting** - Reduce mean time to response (MTTR) from hours to minutes by triggering immediate diagnoses, by leveraging a self-service bot, or from events triggered by third-party NMS or ITSM tools.

**Accelerate Application Performance** - Identify the cause of slow applications and transient path issues quickly to maintain application performance requirements.

**Protected Change** - Identify scope and baseline before a change, safely execute, and then validate after the change with no-code automation. Shrink change windows from hours to minutes and even protect your new designs from future changes.

**Enforce Security** - Continuously enforce network and security policies with automation to ensure compliance with company, industry, and regulatory standards.

**Accurate Documentation** - Keep updated inventory, generate maps, and memorialize SME knowledge with automation. No more cumbersome, error-prone manual entry.

**Real-Time Visibility** - Achieve edge-to-cloud visibility from a single pane of glass built on a one-of-a-kind Digital Twin of your network's live forwarding tables and design Intents.

**Knowledge-Based Collaborative Workflow** - Captures subject matter experience to enable consistency, simplify information sharing, knowledge transfers, and reduce escalations. Capture Intents, maps and diagnoses in incident tickets while fostering cross-team collaborative troubleshooting in its Incident Portal.

## Get Started with NetBrain Today

NetBrain Next-Gen transforms your network operations plan from a inefficient and reactive one, to a proactive, streamlined approach that leverages the knowledge and expertise you already have. NetBrain supports what you already have, and what you'll have in the future, including all multi-vendor on-premise and public cloud components. It captures the expertise of your subject matter experts without any code whatsoever to allow their knowledge to be replicated across the network and shared with their peers. NetBrain automation scales NetOps more efficiently, at a level previously only associated with additional headcount, higher costs and increase business risk.

SEE IN ACTION

## 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.

