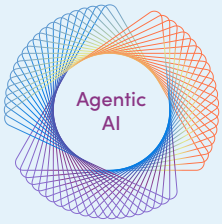
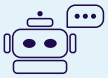
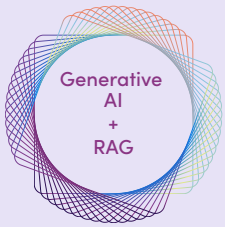
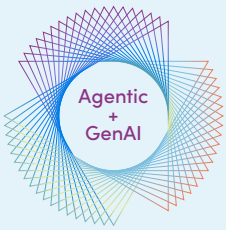
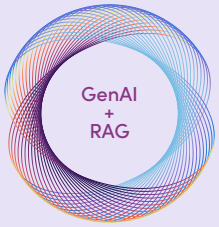
DATASHEET

AI-Powered Network Automation

NetBrain's Next-Gen platform delivers intelligent automation that works like an extension of your team. By combining three advanced AI technologies, we've created a system that understands your network environment and adapts to your operational needs.

NetBrain's Next-Gen platform reduces the barrier to automated network operations through its unique integration of three transformative AI technologies:

Agentic AI serves as your digital network engineer, autonomously executing complex troubleshooting tasks across multi-vendor environments. Generative AI acts as your always-available expert, providing natural language insights and translating technical data into actionable guidance. Retrieval-Augmented Generation (RAG) ensures every decision is grounded in your actual network documentation rather than generic best practices.

AI Technology	NetBrain AI Feature	Solves These Network Challenges
	 AI Bot	- Manual CLI work across devices - Slow troubleshooting workflows - Repetitive diagnostic tasks
	 AI Insight	- Understanding complex network data - Lack of institutional knowledge - Unclear root causes
	 Triggered AI Insight	- Delayed incident response - Need for automated correlation - Manual remediation steps
	 AI Document	- Lack of documentation - Slow report creation - Knowledge silos - Audit/compliance gaps

Key Capabilities

- **AI Bot:** Executes CLI commands, creates dashboards, retrieves device properties
- **AI Insight:** Analyzes automation results, explains issues in plain English
- **Triggered AI Insight:** Auto-runs diagnostics when incidents occur
- **AI Document:** Generates always-updated network documentation

This powerful combination enables the industry's first context-aware network automation solution that:

- **Understands** your specific network environment by accessing device documentation, runbooks, and configuration databases in real-time
- **Learns** from both live network data and institutional knowledge
- **Acts** with precision by grounding every decision in verified network documentation

The NetBrain AI Advantage

Unlike conventional AI solutions, NetBrain's AI architecture ensures:

- ✓ Responses are always tied to your network's actual documentation
- ✓ Recommendations reflect current best practices and configurations
- ✓ Knowledge remains synchronized with the latest network changes

The result is enterprise-grade automation you can trust— reducing mean-time-to-resolution by 80%+ while eliminating the worry of AI hallucinations.

AI-Driven Network Observability & Intelligent Troubleshooting

NetBrain transforms network operations through an AI-powered closed-loop system that unifies:

1. Comprehensive Observability

- Real-time topology mapping with dependency analysis
- Continuous baseline establishment for all network elements
- Flow-based traffic visualization and anomaly detection

2. Intelligent Assessment

- Automated health scoring across devices, paths, and services
- Proactive risk identification through ML-powered pattern recognition
- Impact analysis for planned changes using digital twin modeling

3. Context-Aware Troubleshooting (Enhanced by RAG Architecture)

- Instant root cause analysis with knowledge-grounded recommendations
- Guided diagnostics using institutional documentation and runbooks
- Automated remediation playbooks with validation checks

Benefits for Operational Teams:

✓ Visual Problem Resolution

- Dynamic fault isolation on interactive maps
- Path analysis with hop-by-hop performance scoring

✓ Cognitive Workflows

- Natural language queries for operational data ("Show VPN tunnels with latency >100ms")
- AI-generated hypotheses for complex outages

✓ Closed-Loop Verification

- Pre/post-change validation checks
- Automated proof-of-correctness documentation

Key AI Capabilities

NetBrain's AI capabilities are built around two core paradigms: **Agentic AI** for autonomous task execution and **Generative AI** for interpreting and communicating results.

Agentic AI operates as a multi-agent system that performs tasks such as:

- **Running CLI commands** on network devices (e.g., checking router status, adjusting firewall configurations).
- **Reading automation results** and taking follow-up actions, such as alerting administrators or logging issues.
- **Creating dynamic dashboards** to visualize real-time network performance, faults, and resource usage.
- **Retrieving device properties** (e.g., IP lookup, L2/L3 neighbor discovery) for comprehensive network analysis.

Generative AI enhances these capabilities by:

- **Processing raw CLI outputs, logs, and automation result**s into human-readable insights.
- **Generating actionable answers** to user queries based on analyzed data.
- **Explaining automation outcomes** in simple terms, such as clarifying why an alert was triggered.

Together, these AI systems power NetBrain's AI Insight, a multi-agent bot that diagnoses network issues by analyzing vast quantities of intents, and Triggered AI Automation, which enables collaborative diagnosis through features like Auto-Map, AI Drill Down, and incident resolution.

Data Sources & Inputs

NetBrain's AI models ingest data from diverse network sources, including:

- Device configurations (routers, switches, firewalls).
- Flow data (NetFlow, sFlow, IPFIX) and SNMP/syslog feeds.
- API integrations with ITSM tools like ServiceNow and Splunk.
- Cloud and hybrid infrastructure telemetry for end-to-end visibility.

AI Models & Algorithms

The platform employs advanced machine learning techniques, such as:

- **Supervised learning** for classifying network events and predicting failures.
- **Unsupervised learning** (e.g., clustering) to detect anomalies and outliers.
- **Graph Neural Networks (GNNs)** to analyze network topologies and relationships.
- **Reinforcement learning** to optimize automation policies over time.

Compliance & Security

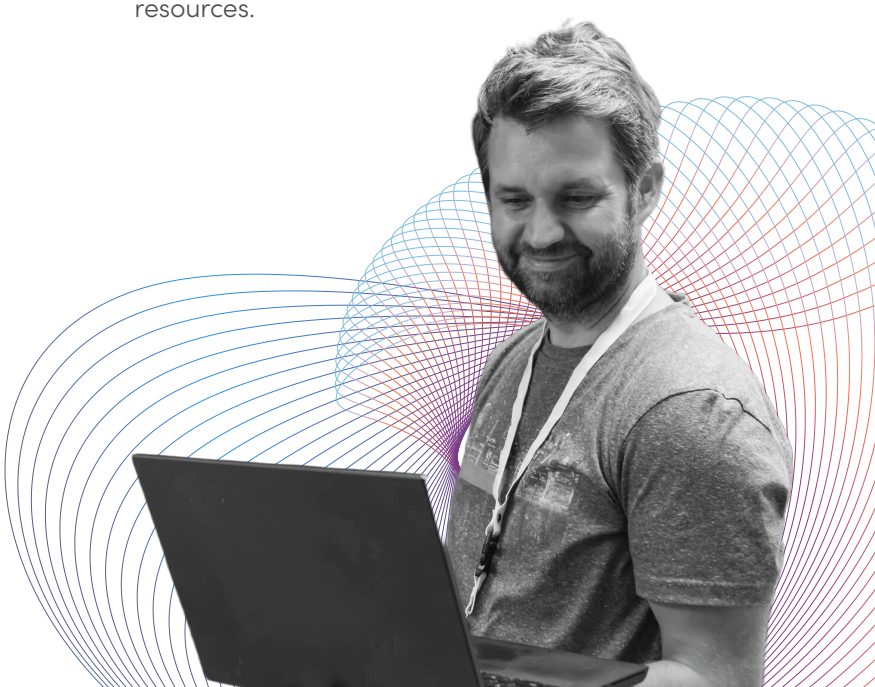
NetBrain adheres to stringent security standards, including:

- **AES-256 encryption** for data at rest and in transit.
- **Role-based access control (RBAC)** and Zero Trust principles.
- Compliance with **GDPR, HIPAA, and SOC 2 Type II** requirements.

Deployment Options

NetBrain offers flexible deployment models to suit diverse environments:

- **On-premises** for air-gapped or highly regulated networks.
- **Cloud (SaaS)** hosted on AWS or Azure for scalable, subscription-based access.
- **Hybrid** configurations blending cloud and on-premises resources.



Use Cases

NetBrain's AI-driven automation addresses critical network challenges, such as:

1. Automated Network Documentation

- Continuously scans devices via CLI/SNMP
- Generates updated topology maps and configuration reports
- *Example:* Automatically updates all affected network diagrams after firewall changes

2. Real-Time Anomaly Detection

- Compares live traffic against established baselines
- Flags unauthorized connections and configuration changes
- *Example:* Detects unusual database server traffic patterns

3. Natural Language Troubleshooting

- Processes technical queries in plain English
- Example: Answers "Show me devices with outdated TLS versions"
- *Example:* Explains "Why is VPN throughput dropping at 3PM daily?"

4. Automated Compliance Auditing

- Scans configurations against CIS/NIST benchmarks
- Identifies policy violations in real-time
- *Example:* Finds and flags switches with weak SNMP community strings

5. Incident Context Enrichment

- Automatically attaches relevant network context to alerts
- *Example:* For a failed switch port, provides:
  - Connected device list
  - Last configuration change
  - Alternative available paths

For details, visit **AI Automation Use Cases** or explore **Agentic AI** and **AI features**.

Experience the **NetBrain Playground** with your data!
Run a secure network assessment in minutes.

NetBrain