# NetBrain Next-Gen R12

NetBrain Next-Gen R12 leverages AI and no-code network automation to transition network teams from reactive to proactive operations. This paradigm shift transforms complex processes into streamlined workflows, automating troubleshooting, change management, observability, and remediation. As a result, organizations enhance operational efficiency, reduce mean time to repair (MTTR), and mitigate risks, enabling informed decision-making and innovation across diverse networks.

Enhanced Network Observability

R12 advances network observability by integrating GenAI and no-code automation, improving user experience and increasing intent programmability. Key features include:

1. **AI-Driven Troubleshooting:** Utilize the all-new AI Co-Pilot to orchestrate automation execution to enhance troubleshooting efficiency.

2. **Triple Defense Change Management:** Implement pre- and post-change validation to secure network changes and mitigate negative impacts to the network.

3. **Network-Wide Observability:** Monitor security, applications, and configurations with available one-click remediation to prevent Day 2 drift.
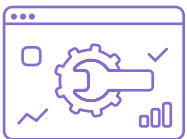
Golden Engineering Studio (GES)

GES transforms network operations through reverse engineering of your network's design rules from millions of lines of configuration, enabling engineers to proactively identify Day 1 configuration issues and manage Day 2 drift. The complete GES solution consists of three primary features:

- **Golden Config:** Discover and manage network design via auto-discovered reverse and user-defined forward engineered rule sets.

- **Golden Feature:** Model critical network feature design requirements to support intent automation.

- **Golden Intent:** Simplify the creation of intents, reducing complexity for users.

What is Reverse and Forward Engineering?
Reverse Engineering: Ideal for environments without documentation, GES can identify all deployed configuration variants then validate what is truly golden against defined rules.

Forward Engineering: Using established organizational requirements as a reference, pre-define golden configuration requirements and validate against representative devices within the network.
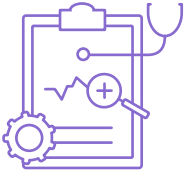
GenAI-Assisted Diagnosis and AI Co-Pilot

R12 introduces GenAI-assisted diagnosis, allowing users to ask diagnostic questions and receive tailored responses. The AI Co-Pilot enhances troubleshooting with natural language queries and interactions, dynamic output including summaries, tables, and dashboards, and automated Action Plans supporting more complex automation troubleshooting actions.

Key operational functions include:

- Orchestration of Intent Automation
- Natural language input/output
- Train AI with human know-how
- Task delegation and breakdown of complex queries with LLM
- Privacy maintenance without data retention
- Tools for intelligent CLI access and workflow automation
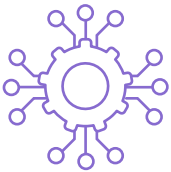
Triggered Automation Framework (TAF)

To enhance 3rd-party tool integration for leveraging diagnostic results, the NetBrain Triggered Automation Framework empowers third-party tools, like ServiceNow, to execute network intents via API calls and retrieve execution results. Use cases include executing intents and fetching data from the Automation Data Table (ADT).

Additional Enhancements

R12 also introduces significant upgrades to Intent Programmability, Visual Parser, and ADT:

- **Intent Programmability:** Expanded data type support and improved UI for ease of use.
- **Visual Parser Enhancements:** New features for parsing and merging tables, and support for no-code API definitions.
- **ADT Improvements:** Multiple views for diverse data browsing and enhanced table-building usability.

Explore more about automation maturity and tailored network troubleshooting on our blog.

For further details, visit:

- [Everyday Network Troubleshooting Made Easy with GenAI](#)
- [Harnessing the Power of the Digital Twin](#)
- [Navigating the Road to Automation Maturity](#)