

NOKIA



Nokia Event-Driven Automation

Reliable automation that's simple, adaptable and ready for the AI era.

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Lessons from aviation

In aviation, reliability isn't optional, it's engineered into every system. From redundant engines to streaming telemetry and pre-flight checklists, the aviation industry has set the standard for operational safety and performance.

Nokia brings this same philosophy to data center and network operations with **Nokia Event-Driven Automation (EDA)**, a data center automation platform designed to deliver reliability through intent-based networking, real-time observability, and multi-vendor support.



“EDA’s focus on enabling network-wide transactions at speed with enhanced reliability is a key differentiator for automation in swiftly evolving, business-critical data center environments.”¹

Roy Chua, Founder and Principal, AvidThink

¹ Nokia, “Nokia launches industry’s most modern data center automation platform built for the AI era,” 17 Sep 2024



Meet EDA: Automation you can actually trust

EDA is a next-generation platform designed for the real operational challenges of modern data centers.



Reliable

EDA makes operations more reliable by making configurations predictable, orderly and controlled.

- Intent-based networking
- Network-wide transactions
- Revision control
- Pre/post checks
- Rollbacks
- Digital twin
- CI/CD pipeline
- State-aware
- Event-driven

Simple

EDA simplifies operations by abstracting the complexity of multivendor systems and ensuring an easy user experience.

- Generative AI (GenAI) assistance
- App store consumption model
- Customizable UI
- Kubernetes API
- Light footprint
- SaaS option

Adaptable

EDA makes operations more agile through customization and integration with a rich ecosystem of tools and clouds.

- Built on Kubernetes
- Customizable applications
- Seamless integrations
- Multivendor
- Multidomain
- Multicloud extensions

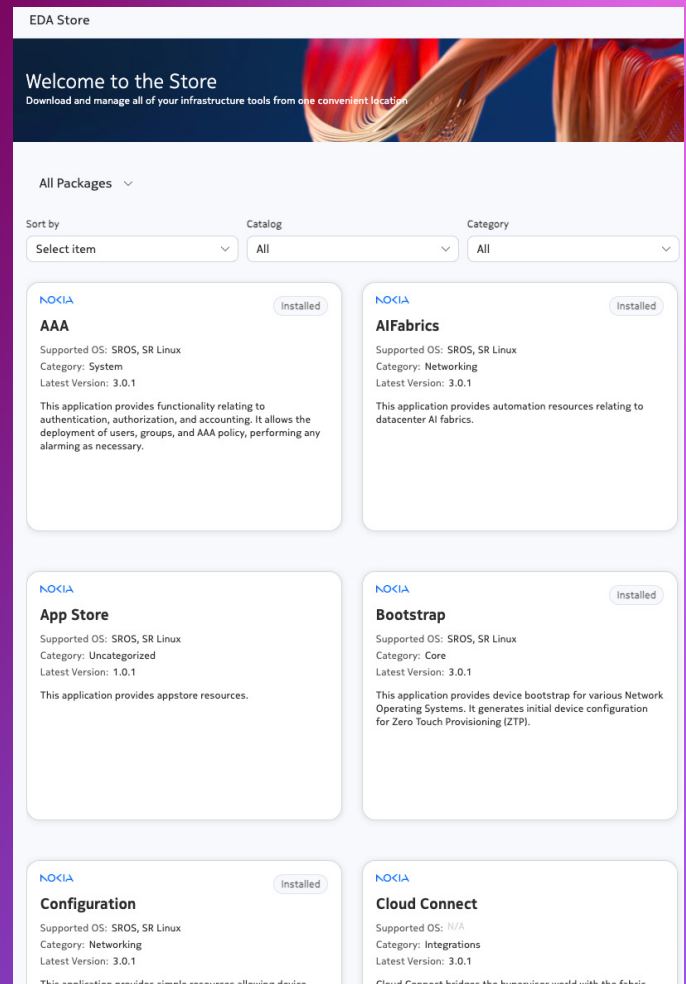
“You can’t automate things that aren’t good. Automation is neutral — it amplifies whatever you feed it. EDA removes the bad before it scales the good.”

Mike Bushong, VP of Data Center, Nokia

What makes EDA different (and better)

EDA brings together capabilities that elevate it above traditional automation platforms:

- Declarative, intent-based automation
- Complete network lifecycle management
- Built-in digital twin for safe testing
- Multivendor support through open standards (gNMI, REST, gRPC)
- Real-time streaming telemetry integration
- Dynamic event-driven operations
- Conversational interface powered by GenAI
- Built-in “EDA Store” for easy access to install, manage and track all automation applications



“By leveraging real-time data, minimizing human error, and promoting flexibility, EDA enhances the reliability and efficiency of data center operations.”²

Rita Younger, Practice Lead Data Center Networking, World Wide Technology

² Rita Younger, “[Understanding Nokia’s Event-Driven Automation \(EDA\)](#)”, 25 Oct 2024

Human Error Zero: Not a dream anymore

Human errors account for the majority of downtime in modern data centers. It's time to eliminate them.

Making “Human Error Zero” a reality starts with the right foundation: a well-architected network built on robust hardware, a strong culture of quality, and—perhaps most critically—a powerful operational and automation platform. This platform must enforce guardrails that unlock the full potential of network automation, enabling speed without sacrificing safety.

EDA dramatically reduces the risk of human error through:

- Pre-change validation to verify safe conditions
- Post-change validation to ensure success
- Automatic rollback mechanisms in case of anomalies
- Continuous health checks across network elements

With EDA, you can shift your operations from risk-prone manual changes to trustworthy, automated assurance.



“Human error, whether directly or indirectly, contributes to a significant majority — ranging from two-thirds to four-fifths — of all downtime incidents.”³

Uptime Intelligence

3 Uptime Institute, [Uptime Intelligence Keynote Report: Annual outages analysis 2023](#)

Test. Validate. Sleep easy.

EDA features a fully integrated, real-time, network digital twin solution called the “EDA Digital Twin.” The EDA Digital Twin enables operators to safely simulate changes, perform rollback planning, and validate intent before anything is pushed to production.

Some vendors depend on third-party digital twin solutions, which introduce added complexity, integration overhead, and potential misalignment with actual network behavior. The EDA Digital Twin eliminates this friction by delivering a fully-integrated, stateful digital replica of the entire network. It enables safer, faster, and more reliable operations without the need for bolted-on components or external tooling.

With the EDA Digital Twin, operators can:

- Test proposed changes without impacting production services
- Predict real-world outcomes before deploying

Network operations teams can realize effort savings of up to 55% with the EDA Digital Twin according to a [business case analysis](#) by Nokia Bell Labs.



“Human error risks are mitigated through EDA’s integrated digital twin, pre- and post-deployment checkpoints, multi-dimensional observability, and a robust CI/CD (Continuous Integration/Continuous Delivery/Deployment) methodology with revision control.”⁴

James Hayes, Journalist

⁴ James Hayes, “How automation can drive out downtime,” The Register, 16 Apr 2025

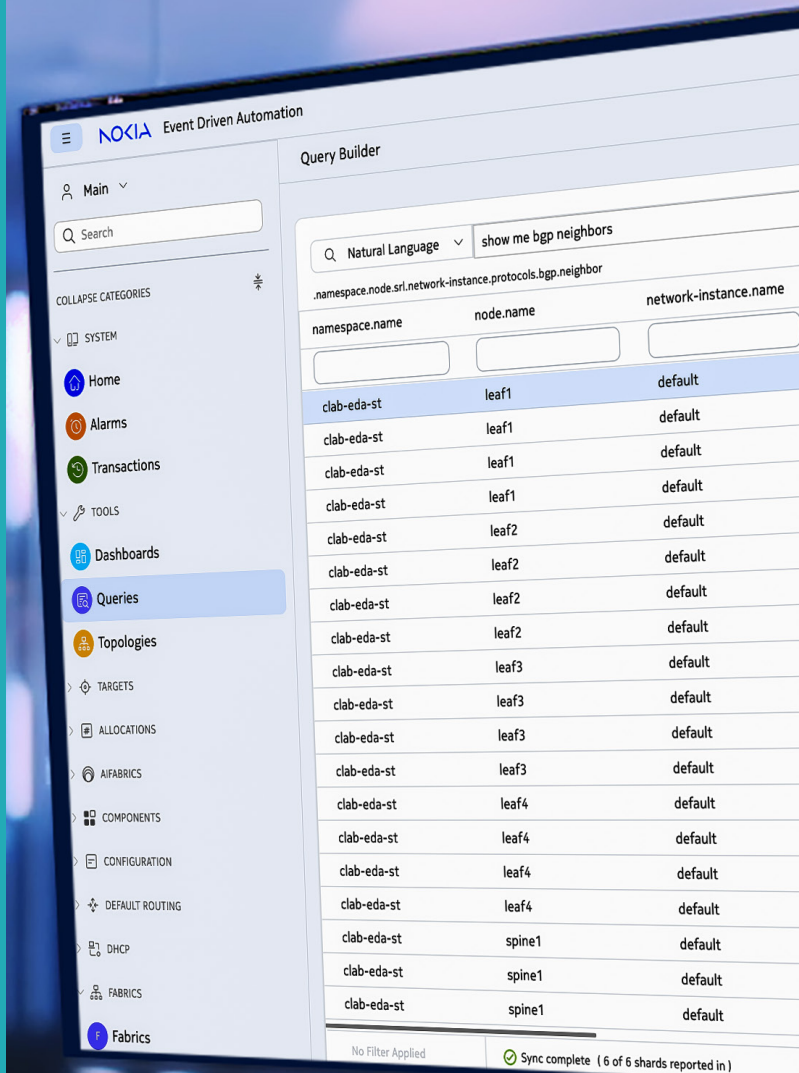
Just ask: Natural language meets network automation

EDA's integrated GenAI Assistant makes automation easier and more accessible than ever before. Operators can ask EDA anything about the network in natural language, rather than through arcane CLI syntax. EDA supports the ability to query functionalities, verify device and network states, troubleshoot issues, fetch configuration examples, and much more.

Operators can rely on the GenAI Assistant to answer questions like:

- “Which ports are down?”
- “What is the BGP status for Router A?”
- “What would happen if I added this new VLAN?”

The assistant securely translates natural language queries into actionable network insights.



“Undoubtedly, IT organizations are looking to their suppliers to make automation more robust and reliable while simplifying the deployment, operations and evolution of their network infrastructures.”⁵

Mark Leary, Research Director, IDC

⁵ IDC Technology Spotlight, Sponsored by Nokia, [Datacenter Networks in the Digital Era: Necessary Advances in Network Operations](#), Doc. #EUR152775624, January 2025

Freedom to integrate, power to orchestrate

Modern data centers are rarely single-vendor, and automation platforms must reflect that reality.

Unlike vendor-locked solutions designed to only operate within their own ecosystems, EDA is built from the ground up to be multi-vendor-first. Its open, standards-based architecture supports seamless integration across diverse infrastructures, enabling operators to automate with confidence, no matter who built the network.

EDA's key integration features include:

- Open APIs, YANG models, and standards-based interfaces
- Built-in compatibility with tools like Grafana, Prometheus, Ansible, and NetBox
- Works across private clouds, public clouds, edge platforms, and heterogeneous network gear

By unifying operations across mixed environments, EDA helps reduce complexity, eliminate vendor lock-in, and enable truly agile infrastructure.



“We want you to have a single instance that manages all of your infrastructure. EDA will scale up — it’ll manage all of your infrastructure through a single platform.”

Bruce Wallis, Senior Director Product Line Management, Nokia

Rock-solid roots, engineered for what's next

EDA is grounded in decades of IP networking leadership:

- **Nokia SR Linux:** A cloud-native, model-driven network operating system (NOS) designed for automation at scale
- Leverages **Nokia SR OS:** Trusted in over 1700 service provider networks worldwide
- Proven reliability: Zero major outages requiring emergency patches in 15+ years

But EDA doesn't just stand on history. It's architected for the future.

EDA is built on a Kubernetes-native, microservices-based foundation, and it delivers levels of flexibility and scalability that monolithic controller architectures can't match. Its containerized design enables:

- Dynamic horizontal scaling of individual components based on demand
- Modular updates with no service downtime
- Seamless integration into DevOps pipelines and CI/CD workflows

This architecture empowers infrastructure teams to evolve faster, eliminate lock-in, and confidently build a cloud-aligned automation strategy.



“By leveraging the power of Kubernetes, we are enabling our customers to access a modern approach to network automation that significantly reduces operational effort and helps eliminate human error. This is a major step forward in our mission to deliver the world's most trusted networks.”

Vach Kompella, Senior Vice President and General Manager of IP Networks, Nokia



Build safer and faster with Nokia EDA

The world is evolving at an unprecedented speed. Data center operators must evolve even faster. Nokia EDA provides the building blocks you need to:

- Automate smarter
- Operate safer
- Grow faster

Prepare for what's next — with automation you can trust.



Learn more about Nokia Event-Driven Automation

Visit: nokia.com/data-center-networks/data-center-fabric/event-driven-automation/

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About Nokia

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

With truly open architectures that seamlessly integrate into any ecosystem, our high-performance networks create new opportunities for monetization and scale. Service providers, enterprises and partners worldwide trust Nokia to deliver secure, reliable and sustainable networks today – and work with us to create the digital services and applications of the future.

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