Intent-based configuration management with NSP

Solution summary

Improve operational efficiency by automating and assuring network infrastructure and service configuration

Why you need intent-based networking

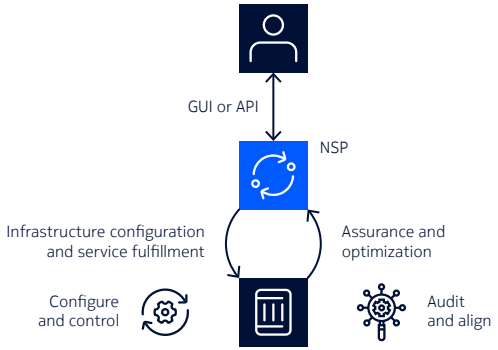
Networks are becoming more complex because they need to handle more devices, applications and data, and meet the growing responsiveness and performance demands of end users. Managing this complexity manually is error-prone and time-consuming work.

Intent-based networking (IBN) aims to reduce complexity by simplifying and automating network and service management. It accelerates service deployment by letting you define high-level objectives and have the network infrastructure automatically configure itself to achieve them.

IBN also improves service availability by ensuring that the actual configuration is aligned with the intent.

IBN combines a declarative approach with model-driven management principles to abstract network service characteristics, reduce integration efforts and decouple network innovations from service evolution:

- Declarative programming drives operations efficiently and consistently, enabling you to focus on the end results instead of how to get there.
- Programmatic interfaces and data models facilitate multivendor support and rapid onboarding of new equipment releases and types with minimum impact on the operations support system (OSS).



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How NSP enables intent-based configuration management

Nokia Network Services Platform (NSP) uses IBN to simplify the administration and configuration of physical entities (cards, ports) and logical entities (IP filters, QoS and scheduler policies, routing policies) within the network infrastructure. It also ensures that network and service configurations support the desired business goals over time.

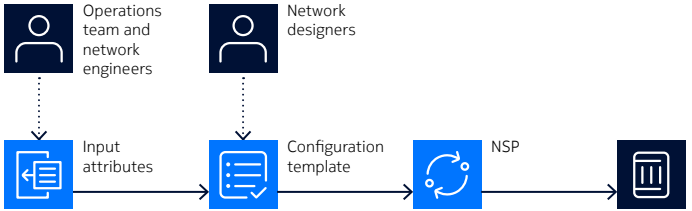
NSP lets you define the infrastructure or service configurations you want in templates, also called “intents”. NSP translates commands from these templates into actions. It then verifies that the configuration can be executed and automatically manipulates network resources to create the desired state and deploy the configuration.

NSP constantly gathers data to monitor the state of the network and provide configuration assurance. It checks the actual configurations deployed to the network and reports any drift away from the intents. You can decide to realign any mismatched network configuration or accept the misalignment and update the definition in the template temporarily or permanently. NSP then chooses the best way to implement the desired state and take automated corrective action to maintain it.

NSP configuration templates

NSP provides a library of network and service configuration templates that include default values for attributes to simplify network operations.

IBN with off-the-shelf templates abstracts the underlying network complexity for routers from Nokia or other suppliers, and for greenfield and brownfield service types. It enables network operations, engineering and design teams to work together more harmoniously by separating systems and responsibilities.



NSP’s templates can be customized, and the template library can be extended. The templates are hot pluggable to support faster implementation of business intents. There is no need to reset or upgrade NSP to apply a template.

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Benefits of intent-based configuration management with NSP

Reduce time to market and risk of human errors
NSP provides automatic deployment and agile support of new equipment and services. It lets you apply or modify configurations at runtime.

Simplify network operations and reduce OPEX
NSP lets your operations team achieve its end goal by specifying a limited set of meaningful attributes.

Adapt network operations to specific customer needs
NSP lets your designers develop detailed configurations using programmable intents and an integrated workflow manager.

Improve network availability and adherence to SLAss
Integration with NSP assurance functions lets you support a closed-loop network operation lifecycle and use one system to configure, verify and troubleshoot the network.

Learn more about NSP

Case study: Tier 1 operator in Europe

Challenge

A European communications service provider (CSP) with nearly 5 million subscribers needed to migrate more than 20,000 business services from Nokia SR OS-based nodes to model-driven Nokia 7750 SR-1 nodes. The CSP's in-house OSSs were not ready to provision L3 VPN business services.

Solution

The CSP now uses NSP to support intent-based L3 VPN configuration management and service fulfillment. This solution implements intents and workflows to automate service provisioning from the CSP's OSSs through NSP's northbound interface. It enables fast and reliable introduction of intent-based L3 VPN provisioning capabilities for migration of business services to model-driven SR OS nodes.

Customer benefits

- Faster time to market
- Reduced development cost
- Increased operational efficiency