Tame the complexity of 5G with Network Operations Master
Program your network for success

Networks based on 5G offer great power, but that power comes at a price. In order to draw full benefits from the possibilities that 5G offers, manual operation and conventional automation will not be enough.

The answer is a programmable network, based on an intelligent software solution that transforms the way operators manage their networks, achieving maximum effectiveness and efficiency. That solution is Nokia Network Operations Master, the key to managing the power of 5G.
The growing complexity of 5G networks

As networks have grown in complexity, they have become ever more challenging to manage. With the advent of 5G, the challenges can only increase. New technologies, different service levels and a host of real and virtual network elements make it a huge task to provide the best service to all users at all times.

The picture is further complicated by network slices, a key feature of 5G. Each slice user will want their part of the network to offer the best service and meet their SLA parameters at all times.

Automation goes some way to solving these challenges. By automating large numbers of routine optimization tasks, we can speed them up and reduce errors. However, for automation to work properly, we need to define a ‘perfect’ set of tasks, which is not always possible.

A better approach is to build a programmable network, where we define a goal and let software figure out how to achieve it. Such a network allows operators to cope with the increasing demand for flexible digital services, be efficient and effective, and reduce everyday human errors in network operations.

Classic Network Management

Moving from monolithic network management application

To a set of independently scalable microservices
Intelligent network management
Let your network find the answer

Programmability is at the heart of Nokia’s revolutionary new network management product – Network Operations Master. This is a cloud-native network management software that allows communication service providers to simplify and automate operational workflows.

Capable of responding in milliseconds to a wide variety of network events, Network Operations Master takes automated actions, so that only the most complex or unknown issues are escalated for human trouble-shooting. It also meets 5G networking requirements, including multi-vendor and multi-technologies in radio and core domains.

Network Operation Master provides the capability to monitor and configure mobile networks including 4G, 5G, small cells and VoLTE core technologies. Additionally, it provides a wide library of programmable interfaces to enable the automation of operational processes.

Initially, human operators chose the boundaries that Network Operations Master works to. Network Operations Master uses these rules to decide how to respond to a wide variety of network events and which parameters to change.

For example, for a software upgrade for a set of base stations, these rules could include when to start, the base stations to work on and which to avoid to minimize disruption.

The only time people need to get involved is if very complex or unknown issues crop up. This cuts the workload, as operation centers only need to look at the most critical network events.
Faster, easier, more accurate

Network Operations Master

Automation and programmability
- Eliminate human errors
- Improve operational efficiency
- Multi-vendor capability
- Provides a library of programmable interfaces

DevOps
- Automated feature delivery
- Fast integration and service creation
- Test automation

Cloud-native architecture
- Built-in resiliency
- Independently scalable microservices
- Open source components
- Zero downtime in service upgrades
Network Operations Master was built on Nokia’s Common Software Foundation. This allows the software’s main functionalities like cloud-native architecture and DevOps to be delivered and provides a common look and feel for all Nokia software products.

Network Operations Master is cloud-native, based on microservices that can be upgraded and scaled up independently. This ensures upgrades cause no downtime and gives the whole product great resilience.

Network Operations Master also uses DevOps techniques, allowing it to be developed continuously to meet the changing needs of users.
The introduction of 5G demands that communication service providers find a way to perform efficient network operations for an extensive network and manage hundreds of new services.

With Nokia Network Operations Master, communication service providers can efficiently manage networks in each of their unique operational environments, and program their network based on the rules and goals they set.

Nokia Network Operations Master was developed in collaboration with a well-known global communications and technology company. Using real-world facts and functions, the result is a powerful tool that allows network operators to perform automated operational tasks with ease and confidence.
About Nokia
We create the technology to connect the world. We develop and deliver the industry's only end-to-end portfolio of network equipment, software, services and licensing that is available globally. Our customers include communications service providers whose combined networks support 6.1 billion subscriptions, as well as enterprises in the private and public sector that use our network portfolio to increase productivity and enrich lives. Through our research teams, including the world-renowned Nokia Bell Labs, we are leading the world to adopt end-to-end 5G networks that are faster, more secure and capable of revolutionizing lives, economies and societies. Nokia adheres to the highest ethical business standards as we create technology with social purpose, quality and integrity.

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