Simplify, automate and optimize with Eden-NET SON
SON-driven automation for improved network quality and increased efficiency
Mobile networks are becoming ever more complex while network quality and reliability remain paramount. Increasing competition is putting pressure on profitability and end users are demanding faster data services and a flawless customer experience. Together, these market dynamics are driving the need for extreme automation with Self-Organizing Networks (SON).
Why automate with SON?

Today’s mobile industry is fast-paced, dynamic, and increasingly mature. Mobile operators need a network strategy that will help them retain and grow their customer base while delivering a superb customer experience. At the same time, mobile operators are looking to enhance the bottom line with improved network efficiencies and lower operational costs.

SON-driven automation is proven to deliver excellent network performance, the highest network reliability, and the most efficient network operations.

Automation is key to handling increasing network complexity
End users continuously want faster data services and a flawless customer experience. What’s more, they want rapid service introduction and improved service reliability. That’s why mobile operators are looking to 4G, 4.5G, and 5G technologies, as well as new spectrum bands for increased network speed. They need a network that can meet customer expectations. Mobile operators are also considering network densification and HetNets to put capacity and coverage exactly where it’s needed. Improving the customer experience is what it’s all about.

However, these same strategies also introduce significant complexity into the mobile operator network. Because stress is placed on standard processes that are based on a manual workforce, what’s needed are smarter ways to manage the network while also containing operating costs. A centralized SON solution can meet these challenges, eliminating complexities from multi-vendor, multi-technology, and multi-layered networks.

Network quality improves with automation
Network and internet quality remain paramount to end users. They are key drivers of loyalty, as well as churn. In fact, network quality represents 26 percent of an end user’s decision to stay with...
their operator. And, for its part, internet quality is the most important driver of customer satisfaction and thus retention. Increasing the levels of automation within a network directly improves network quality. This improves the customer experience, drives increased data and service usage, and generates higher revenue for the mobile operator.

SON enhances profitability by lowering operational costs. Competition in the mobile industry is fierce. Traditional mobile operators are fighting among themselves to retain and grow their subscriber base. They’re also coming under significant pressure from new over-the-top (OTT) players. With penetration approaching almost 100 percent in many markets and average revenue per user (ARPU) flat-lining, mobile operators are being pressured to reduce OPEX in order to maintain and enhance profitability.

But there is good news. By enabling self-configuration, self-healing, and self-optimization of the network, SON solutions can help mobile operators to lower their OPEX by reducing human intervention and associated costs.

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1 2016 Nokia Acquisition and Retention Study
Nokia Eden-NET:
Delivering customized automation to mobile operators around the world

Jarno Nieminen, Development Manager from Elisa Finland, May 2016 says:
“Elisa has very crucial role in SON automation for achieving cost targets. We try to deliver the best possible solution to our customers. Three highlights of the Nokia Eden-NET solution for us are:

• Fluent integration – instead of one week of integration, it took only half an hour.
• A simple tool with a simple interface and high usability that delivers what it promises.
• Performance has been very good with fewer dropped calls for our customers and very good stability for our KPIs.”

Nokia Eden-NET is a SON solution that enables mobile operators to automate operations and efficiently realize the full potential of their existing networks, as well as drive transformation to 5G. As a centralized SON platform, Nokia Eden-NET automates operations across multiple domains, eliminating complexities from multi-vendor, multi-technology, and multi-layered networks. Our multi-vendor capability is supported by the Operations Support Systems interoperability initiative (OSSii). Nokia Eden-NET offers the industry’s widest range of SON modules, helping operators achieve self-configuration, self-healing and self-optimization.

Adapting the network to meet changing demands, our SON platform performs its own network optimization while automating workflow and network reliability tasks. The solution includes open Application Programming Interfaces (APIs) and a Software Development Kit (SDK) for operators wanting to build customized modules to meet their individual needs.

For smooth deployment, Eden-NET has a highly skilled, global SON services team with a deep understanding of mobile networks. Depending on customer needs, Eden-NET is available for customer onsite deployment or as a service.
Quality
Keep your network optimized with proven, industry-best algorithms and transformational technologies.

Cost control
Rationalize workload now with broadest range of available SON modules.

Agility
Balance your network dynamically with ready-made SON modules. Make your own modules easily on the fly with the software development kit.
Five ways Eden-NET adds value to mobile operators

1. **More efficient network operations.** Automating key network configuration tasks, such as cell neighbor relations or site creation, eliminates the need for substantial human intervention. This can result in as much as a 90 percent reduction in related OPEX.

2. **Fewer, more efficient site visits.** Automated site creation and self-healing capabilities, such as sleeping cell and cell outage resolution, cut back substantially on engineers’ visits to base station sites. Meanwhile, insight into issues, such as crossed antennas, enables much improved focusing of engineering resources for more efficient site maintenance visits.

3. **Better service availability and capacity.** Automation addresses short-term peak periods and special events handling by balancing traffic loads across cells. This improves network availability and capacity. More efficient use of network resources also reduces CAPEX by delaying the need to invest in new sites or upgrading the capacity of existing sites.

4. **Fewer customer care calls.** Keeping the network continuously optimized maintains high network quality and improved customer experience. The immediate impact is far fewer customer care calls.

5. **More revenue and less churn.** Continuous automation raises network quality to improve subscriber voice and data services, encouraging greater use of services and keeping customers loyal.
Since 2014, Nokia’s largest Eden-NET deployment has been a multi-vendor SON deployment with T-Mobile US supporting 1 million 2G, 3G, and 4G cells, as well as 50 million subscribers.
Deployed by leading operators, Nokia Eden-NET is proving its value around the world, boosting operator performance and network efficiency.

- **Reduction in dropped calls**: 26%
- **Reduction in reporting incidents**: 30%
- **Improved network traffic**: 4%
- **Rise in average CQI**: 3 points

**By resolving handover parameter issues**, Eden-NET has reduced an Asian operator’s dropped calls by 26 percent. In the Middle East, another customer has benefited from Eden-NET’s automated neighbor relations with 15 percent fewer dropped calls in the radio network controller.

In Europe, Eden-NET automated neighbor relations has reduced reporting incidents by 30 percent and cut call re-establishments by 22 percent.

A Latin American operator has benefited from a 30 percent reduction in dropped voice calls due to missing neighbors, leading to a four percent growth in traffic throughput.

Eden-NET has helped an African operator to achieve an average Call Quality Index (CQI) rise of three points and a reduction in interference for higher network capacity.
A smooth path to automating the future

Eden-NET addresses some of the most urgent operator needs today to improve profitability and customer loyalty. But there is even more to come. As we move into the 5G era, automation will become increasingly important to meet the new demands of the connected world. These demands will include cloud-based cognitive networking and optimization of network slices to serve all verticals, including the Internet of Things (IoT) ecosystem.

The move to 5G network operations won’t happen overnight though—it will take years to evolve. But with Nokia Eden-NET, operators can get started on the path to 5G now by taking the first steps toward full-scale automation. Full flexibility and programmability can be achieved with the underlying principles of cloud and virtualization (NFV and SDN). Our offer today is cloud-ready and can be installed on any operator’s data center using VMWare or OpenStack. With SON as the central process transformation and automation hub to smoothly manage the transition to new operational paradigms, Nokia Eden-NET is easy to adopt and future ready.
About Nokia
Nokia is a global leader in the technologies that connect people and things. Powered by the innovation of Bell Labs and Nokia Technologies, the company is at the forefront of creating and licensing the technologies that are increasingly at the heart of our connected lives.

With state-of-the-art software, hardware and services for any type of network, Nokia is uniquely positioned to help communication service providers, governments, and large enterprises deliver on the promise of 5G, the Cloud and the Internet of Things. http://nokia.com

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