Nokia professional services for mission-critical enterprise networks

Mission-critical operations demand much more than best-effort connectivity. Organizations such as public safety agencies, power utilities, transportation companies, research and education networks, financial services companies and manufacturers need networks that deliver always-on connectivity across wide and metro areas, ultra-low latency for instant command, control and automation, and robust end-to-end security. Service must be maintained during disasters and periods of heavy network congestion. The networks that underpin mission-critical operations must be modern and efficient so they can control costs while delivering superior service.

Overview

Nokia and its partner organizations have deployed mission-critical communications networks in many environments worldwide. Our professional services experts have a solid track record of success, particularly in the modernization and transformation of legacy networks to efficient, automated infrastructures.

Through consistent use of our best practices, we address unique challenges that arise from a wide range of networking and security requirements, migration scenarios and automation use cases.

Nokia professional services categories for mission-critical infrastructure

Audit and plan		Design and build		Optimize and transform	
Requirements assessment		Design		Measurement and optimization	
Consultancy		Integration		Transformation and modernization	

For example, we help power utilities enable secure, reliable and scalable communications for grid automation, control and monitoring, growing Ethernet and IP application traffic, digital substations, IEC 61850 and operational technology (OT) cloud. Our key strengths include evolving traditional TDM and supporting new IP/Ethernet traffic with the high availability, stringent quality of service (QoS) and tightly controlled latency and synchronization required for applications such as teleprotection and differential protection.

Our experience with SCADA and CCTV applications, and with seamlessly modernizing network operations, provides value across many industry 4.0 scenarios. For example, we help rail operators prepare for and deploy 5G/FRMCS to build digital railways that are ready for tomorrow's demands.

We also help organizations meet the demands of high-performance computing (HPC) and artificial intelligence (AI) and machine learning (ML) modeling tools by ensuring the secure exchange of massive data sets across the network. For instance, our work in deploying and evolving research and education networks establishes a solid foundation for using these technologies for scientific advancement.

Our deep experience and outcome-focused approach to mission-critical network infrastructure projects position us as your trusted professional services partner.

Features and benefits of Nokia professional services

Features	Benefits
Nokia-established design frameworks and templates, all of which are tested and validated.	Guaranteed outcomes aligned with your requirements and expectations.
An efficient, automated, first-time-right approach to network deployment, validation and management.	Reduced risk of rework and delays, which helps get your network up and running faster.
Nokia experts that bring deep capabilities and segment knowledge relating to mission-critical network deployment.	Deterministic operational metrics and controlled costs enabled by a refined delivery model and experienced staff.

Professional services menu for mission-critical infrastructure

Base services	Optional add-on services
Consultation service (blocks of days/weeks)	Customer Network Variation (CNV)
Network and security audit service	Network Test Automation (NTA)
Design service, high level and low level	IP migration (mission-critical extensions)
Base design, plus incrementalfeatures at layers 2 and 3	Training service
Integration service	Expert engineer
	Project management

Service description

Nokia professional services can help you deploy mission-critical enterprise networks in a wide range of environments that vary in size, scale and environmental constraints.

Whether you need help with consultancy, audit, planning, design, integration, transformation or a tailored combination of these capabilities, you get services delivered by engineering experts utilizing thoroughly validated designs and best practices underpinned by an automation toolchain.

Audit and plan

The exercise begins with a foundational examination of your network architecture, security requirements and cost posture. From this, our experts conduct a baseline assessment of network health, risk and cost using structured analysis. They establish

flexible support models for short-term and ongoing needs.

Key offerings include:

- One-time and subscription-based expert consulting services available for initial assessments and ongoing assurance. Flexible engagement models support one-off projects and continuous improvement.
- Comprehensive network audit and verification with one-time audit for baseline discovery and modernization planning, and a subscription service for continuous infrastructure assessment and inventory health checks.
- A security assessment of misconfiguration, compromises and compliance gaps. We also offer ongoing security assurance through subscription-based scans and policy validation.
- Organization-specific compliance checks such as IEC 62433 and NIST according to Nokia best practices.
- Planning and return on investment (ROI) modeling, including developing migration readiness and business plans.

The Nokia Customer Network Verification (CNV) service delivers network analytics on demand. This service can quickly identify network performance issues, capacity utilization problems, bottlenecks and scalability opportunities. It provides the information you need to build a technical strategy that aligns with your business targets.

Design and build

The prime goal of this practice is to modernize legacy systems and deploy scalable, reliable, operationally efficient and secure IP networks. Aging infrastructure will be replaced with modernized networks to enable optimal automation and 5G/6G readiness.

Key offerings include:

- A network and infrastructure design service that establishes network topology, transport and access design with efficient high-availability and failover mechanisms.
- The creation of a data center and virtualization modernization strategy that encompasses containerized platforms and disaggregated infrastructure.
- Orchestration and automation of deployment and testing. The offer features a CI/CD-style rollout, configuration automation, and integrated testing.

Nokia Network Test Automation (NTA) is a framework that helps dramatically shorten validation cycles and accelerate and secure the introduction of new features and services. Supported by standardized domain keywords and Robot Framework test cases, NTA provides all the capabilities required to automatically validate any device under test (DUT) or system under test (SUT) in a physical, virtual or hybrid environment.

Optimize and transform

We maximize the value and performance of modernized networks by driving seamless migration, increased cybersecurity and continuous transformation to meet the evolving needs of mission-critical infrastructure.

Key offerings include:

- Legacy migration and IP transformation, including transitioning from SONET (JMux) and TDM (e.g.T1/E1) to IP/MPLS, TDM sunsetting and field area network (FAN) modernization.
- Operational support with dedicated engineering expertise, including migrating workloads to virtual platforms and cloud.
- Cybersecurity and zero-trust enablement, including rapid assessments for security compliance. We also offer security policy design and validation (one-time and continuous), Zero Trust Network Access (ZTNA) implementation, Common Vulnerabilities and Exposures (CVE) patching and threat analysis as a service.
- Modernization support, including AIOps-based recommendations on capacity, resources and a SaaS-based Professional Service Portal for Planning and Operations.

Associated networking products and solutions

Our experience in architecting and deploying robust, efficient, high-scale and secure networks informs and refines our global professional services practices.

Nokia professional services for mission-critical enterprise networks are associated with a set of industry-leading Nokia IP networking products that includes, but is not limited to, the following components.

High-performance hardware platforms

Purpose-built IP and multiservice platforms such as the Nokia 7705 Service Aggregation Router (SAR) and the 7210 Service Access System (SAS) product families predominate in global transformation and modernization projects.

The 7705 SAR portfolio is packaged in a wide range of form factors to accommodate the density and types of services required at any location. It provides indoor and outdoor mounting solutions combined with extended temperature range and power over Ethernet (PoE) options. Fanless and conformal-coated variants allow the 7705 SAR to be used in harsh environmental conditions.

The Nokia 7210 SAS product family provides IP routing and Carrier Ethernet demarcation, access and aggregation. It addresses stringent requirements for high network resiliency, deterministic network performance and scalability.

The Nokia Data Center Fabric solution features the Nokia 7220 Interconnect Router (IXR) series, which provides fixed-configuration platforms, and the Nokia 7250 Interconnect Router (IXR) series, which provides modular and fixed-configuration platforms. These platforms enable you to implement modern, massively scalable and reliable data center switching architectures for leaf, spine, super-spine and management top-of-rack (TOR) applications.

Automation platforms

Automation and AI expertise for secure operations are delivered with products and solutions such as the Nokia Network Services Platform (NSP) and Nokia Event-Driven Automation (EDA) platform.

NSP helps you automate your network to simplify your operations, respond quickly to fast-changing demand, get the most from your resources and ensure maximum service performance and reliability. It provides a suite of ready-to-use functions covering all use cases for network management, control and optimization. NSP is an open programmable platform that enables network staff to build and adapt their own automation use cases and define customized operations.

EDA is a cloud-native platform that incorporates integrated GenAI and agentic AI capabilities to support efficient and abstracted data center network operations.

Security solutions

Nokia security products and services address a variety of security concerns to defend against increasingly large and sophisticated attacks on networks and the data that travels over them.

Quantum-safe networks are essential for critical infrastructure. Nokia quantum-safe networking technology uses a multilayer, defense-in-depth approach to protect digital transformations from quantum threats as networks move to modern technologies.

Nokia Deepfield is a unified software platform that provides the actionable network intelligence and automated DDoS security you need to deliver flawless service, neutralize security threats and support business growth.

About Nokia

Nokia is a global leader in connectivity for the AI era. With expertise across fixed, mobile, and transport networks, powered by the innovation of Nokia Bell Labs, we're advancing connectivity to secure a brighter world.

Nokia OYJ
Karakaari 7
02610 Espoo
Finland
Tel. +358 (0) 10 44 88 000

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