Nokia DC Fabric

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Nokia Data Center Fabric solution

Build and operate at scale with confidence



Data Center Fabrics



Management ToR 7215 IXS-A1	Leaf 7220 IXR-D2 • 2T (FD)
 88G (FD) 48x GE 4x 10GE 	 48x25GE + 2x10GE 3.2T (FD) 32x100GE
M/TD	

Nokia 7750 SR Nokia 7250 IXR-6e/10e Nokia 7250 IXR-6e/10e Nokia 7220 IXR D5/H2/H3/H4/H5 Nokia 7220 IXR D1/D2L/D3L/D4/D5 Nokia 7220 IXR-D1 Nokia 7215 IXS-A1



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spine	Fixed spine / DCI
14, H5) GE (H4-32D) GE (H4)	7250 IXR-X1b, X3b • 7.8 T (FD) • 24x 100GE + 12x400GE (X1b) • 14.4T (FD) • 36x 400GE (X3b)

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SR Linux

Super spine/DCI

7250 IXR-6e/10e/18e

- 115.2T/230.4T/460.8T (FD)
- Cntrl/Fab Red
- 36 x 400 IMM
- 60 x 100 IMM
- 36 x 800 IMM

J2C+ / J3

Software reliability Driven by a quality-first approach

- One engineering and product management team
- One development process
- One code base for protocols & networking applications



- Industry unique, 1:1 ratio of developers to test engineers dedicated to DC
- 350K+ shared test cases
- Features/fixes delivered in SR OS first and merged into SR Linux nightly

SR Linux Architecture – Detailed Open Infrastructure Enabling Boundless Possibilities



Scale reliably

- 20+ years of field hardening in Nokia's protocol stack and network services
- Million+ routers deployed in 1300+ IP networks

Model driven management

 Enabling flexible uniform programmability with ground up built in telemetry

Open infrastructure

- Flexible ASIC/HW platform support
- "Bring your own application" seamless native application integration

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Tool set Multi-faceted management infrastructure



Auto-boot

- ZTP
 - Customizable
 Python
 implementation
 - v4/v6
 - HTTP/s
 - Out-of-band
- In-band
- ONIE



DevOps CLI

- Python based, entirely open source
- Plugin capable allowing unbounded operator extensions
- Aliases, per-user environments

• Native Telemetry architecture - built from ground up

Telemetry

- Scalable and robust
- Auto-telemetry framework



- Google's streaming
- interface of choice
- gRPC/proto based
- Unified robust mgmt. protocol for configuration and telemetry
- Programmable JSON interface for configuration and retrieval of state

JSON RPC

- Supports CLI commands
- Allows Nokiaextensions (commit confirmed, validate, etc)



- NetOps Development Kit exposes SR Linux's infrastructure as services
- Applications able to leverage transactional configuration, streaming telemetry



SR Linux

Best-in-class quality for DC fabrics CVEs as a proxy for quality*

CVEs by Enterprise Network OS 2015 to 2024



• Nokia SROS is a 20+ year field hardened NOS and SRLinux inherits the quality and processes SROS enjoys.

- Nokia Operating systems have the lowest CVEs compared to other vendors
- We bring this best-in-class quality approach to our Data Center Fabric solution

* Above graph is adapted from the source graphs to include Nokia operating systems information

Nokia internal use

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IP total routing EMEA market share (Q4 2025) Nokia closes 2025 as the #1 vendor in EMEA







Note: Analysts' reports include Russia in EMEA, where only Chinese vendors are delivering (for a significant volume), artificially boosting the size of Huawei in the addressable EMEA market

GigaOm Radar for "Data Center Switching" Nokia recognized for innovation and broad use case support



MATURITY:

Emphasis on stability and continuity; may be slower to innovate

INNOVATION:

Flexible and responsive to market; may invite disruption

FEATURE PLAY:

Offers specific functionality and use case support; may lack broad capability

PLATFORM PLAY:

Offers broad functionality and use case support; may heighten complexity.



Radar Chart Overview:

Nokia was classified as an Outperformer given its large set of features, recognized robustness and innovation in the area of NetDevOps

READ THE REPORT

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Leveraging from other industries Kubernetes - open source, automation platform







Nokia Event Driven Automation (EDA) Bringing the power of Kubernetes to network automation



- 1. Builds on Kubernetes as a **platform**
 - Cloud-based, microservices architecture
- 2. Brings Kubernetes **concepts** to networking
 - Intent-based, declarative, event-driven, revision control



- 3. Leverages Kubernetes Resource Model
 - Tooling and APIs for network consumption



Learning Nokia's DCF solution yourself!







github.com/srl-labs/srl-telemetry-lab

Multivendor EVPN LAB



github.com/srl-labs/multivendor-evpn-lab

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Nokia EVPN Interop LAB



github.com/srl-labs/nokia-evpn-lab

Segment Routing LAB



github.com/srl-labs/nokia-segment-routing-lab

Containerized SR Linux is available at Github . No pay-wall, no license, no registration! docker pull ghcr.io/nokia/srlinux:latest

CONTAINER

containerlab.srlinux.dev



Get Started with EDA playground



Learn SR Linux

https://eda.dev



Key features

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Declarative abstractions Define the end state of your

infrastructure in abstract terms, and let EDA take care of the rest. EDA will ensure that your infrastructure is always in the desired state.

Streaming drift control

Leveraging streaming telemetry for deviation management, EDA can detect and correct deviations from the desired state in real-time.

Event-driven-everything

Achieve massive scalability and real-time insights with event-driven automation. Do work only when it needs to done, no more churn via polling. A platform truly built around streaming telemetry.

Multi-x



Extensible by nature

Inheriting the best principles of Kubernetes, with nuance for infrastructure automation. EDA is designed to be extensible and flexible, allowing you to build on top of it.

Operations as code

Automation for state and operations without afterthought. Make the most complex tasks repeatable and reliable with workflows, dry runs, and automated pre and post checks.

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