



# Kyndryl-Nokia data center networking: A guide for IT leaders



# Contents

|                                                 |    |
|-------------------------------------------------|----|
| Data center modernization .....                 | 3  |
| Nonstop growth of enterprise data centers ..... | 4  |
| Nokia Data Center Network .....                 | 5  |
| Nokia DCN architecture .....                    | 6  |
| Nokia Data Center Fabric .....                  | 7  |
| Nokia DCF .....                                 | 8  |
| Nokia Data Center Gateway.....                  | 9  |
| Nokia Service Router Linux .....                | 10 |
| Nokia Event-Driven Automation.....              | 11 |
| Kyndryl + Nokia .....                           | 12 |
| Case study .....                                | 13 |
| Driving data center expansion .....             | 14 |
| Learn more .....                                | 15 |





# Data center modernization

## The urgent need for an evolution strategy

Industry 4.0. 5G. AI/ML. Cloud. These technologies have led to record growth and incredible innovation for many organizations. But the resulting upsurge in big data workloads and their transit has also created a problem for large enterprises that run their own data center networks: their legacy platforms often struggle with operational complexity, upgrades, inefficiencies and security.

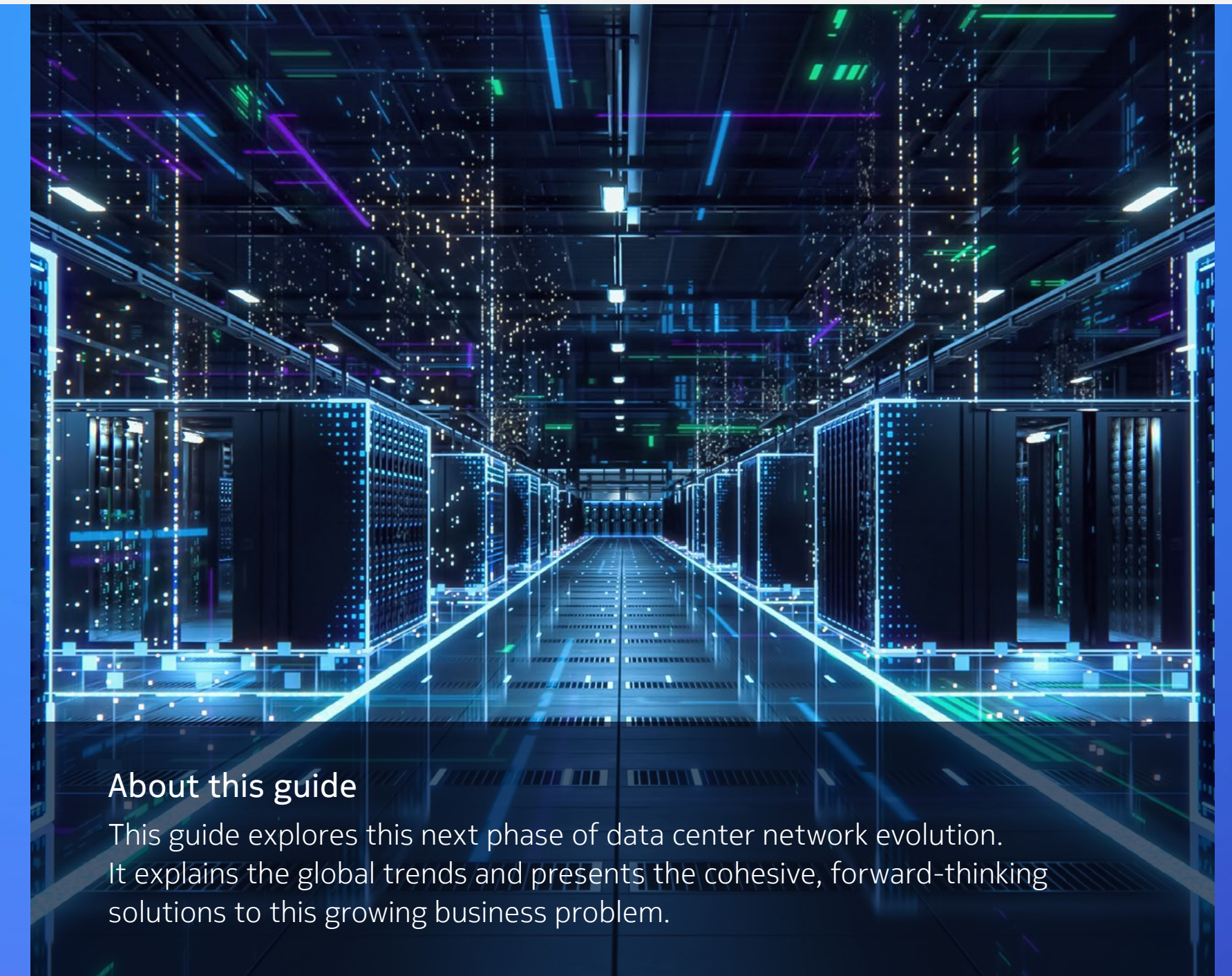
This is holding many businesses back—especially when it comes to AI. To accelerate growth and innovation, enterprises need an evolution strategy that includes a robust, scalable and secure data center network. To do that, IT leaders need the support of reliable partners with the right mix of expertise, experience, services and solutions.

The Nokia and Kyndryl partnership is the answer.

### New opportunities for monetization and scale

Nokia is leading the way in advanced, high-performance networking that meets the demands AI applications, as well as any other large data- and compute-intensive model. We've recently partnered with Kyndryl, the world's largest IT infrastructure services provider, serving thousands of enterprise customers in more than 60 countries.

Together, we are bringing powerful benefits to large enterprises everywhere, creating new opportunities for monetization and scale, by delivering greater capacity, security, resilience and compliance across networks, while helping to keep their infrastructure investments under control.



### About this guide

This guide explores this next phase of data center network evolution. It explains the global trends and presents the cohesive, forward-thinking solutions to this growing business problem.

“Data center networks lie at the heart of AI’s transformational potential, so they need to be easy-to-use, fast and secure. By bringing together Kyndryl’s IT expertise and Nokia’s innovation-driven, open and secure networking technology, we’re jointly creating solutions businesses can trust.”

**David Heard**, President, Nokia Network Infrastructure Business Group.



# Nonstop growth of enterprise data centers

## The importance of network infrastructure

Enterprise data centers are entering a new period of rapid expansion. It's being fueled by powerful forces reshaping both business strategy and IT infrastructure.

Digital transformation and Industry 4.0 are accelerating demand for high-performance networks, while 5G, IIoT, high-performance computing and advanced automation are increasing the need for speed, scale and reliability.

Generative AI adoption is amplifying this pressure. From intelligent chatbots and hyper-personalized recommendations to agentic AI and retrieval-augmented generation, new workloads require scalable, low-latency environments and seamless access to distributed data.

Meanwhile, cloud strategies are rebalancing. Enterprises are moving workloads between public cloud, on-prem and colocation facilities to optimize cost, performance, compliance and sovereignty—particularly as public cloud cost savings often fall short.

Finally, regulatory and resilience demands for security and continuity are tightening worldwide. These include the global standard, ISO27001, EU frameworks such as the Digital Operational Resilience Act and the Network and Information Security Directive 2, as well as regulations from the Financial Industry Regulatory Authority in the US.

Regulatory demands for security and continuity are tightening worldwide, including ISO27001, EU Digital Operational Resilience Act, and the US Financial Industry Regulatory Authority.

Against this backdrop, network infrastructure has become one of the most important strategic foundations for innovation and growth. For large enterprises that manage their own data centers, building a robust, scalable and secure data center network will determine how well they can innovate, compete and grow.

“As enterprises face increasing workloads due to hybrid IT environments, AI adoption, and high-performance computing, the demand for highly reliable, low-latency, and secure connectivity has never been greater.”

**Paul Savill**, Global Network and Edge Computing Practice Leader, Kyndryl

9.62%

CAGR of global data center market<sup>1</sup>

“The data center transformation market is experiencing significant growth due to the rising usage of cloud computing.”<sup>1</sup>

31.6%

CAGR of global AI data center market<sup>2</sup>

“The value of intelligent workload-driven data centers... is showing rapid annual growth.”<sup>2</sup>

84%

of telecom leaders believe AI will be essential to achieving their strategic objectives over the next three years.<sup>3</sup>

79%

of senior technology leaders across industries say they are under pressure to modernize their infrastructure to support AI initiatives.<sup>3</sup>

1 Data Center Transformation Market Size and Growth 2025 to 2034, Precedence Research, July 2025.  
2 AI Data Center Market Size, Share and Industry Report, 2025 To 2030, Markets and Markets, July 2025.  
3 Navigating the readiness paradox: The Kyndryl Readiness Report 2024, Kyndryl, 2024.





# Nokia Data Center Network

## Scalable, high-performance, and ultra-secure

Nokia Data Center Network (DCN) consists of: Nokia Data Center Fabric (DCF), Nokia Data Center Gateway (DCGW), and Nokia Data Center Interconnect (DCI).

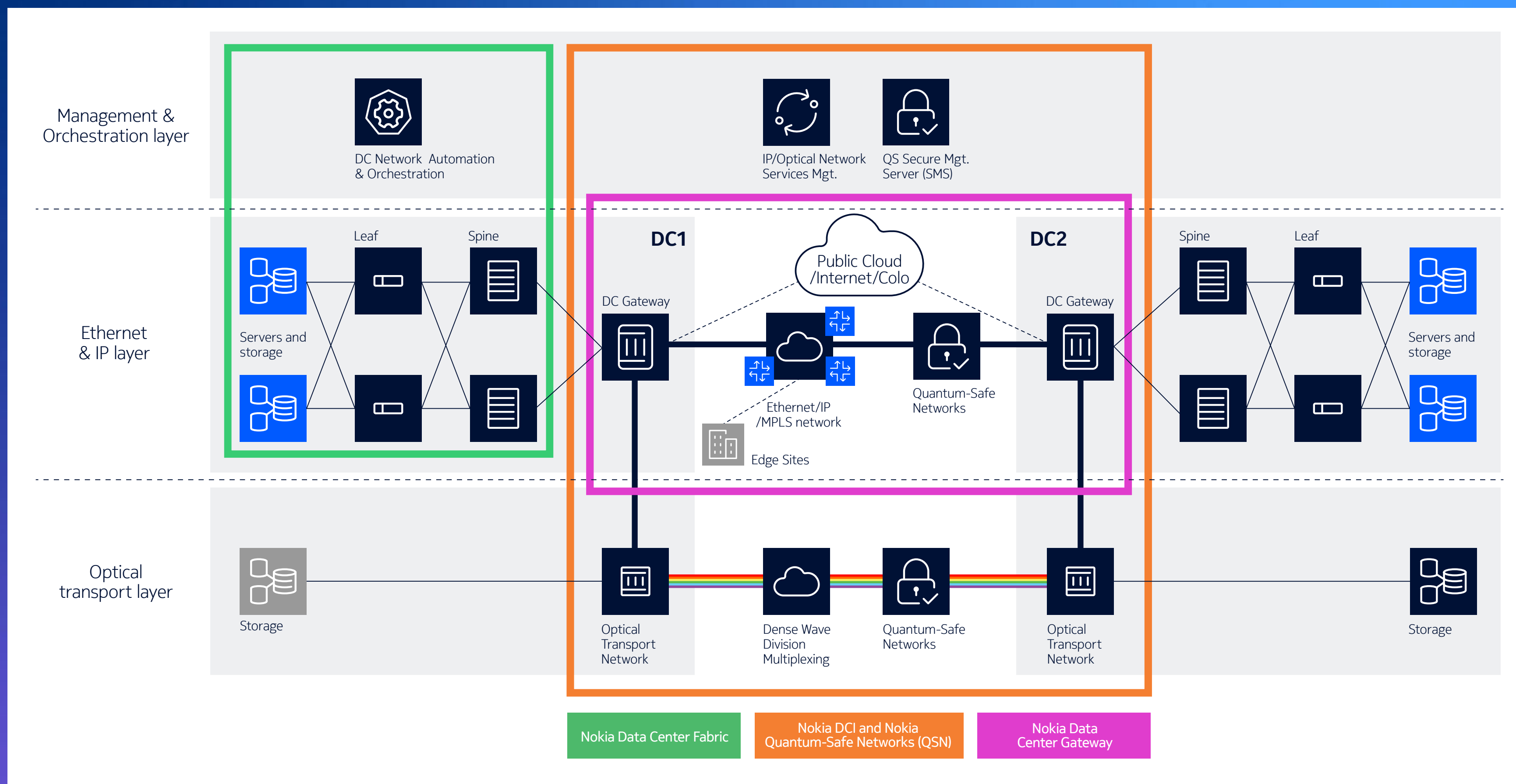
**Nokia DCF** is a scalable data center switching solution that provides the fabric connecting the compute, storage and management systems. It's designed to modernize and simplify data center networking through high-performance hardware, open software, and advanced automation.

**Nokia DCGW** is a high-performance, carrier-grade router designed to connect data center fabrics to external networks such as the WAN, internet, and public clouds. It plays a critical role in enabling secure, scalable, and efficient interconnectivity across hybrid and multi-cloud environments.

**Nokia DCI** is designed to provide high-capacity, low-latency, and ultra-secure connectivity between geographically distributed data centers, enabling seamless integration across private, public, hybrid, and edge cloud environments.



# Nokia DCN architecture: end-to-end network solutions



The story of data centers today, with the rise of AI, is not just one of computers, it's one of infrastructure. A lot of what we've done in this space, even though the modern data center industry is only two or three decades old, we're having to rethink so much of it."

**Clayton Wagar,**  
Principal Consulting Engineer, Nokia.

🎧 Listen to Clayton on our podcast:  
The Data Center Strikes Back (S2, Ep1).

# Nokia Data Center Fabric

## Next-generation data center switching for the AI era



### Nokia 7220/7250 Interconnect Routers (IXRs)

High-performance, energy-efficient leaf, spine platforms.



### Nokia Service Router (SR) Linux

An open, extensible and resilient network operating system (NOS) with proven routing capabilities.



### Nokia Event-Driven Automation (EDA) platform

Helps enterprises create reliable, simplified and adaptable data center operations.

# Nokia DCF

## Scalable platforms built for enterprise AI and HPC

Nokia DCF leaf/spine and management switches are high-performance hardware platforms—each built with merchant silicon for specific workloads to 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.



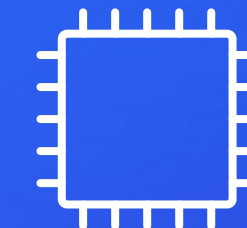
### Hardware designed and built for AI, high-performance computing (HPC) and cloud data centers:

- Quality-first design for predictable, reliable performance
- Optimized for power efficiency and cooling
- Industry recognized for innovation and openness



### Non-blocking switch fabrics supporting:

- IP and Ethernet virtual private network (EVPN)
- Data center gateway or border leaf derivatives
- AI backend and frontend networks
- Collapsed core for edge data center
- Scalability via super spines/pods



### Comprehensive hardware portfolio built with merchant silicon (Broadcom):

- 7250 IXR high-performance, modular spine switches and for WAN connectivity
- 7220 IXR high-performance, high-density, fixed configuration leaf/spine switches
- 7215 IXS ToR out-of-band management switch



# Nokia Data Center Gateway

## Secure data center interconnect and peering

Nokia Data Center Network (DCN) solutions consist of the Nokia Data Center Fabric (DCF), Nokia Data Center Gateway (DCGW), Nokia Data Center Interconnect (DCI), and DCN management and automation.

### Nokia DCGW:

- Multi-domain interworking between the data center fabric VxLAN tunnel data plane and the IP-only, MPLS or SRv6 data plane in the WAN
- Multi-VPN interworking between modern and legacy data centers (EVPN to IP-VPN or VPLS)
- Internet connectivity using BGP peering
- Connecting public clouds to on-prem data centers for hybrid-cloud applications
- DDoS mitigation and traffic encryption to secure the data center fabric and ensure maximum availability

“So the shift has created this need for highly reliable network connectivity to ensure you have that seamless communication and data transfers, and that’s where the data center gateway comes in. These routers address that growing demand for connectivity by providing a secure, scalable entry and exit point between the data center fabric and these external networks.”

**Trini Grinspan**, IP Consulting Engineer, Nokia.

Listen to Trini on our podcast: The Data Center Strikes Back (S2, Ep2).





# Nokia Service Router Linux

## For an open, extensible and resilient NOS

Nokia SR Linux delivers an open, extensible framework that enables automation with advanced software features to provide proven quality and resiliency. The solution gives your NetOps teams the most flexible and customizable foundation for modernizing your IP and data center networking infrastructures.



Cloud-native  
design principles



Linux kernel



Ground-up model-  
driven design



State-sharing  
architecture



Robust  
foundation



Resiliency and  
high availability



Best-in-class  
streaming telemetry



Unmatched  
extensibility



Automation  
at scale



# Nokia Event-Driven Automation

## Move fast with confidence

Nokia EDA is a cloud-native infrastructure automation platform with one goal: human error zero. It supports multi-vendor networks delivering the predictability and reliability that you need to make changes without fear and move fast with confidence. EDA simplifies the entire lifecycle management of the network, from provisioning to assurance.

Our platform is a modern approach to making network automation more predictable and consumable. It allows you to deliver reliable operations, simplify lifecycle management and easily adapt to evolving environments.

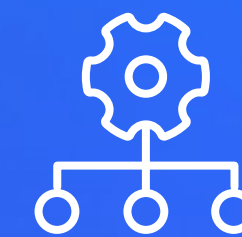
### Complete lifecycle management with EDA:

- Automate the entire data center network lifecycle
- Quickly respond to network conditions
- Trigger automated actions in response to specific events

### A cloud-native platform running on Kubernetes:

- Bring Kubernetes concepts and consumption model to data center networking
- Leverage the Kubernetes ecosystem and API operations to manage and consume the network.

### EDA gives you:



Reliability by making the configurations predictable and the process orderly and controlled.



Adaptability and agility through customization and integration with a rich ecosystem of tools and clouds.



Simplification in operations by abstracting the complexity of multiple vendors with an easy-to-use platform.

“I have worked with EDA, I have seen it in demonstration, and it’s a very impressive tool. I loved EDA’s use of natural language, and when we tested in our labs, it did everything we threw at it. The greatest value I saw in EDA is the ability to learn how to use it while you’re using it. We made a choice to use that in some of our data centers in Europe and some of our customers’ data centers moving forward.”

**James Knights**, Principal Architect, Kyndryl.

Listen to James on our podcast: The Data Center Strikes Back (Podcast S2, Ep3).



# Kyndryl + Nokia

## An expanded portfolio of partnership solutions

These joint solutions support digital transformation initiatives, stimulate enterprise data center growth, and drive modernization. The partnership is positioned to support evolving workloads driven by AI, high-performance computing, and advanced automation

### Building on a robust relationship

Kyndryl's Network and Edge solutions and services include Private LTE and 5G, Managed Network, Wide Area Network and Data Center Networking for enterprise and government.

This portfolio is augmented by the addition of data center and networking solutions from Nokia, which includes its DCF, IP/optical wide area networks, multi-layer security solutions (IP/optical) and Nokia DCI—secured by quantum-safe networking.

“Our expanded portfolio of solutions with Nokia underscores the critical role that robust data center network infrastructure plays in driving IT modernization. From leveraging AI-driven network automation to extending capabilities at the edge, our comprehensive, end-to-end network services empower enterprises to mitigate future risks, meet regulatory requirements, and accelerate their technology transformation journey.”

**Paul Savill**, Global Network and Edge Computing Practice Leader, Kyndryl.





# Case study

## Modernizing an ISP's data center architecture

### In need of network upgrades

iWay AG is one of Switzerland's leading internet providers for private individuals and small and medium-sized businesses. But its existing data center switching network had an outdated architecture, which was holding it back from meeting future growth ambitions.

### Meeting future capacity requirements

To meet its capacity requirements for the next five years, the Zurich-based internet service provider (ISP) was looking for a way to modernize its data center architecture. As part of its evolution strategy, the company sought increased automation to monitor its operations.

### Switching, NOS, and automation

Kyndryl provided engineering and network design services along with planned test and turn-up support.

Working in partnership with Kyndryl, Nokia implemented the high-performance, energy-efficient Nokia 7220 IXR data center leaf and spine switches. The IXRs operate a Nokia SR Linux to create an open, extensible and resilient NOS with proven routing capabilities. And we implemented the Nokia EDA platform to help iWay create reliable, simplified and adaptable data center operations.

### A modernized network fabric

iWay successfully modernized its data center network fabric—within budget—while gaining greater visibility and the ability to simplify and automate its operations.

[Read the case study: iWay taps Nokia to modernize and automate data center infrastructure](#)





# Driving data center expansion

## The critical role of a robust data center network infrastructure

If your enterprise manages its own data centers, you need trusted, reliable partners to enable modernization or expansion. And your teams need the expertise of a strong partnership to support evolving workloads driven by technologies like AI.

Kyndryl's expertise in end-to-end network management and consulting services—combined with the proven track record from Nokia in deploying large-scale networks for service providers, webscalers and enterprises—creates a formidable combination to meet growing demands for high-performance data center workloads.

The result of Nokia and Kyndryl by your side will be an enhanced IT infrastructure, which will help you:

- **Fortify** your enterprise's resilience against cyberattacks
- **Support** compliance with regulatory frameworks
- **Empower** your organization to mitigate future risks
- **Accelerate** your technology transformation journey







# Learn more

Visit the Nokia-Kyndryl alliance page to discover more about how we can help you develop an evolution strategy that drives data center modernization—to accelerate your growth, innovation and competitiveness.

**Visit:** [The Kyndryl and Nokia partnership](#)

## Listen to the podcast

The Data Center Strikes Back (series two) is our deep dive podcast where experts from Nokia and Kyndryl explore the major themes impacting data center network design. Join our experts as they cover topics including AI workloads, data center gateways, infrastructure and automation platforms. [#datacenterstrikesback](#)

 [Listen:](#) The Data Center Strikes Back (series two) | Podcast on Spotify



# NOKIA

Nokia is a registered trademark of Nokia Corporation. Other product and company names mentioned herein may be trademarks or trade names of their respective owners.

Nokia OYJ  
Karakaari 7  
02610 Espoo  
Finland

Tel. +358 (0) 10 44 88 000

CID: 215122

© 2025 Nokia