IP Routing Portfolio

With the Nokia IP routing portfolio, connect users,things and clouds while securely delivering capacity, reliability and performance.

7250 Interconnect Router (IXR)

- Terabit-scale, fixed and modular interconnect router for CSP and webscale networks
- Optimized for next generation IP mobile transport (anyhaul) and fixed-mobile convergence, residential and business access, aggregation, edge compute and data center applications
- Flexible native and breakout options with support for 800GE, 400GE, 100GE, 50GE, 40GE, 25GE, 10GE and 1GE interfaces
- 7250 IXR-e big, 7250 IXR-Xs, 7250 IXR-s, and 7250 IXR-X1 modes: 7750 SR ethernet satellite port extender or stand-alone router
- Running SR OS or SR Linux network operating systems delivers a rich set of use cases



7250 IXR-X1b
- 7.2 Tb/s (FD); fixed; 1RU
- 24 x 100G QSFP28
- 12 x 400G QSFP-DD



7250 IXR-X3b
- 14.4 Tb/s (FD); fixed; 1RU
- 36 x 400G QSFP-DD



7250 IXR-X4 (QSFP-DD)
- 25.6 Tb/s (FD); fixed; 1RU
- 32 x 800G QSFP-DD

7250 IXR-X4 (OSFP)
- 25.6 Tb/s (FD); fixed; 1RU
- 32 x 800G OSFP



7250 IXR-6e
- 115.2 Tb/s (FD); 10RU
- 4 slots, 28.8 Tb/s (FD) each
- 144 x 800G QSFP-DD
- 144 x 800G OSFP
- 288 x 400G QSFP-DD
- 288 x 400G OSFP
- 1152 x 100G QSFP28



7250 IXR-10e
- 230.4 Tb/s (FD); 16RU
- 8 slots, 28.8 Tb/s (FD) each
- 288 x 800G QSFP-DD
- 288 x 800G OSFP
- 576 x 400G QSFP-DD
- 576 x 400G OSFP
- 2304 x 100G QSFP28



7250 IXR-18e
- 460.8 Tb/s (FD); 35RU
- 16 slots, 28.8 Tb/s (FD) each
- 576 x 800G QSFP-DD
- 576 x 800G OSFP
- 1152 x 400G QSFP-DD
- 1152 x 400G OSFP
- 4608 x 100G QSFP28



7250 IXR-e big
- Fixed; 1RU; ETR
- 300 Gb/s (FD)
- 2 x 100G QSFP28
- 8 x 25G SFP28
- 24 x 10G SFP+

7250 IXR-e small
- Fixed; 1RU; ETR
- 120 Gb/s (FD)
- 14 x 10G SFP+
- 4 x RJ45 (GE)

7250 IXR-ec
- Fixed; 1RU; ETR
- 64 Gb/s (FD)
- 6 x 10G SFP+
- 20 x 1G SFP
- 4 x RJ45 (GE)



7250 IXR-e2
- Fixed; 1RU; ETR
- 800 Gb/s (FD)
- 2 x 400G QSFP-DD
- 2 x 100G QSFP28
- 24 x 25G SFP28

7250 IXR-e2c
- Fixed; 1RU; ETR
- 100 Gb/s (FD)
- 2 x 100G QSFP28
- 12 x 25G SFP28

7250 IXR-e2sc
- Fixed; 1RU; ETR
- 100G Gb/s (FD)
- 4 x 25G SFP28
- 16 x 10G SFP+

7250 IXR-e2n
- Fixed; 1RU; ETR
- 44 Gb/s (FD); fanless
- 4 x 10G SFP+
- 4 x 1G SFP



7250 IXR-e3x
- Fixed; 2RU; ETR
- 2.4 Tb/s (FD)
- 6 x 400G QSFP-DD
- 16 x 100G SFP-DD
- 15 x 50G SFP56

7250 IXR-e3
- Fixed; 1RU; ETR
- 1.2 Tb/s (FD)
- 2 x 400G QSFP-DD
- 8 x 100G SFP-DD
- 18 x 25G SFP28

7250 IXR-e3c
- Fixed; 1RU; ETR
- 400 Gb/s (FD)
- 4 x 100G QSFP28
- 8 x 50G SFP56
- 16 x 25G SFP28



7250 IXR-X3
- Fixed; 1RU
- 14.4 Tb/s (FD)
- 36 x 400G QSFP-DD

7250 IXR-X1
- Fixed; 1RU
- 4.8 Tb/s (FD)
- 4 x 400G QSFP-DD
- 32 x 100G QSFP28

7250 IXR-Xs
- Fixed; 1RU
- 4.8 Tb/s (FD)
- 6 x 400G QSFP-DD
- 48 x 50G SFP56

7250 IXR-s3x
- Fixed; 1RU
- 2.4 Tb/s (FD)
- 2 x 800G QSFP-DD
- 4 x 100G QSFP28
- 48 x 50G SFP56

7250 IXR-s
- Fixed; 1RU
- 800 Gb/s (FD)
- 6 x 100G QSFP28
- 48 x 10G SFP+



7250 IXR-R4
- 300 Gb/s (FD); 2RU, ETR
- 4 slots, 160 Gb/s (FD) each
- 4 x 100G QSFP28
- 16 x 25G SFP28
- 42 x 10G SFP+
- 80 x 1G cSFP

7250 IXR-R6
- 800 Gb/s (FD); 3RU, ETR
- 6 slots, 160 Gb/s (FD) each
- 6 x 100G QSFP28
- 24 x 25G SFP28
- 60 x 10G SFP+
- 80 x 1G cSFP
- 32 x T1/E1



7250 IXR-R6d
- 2.4 Tb/s (FD); 4RU, ETR
- 6 compact slots, 500/300 Gb/s (FD)
- 4 x 400G QSFP-DD
- 26 x 100G QSFP28
- 52 x 50G SFP56
- 80 x 25G SFP28
- 120 x 10G SFP+
- 192 x 1G cSFP

7250 IXR-R6dl
- 2.4 Tb/s (FD); 7RU, ETR
- 6 slots, 500/300 Gb/s (FD)
- 4 x 400G QSFP-DD
- 26 x 100G QSFP28
- 52 x 50G SFP56
- 80 x 25G SFP28
- 210 x 10G SFP+
- 480 x 1G cSFP

7210 Service Access System (SAS)

- Access, demarcation and cost-effective GE aggregation routers
- High-density and line-rate throughput
- 7210 SAS-S, 7210 SAS-Sx and 7210 SAS-Mxp series modes: 7750 SR ethernet satellite port extender and stand-alone router
- Proven and highly resilient SR OS software delivers a rich set of IP routing capabilities



7210 SAS-K12 (ETR option)
- 9 Gb/s (FD); 1RU; fanless, IP50
- 2 x 1G SFP, 4 x RJ45 (GE/FE), 6 x 1G SFP/RJ45 (GE/FE); MACsec

7210 SAS-K5 (ETR option)
- 5 Gb/s (FD); 1RU; fanless, IP50
- 2 x 1G SFP, 2 x RJ45 (GE/FE), 1 x 1G SFP/RJ45 (GE/FE)

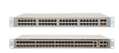


7210 SAS-K30 ETR
- 30 Gb/s (FD); 2RU; fanless
- 3 x 10G SFP+, 8 x 1G SFP/RJ45 (GE/FE); MACsec

7210 SAS-Dxp (ETR option)
- 30 Gb/s (FD); 1RU; fanless
- 2 x 10G SFP+, 10 x 1G SFP



7210 SAS-Dxp-16p and Dxp-24p (DIN rail and ETR)
- Dxp-16p: 34 Gb/s (FD); 2 x 1/10GE, 4 x 1GE, 10 x 1GE with PoE/+/++/HPoE
- Dxp-24p: 42 Gb/s (FD); 2 x 10G SFP+, 6 x 1G SFP, 16 x RJ45 with PoE/PoE+/PoE++/HPoE MACsec on 4 ports: 2 x 10G SFP+, 2 x 1G SFP



7210 SAS-Sx and SAS-S 1/10GE
- 64 or 88 Gb/s (FD); 1RU
- 24 or 48 1G SFP, 4 x 10G SFP+, PoE/PoE+ option



7210 SAS-Sx 10/100GE
- 1.04 Tb/s (FD); 1.5RU
- 64 x 1G SFP or 10G SFP+, 4 x 100G QSFP28

7750 Service Router (SR)

- Scalable, comprehensive and deterministic routing for edge and core applications in CSP, webscale and mission-critical networks
- Powered by Nokia FP5 6.0 Tb/s (HD) and FP4 3.0 Tb/s (HD) routing silicon
- Flexible native and breakout options with support for 800GE, 400GE, 100GE, 50GE, 40GE, 25GE, 10GE and 1GE and up to 1.6T clear channel interfaces
- Silicon-based IP network security includes DDoS mitigation and enhanced quantum-safe MACsec (ANYsec) line-rate cryptography - without performance impact
- Proven and highly resilient SR OS software delivers a rich set of IP routing capabilities



7750 SR-1s
- Fixed: 4.8 Tb/s (FD), 2.4 Tb/s (FD); 3RU Modular: 3 Tb/s (FD); 3RU
- Up to 4.8 Tb/s (FD)/12 Tb/s intelligent aggregation (IA)
- 2 x 800G QSFP-DD
- 24 x 400G QSFP-DD
- 120 x 100G QSFP28
- 360 x 10G QSFP28
- 40 x 100G SFP-DD



7750 SR-1se
- 19.2 Tb/s (FD); 3RU
- Fixed, up to 19.2 Tb/s (FD), all ports are line rate
- 24 x 800G QSFP-DD
- 48 x 400G QSFP-DD
- 192 x 100G QSFP28
- 360 x 10G QSFP28



7750 SR-2s
- 9.6 Tb/s (FD); 5RU
- 2 slots of 4.8 Tb/s (FD)/12 Tb/s IA
- 4 x 800G QSFP-DD
- 48 x 400G QSFP-DD
- 240 x 100G QSFP28
- 720 x 10G QSFP28
- 80 x 100G SFP-DD



7750 SR-2se
- 36 Tb/s (FD); 5RU
- 2 slots of 18 Tb/s (FD)/19.2 Tb/s IA
- 48 x 800G QSFP-DD
- 96 x 400G QSFP-DD
- 384 x 100G QSFP28
- 720 x 10G QSFP28
- 96 x 100G SFP-DD



7750 SR-7s
- 108 Tb/s (FD); 16RU or 17RU
- 6 slots of 18 Tb/s (FD)/19.2 Tb/s IA
- 144 x 800G QSFP-DD
- 288 x 400G QSFP-DD
- 1152 x 100G QSFP28
- 2160 x 10G QSFP28
- 288 x 100G SFP-DD



7750 SR-14s
- 216 Tb/s (FD); 27RU or 28RU
- 12 slots of 18 Tb/s (FD)/19.2 Tb/s IA
- 288 x 800G QSFP-DD
- 576 x 400G QSFP-DD
- 2304 x 100G QSFP28
- 4320 x 10G QSFP28
- 576 x 100G SFP-DD



7750 SR-1
- 1.5 Tb/s (FD); 2RU
- Modular, 1.5 Tb/s (FD)/4.0 Tb/s IA
- 2 x 800G QSFP-DD
- 6 x 400G QSFP-DD
- 40 x 100G QSFP28
- 240 x 10G QSFP28
- 20 x 100G SFP112
- 32 x 25G/10G SFP28



7750 SR-1x-48D, SR-1-48D, SR-1-24D
- 6 Tb/s or 2.8 Tb/s (FD); 2RU
- Fixed, up to 6 Tb/s (FD)/19.2 Tb/s IA
- 24 x 800G QSFP-DD
- 48 x 400G QSFP-DD
- 192 x 100G QSFP28
- 480 x 10G QSFP28



7750 SR-1x-925, SR-1-925, SR-1-46S
- 6 Tb/s or 2.8 Tb/s (FD); 2RU
- Fixed, up to 6 Tb/s (FD)/12.8 Tb/s IA
- 4 x 800G QSFP-DD
- 12 x 400G QSFP-DD
- 128 x 100G QSFP28
- 200 x 10G QSFP28
- 80 x 100G SFP-DD



7750 SR-7
- 4 Tb/s (FD); 8RU
- 5 slots of 800 Gb/s (FD)/1.2 Tb/s IA
- 5 x 400G QSFP-DD
- 60 x 100G QSFP28
- 600 x 10G QSFP28
- 160 x 25G/10G SFP28
- 400 x 1G CSFP



7750 SR-12
- 8 Tb/s (FD); 14RU
- 10 slots of 800 Gb/s (FD)/1.2 Tb/s IA
- 10 x 400G QSFP-DD
- 120 x 100G QSFP28
- 1200 x 10G QSFP28
- 320 x 25G/10G SFP28
- 800 x 1G CSFP



7750 SR-12e
- 13.5 Tb/s (FD); 22RU
- 9 slots of 1.5 Tb/s (FD)/4 Tb/s IA
- 18 x 800G QSFP-DD
- 36 x 400G QSFP-DD
- 360 x 100G QSFP28
- 2160 x 10G QSFP28
- 180 x 100G SFP112
- 288 x 25G/10G SFP28
- 720 x 1G CSFP

7705 Service Aggregation Router (SAR)

- Access and aggregation routers supporting datapath encryption including MACsec, ANYsec, IPsec and NGE (on select platforms)
- Well-suited for CSP mobile backhaul and mission-critical and industrial applications, particularly for legacy-to-packet adaptation
- Multiservice interfaces delivering Ethernet, packet microwave, TDM, RS232, C37.94, E&M and other legacy interfaces
- Proven and highly resilient SR OS software delivers a rich set of IP routing capabilities



7705 SAR-Wx (2 variants)
- 5 Gb/s (FD); outdoor mountable
- 3 x 1G SFP, 2 x RJ45 (optional PoE+), GPS



7705 SAR-Hc
- 2.5 Gb/s (FD), DIN rail-mountable
- 2 x 1G SFP, 4 x RJ45 (2 with PoE/PoE+); 2 x RS-232 serial ports

7705 SAR-Hm, SAR-Hmc
- 5G Red Cap, LTE, 3G; GNSS receiver
- SAR-Hm: 6 x 10/100 Mb/s; 2 x async RS-232 serial ports, Wi-Fi
- SAR-Hmc: 3 x 10/100 Mb/s; 2 x async RS-232 serial ports



7705 SAR-X
- 27 Gb/s (FD); 1RU
- 2 x 10G SFP+, 12 x 1G SFP, 8 x T1/E1

7705 SAR-Ax
- 5 Gb/s (FD); fanless; 1RU; GNSS receiver
- 12 x 1G SFP

7705 SAR-8
- 30 Gb/s (FD); 2RU; modular; multiservice interface ports
- 48 x 1G SFP
- 12 x 10G SFP+

7705 SAR-1
- 50 Gb/s (FD); fixed; 1RU
- 10 x 10G SFP+
- 6 x 1G SFP (GE/FE)



7705 SAR-Hx
- 50 Gb/s (FD); modular; 1RU; fanless; GNSS receiver; multiservice interface ports
- 2 x 25G SFP28, 8 x 10G SFP+, 14 x 1G SFP, 12 x 1000/100M RJ45, 8 x T1/E1, 4 x RS232/RS485, 4 x C37.94

7705 SAR-Mx
- 50 Gb/s (FD); modular; 1RU; GNSS receiver; multiservice interface ports
- 2 x 25G SFP28, 8 x 10G SFP+, 14 x 1G SFP, 12 x 1000/100M RJ45, 8 x T1/E1, 4 x RS232/RS485, 4 x C37.94



7705 SAR-10x
- 50 Gb/s (FD); 100% redundant; modular; 4RU; fanless with optional fan tray; GNSS receiver; multiservice interface ports; adapter options:
- 2 x 25G SFP28 + 2 x 1G SFP
- 1 x 25G SFP28
- 2 x 10G SFP+ + 2 x 1G SFP
- 8 x 1G SFP
- 8 x 1000/100M RJ45
- 8 x RJ48 T1/E1
- 4 x RS232 + 4 x C37.94
- 8 x C37.94

Portfolio Building Blocks

Nokia FP5 routing silicon



- 6 Tb/s half duplex (HD), fully programmable network processor brings high-performance, scale and feature richness for the most demanding IP edge and core applications
- Deterministic, ensures performance certainty at full scale for predictable,consistent performance under all network loads, capacities and services without compromise
- Silicon-based IP network security without performance impact: all platforms support DDoS mitigation and enhanced quantum-safe MACsec (ANYsec) line-rate cryptography

Network operating systems

SR OS
- Proven, robust and highly reliable, supports the industry's most comprehensive suite of IP, MPLS and segment routing features
- Carrier-level scale and performance across all VPN and subscriber management services
- Advanced model-driven architecture and telemetry sensors at a high level of granularity
- Industry-leading non-stop services, routing and in-service software upgrade support

SR Linux
- Embraces cloud-native design principles with a Linux®-based, modular, microservices, state-sharing architecture
- Leverages proven SR OS protocol stacks and networking applications for a feature-rich, hardened, interoperable, and secure solution
- Advanced model-driven architecture and telemetry sensors at a high level of granularity
- Built for openness and raises the bar on customizability, offering a true app development platform

Virtualized Service Router (VSR)

VSR
- Flexible, high-performance, virtualized IP router designed and optimized for cloud scaling in x86-based server environment
- Enables agile delivery of a wide range of SR OS IP routing and network applications, deployable as a virtual network function or container network function
- Allows simplified life-cycle management, operations and maintenance, ensuring uniform operational practices in hybrid network scenarios (i.e., when deployed along with physical network elements)

Network Services Platform (NSP)

- A programmable, multivendor network automation platform across IP/MPLS, Ethernet, optical and microwave networks
- Abstracts network complexity by using intent-based networking following agile and DevOps best practices
- Powerful assurance and analytics capabilities using machine learning algorithms and automatic corrective actions
- Scalable network path control and optimization using real-time telemetry from network and closed-loop automation
- Automated cross-domain IP-optical coordination

Deepfield Network Analytics and DDoS Security

- Petabyte-scale, AI/ML-driven big data applications for real-time, multidimensional network, service and subscriber insights
- Deepfield Cloud Genome® and Deepfield Secure Genome® data feeds for up-to-date internet content/applications/ services and security context
- Deepfield Defender for fast and accurate DDoS detection, agile mitigation and managed security
- 7750 Defender Mitigation System: FP5-based, up to 2.4 Tb/s (FD) compact (3 RU, including ACE) system with advanced countermeasures against all DDoS (volumetric, botnet, application layer)

Explore the Nokia IP routing portfolio

Explore the Nokia Data center switching portfolio

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