Router 6678

The Router 6678 is a compact high-capacity C-RAN hub and IP transport network aggregation router, designed to enable high quality network service delivery.

Router 6678 provides high density of 100GE and 400GE ports. With 4.8 Tbps switching capacity combined with low power consumption in a compact, 510mm deep, 1RU form factor Router 6678 enabling lower rental costs and OPEX. Router 6678 is available with DC or AC power supply.

Router 6678 supports VPN services over IP/MPLS/SRv6 networks, service provider SDN service exposure using NETCONF/YANG, extensive quality of service and precise synchronization features.

The Router 6678 has strong security features such as signed software, secure protocols and control plane protection ensuring data security even in insecure environments.

The Router 6678 is part of the Ericsson Router 6000 Series, a RAN integrated and service provider SDN enabled IP transport family of products.

The Router 6000 offers a range of high-performance routers with resiliency features and form factors optimized for the various needs of metro, backhaul and fronthaul networks.

Meeting the strictest radio requirements

The high capacity, 4.8Tbps, Router 6678 provides full SRv6 performance without degradation in capacity or latency.

Router 6678 is optimized for 100GE aggregation in backhaul aggregation sites and eCPRI aggregation in central hub sites.

Precise and proven synchronization

5G enhancements such as advanced coordination and carrier aggregation that enable efficient use of spectrum have strict synchronization requirements. The Ericsson synchronization solution comes pre-verified to work with Radio.

SDN capabilities and programmability

Provides application aware traffic engineering with open and standardized interfaces, enabling network slicing and ability to tailor services for utmost agility.

Designed for low CAPEX and OPEX

Router 6678 series uses merchant silicon with native SRv6 support in a cost optimized design to lower CAPEX. In-service patches with zero downtime.

Strong Security

Strong and complete security solution with signed software, secure protocols and control plane protection that enables ubiquitous deployments. Hardware ready for MACsec.

Radio integrated Transport

Provides tight hardware and mechanical integration as part of Ericsson Radio System and allows for significantly easier deployment and lower overall TCO.

Router 6678 uses the same Ericsson Network Manager (ENM) as RAN and Core. The end-to-end network solution is pre-verified, which saves integration costs and allows faster time to market. Ericsson Transport Automatic Controller (ETAC) is an intelligent, cloud-native transport controller that uses AI and ML to analyze and automate networks, allowing an easy and cost-effective management of IP transport.

Technical specification for Router 6678

Connectivity

Interfaces:	4x400GE QSFP56-DD, 30x100GE QSFP28 2x 100 / 1000 Base-T Ethernet for Out-of-Band Management 1x RJ45 console port 1x USB , type C,port for file uploads and downloads
Synchronization interfaces:	1x RJ45 ports 1PPS+TOD input/output

Mechanical

System weight:	Fully configured chassis: 11.2kg / 24.7lbs
Dimension (H x W x D):	44mm x 443mm x 510mm
Air flow:	Front to Back, 4 + 1 Redundant Fan Modules

Electrical

Power supply DC: Power supply AC:	-48V, 1+1 redundant power supply units 200V/240V, 50-60 Hz, 1+1 redundant power supply units
Power Consumption	DC version: Typical 421 Watts, Max (without optics) 810 Watts AC version: Typical 403 Watts, Max (without optics) 785 Watts

Environmental

Operating Temperature:	0°C to +40°C
Relative Humidity:	5 - 95% Non-condensing

Key features

IP Routing MPLS:	IPv4, IPv6, BGP-4, MP-BGP, BGP FRR, BGP-LS, IS-IS, OSPFv2/v3, VRRPv2/v3, LFA, RLFA, TI-LFA, RSVP-TE including FRR*, LDP, T-LDP, mLDP*, Segment Routing MPLS, Segment Routing IPv6 (SRv6), PCEP, Seamless MPLS, CSPF*, Routing policy, Policy based routing, DHCP client/relay/Server, Segment Routing IPv6 (SRv6), SRv6 SID compression
Ethernet:	802.1Q virtual LAN (VLAN), 802.1ad Provider Bridge, IEEE 802.3ad Link Aggregation Control Protocol, BVI — Bridged Virtual Interface, QinQ, G.8032 Ethernet Ring Protection Switching*, BUM storm protection, Jumbo Frame up to 9600 bytes
Layer-2/Layer-3 Virtual Private Networking:	L3 MPLS VPNs, 6VPE/6PE, Inter-autonomous-system MPLS VPN (options A, B, C), VPWS for E-Line Services, VPLS/H-VPLS for E-LAN Services, Pseudowire redundancy, MEF CE1.0/2.0 Compliant, Ethernet VPN for E-Line & E-LAN Services, Ethernet VPN IRB
Multicast Protocols:	IPv4/IPv6 multicast, PIM-SM/SSM, IGMP v1/v2/v3, MLDv2, IGMP snooping, MVPN*
Timing and Synchronization:	IEEE 1588-2008 Precision Time Protocol, ITU-T Profiles for Frequency (G.8265.1 SOOC)*, Time/Phase sync G.8275.1 T-BC/GM, G.8275.2 T-BC/GM*, Class C performance, NTP, SyncE with ESMC, Enhanced SyncE, Stratum 3E clock, L1 Assist holdover, PTP quality measurement & monitoring
Operation and Maintenance:	IEEE 802.1ag Connectivity Fault Management*, ITU-T Y.1731 (DM, SLM and Throughput)*, 802.3ah Ethernet OAM*, Microwave Bandwidth Notification*, Port Loopback, MACSWAP, MPLS Ping /Traceroute, BFD IPv4 & IPv6 Single Hop, BFD IPv4 & IPv6 Multi Hop, Micro-BFD, Seamless BFD, TWAMP Reflector, TWAMP Initiator, TWAMP server, Port Mirroring, LLDP, IPFIX (IP Flow Information Export), Event Manager
Security:	Secure boot, Vendor credential, secured storage, Access Control lists, RADIUS, TACACS+, LDAP, SSH v1/v2, Reverse-path forwarding, CMPv2, CRL, TLS, 802.1x port-based network access control, Routing authentication, MACsec*
Quality of Service:	Strict-queuing, WFQ, priority-WFQ, Hierarchical QoS, Deep packet buffers, RED/Weighted RED, Ingress policing, Egress shaping, 802.1p, MPLS EXP bits, DiffServ
Network Management:	Ericsson Network Manager (ENM), CLI, SNMP v2c/v3, NETCONF, YANG models, Syslog, RMON, Fault Management, Configuration Backup & Restore, Performance Management Job, Zero Touch Provisioning*, Telemetry Streaming

Standards and specifications

Safety:	LVD Directive 2014/35/EU, IEC/EN 62368-1, CFR 29 Part 1910, UL/CSA 62368-1
EMC:	EMC Directive 2014/30/EU, EN 300386, CISPR 32, EN 55032, CISPR 2435, EN55035, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, CFR 47 Part 15, ICES-003; VCCI V-3
ENV:	RoHS Directive 2011/65/EU, WEEE Directive 2012/19/EU, EN 300 019-2-1, EN 300 019-2-2, EN 300 019-2-3, EN 300 753
NEBS:	GR-1089-CORE, GR-63-CORE, SR-3580 (NEBS Level 3), GR-3108-CORE, ATT-TP-76200, VZ.TPR.9203, VZ.TPR.9205, VZ.TPR.9305

*Future release