Router 6673

The Router 6673 is a high performance modular and multi-service router, designed to simultaneously handle the CPRI and eCPRI transport using CPRI to eCPRI conversion and RoE with high quality network service delivery for RAN and metro aggregation networks. In its category, it provides flexible port density and footprint by scaling up to 8x100G and 32x10/25G interfaces and offering up to 800Gbps full-duplex switching capacity in a space efficient 1.5RU chassis with front access for all field replaceable units allowing an overall lower OPEX. It supports VPN services over IP/MPLS networks, service provider SDN, service exposure using NETCONF/YANG, extensive quality of service and precise synchronization features.

With up to 800Gbps of switching capacity in 230mm depth 1.5RU footprint, the Router 6673 delivers performance needed to fully support LTE, LTE Advanced, 5G and Enterprise applications. The Router 6673 is part of the Ericsson Router 6000 Series, a RAN integrated Ethernet/ 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 and fronthaul/backhaul networks.

The Ericsson Router 6000 Series is an essential component of the Ericsson Radio System and is tightly integrated with Ericsson Radio and Microwave to provide high capacity mobile backhaul with unprecedented quality of experience.

Ericsson Network Manager (ENM) manages the complete end-to-end network for both Mobile and Fixed deployments: Radio, Metro and Backhaul, Mobile Core, and Data Center. This enables seamless plug and play capabilities for radio and router installation and network operation.

Ericsson Transport Automation Controller (ETAC) is an intelligent, cloud-native transport controller that uses AI and ML to analyze and automate microwave, IP and optical networks, allowing an easy and cost-effective management of IP transport network

Simplicity

As a complement to the existing Router 6000 family, Router 6673 shares the same platform with Router 6273 where the line cards, power modules and fan tray of Router 6273 can be used in Router 6673. This provides flexibility and ease of replaceable units' reuse.

Packet Fronthaul

Purpose-built to handle not just the fronthaul in CRAN deployment more efficiently with lower TCO, but also provides alternative technologies to transport CPRI and eCPRI using CPRI to eCPRI Conversion and RoE. Additionally, it optimizes the use of fiber resources while handling the fronthaul in multi-vendor networks.

Meeting the strictest radio requirements

With its best-in-class 25G/100G port density, 800Gbps switching capacity and high-scale queues with deep buffers, the Router 6673 enables high quality network service delivery at low TCO considering its RoE and/or CPRI to eCPRI conversion capability that is software upgradable.

Precise and proven synchronization

5G enhancements such as ESS, COMP and Carrier Aggregation that enable efficient use of spectrum have strict synchronization requirements. The Ericsson synchronization solution comes pre-verified to work with RAN.

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

The Router 6673 uses merchant silicon and designed to have cost optimized form factor to lower CAPEX. In-service patches with zero downtime and for all Ericsson Radio System products the simplified end-to-end management offered by Ericsson Network Manager (ENM) contributes to reduced OPEX.

Strong security

Provides secure boot, vendor credential and hardware ready for MACSec. Thereby extending a secured solution deployment for trusted and untrusted environments.

Radio integrated transport

Provides RAN aware transport for mobile backhaul and fronthaul enabling improved Quality of Experience for end users. Tight hardware and mechanical integration as part of Ericsson Radio System allows significantly easier deployment and lower overall TCO.

Technical specification for Router 6673

Connectivity

Interfaces:	Line cards: Up to 3 Line card slots that can take the following line card types -LC 2x100GE QSFP28, LC 8x10GE/25GE SFP28, LC 8xGE/10GE SFP+, LC 9xCPRI SFP+ QSFP28 ports each can be configured as 4x10GE, 4x25GE, 1x40GE or 1x100GE RPSW 800G card: 4x1GE/10GE/25GE SFP28, 4x10GE/25GE SFP28, 4x100GE QSFP28, 1x1GE RJ45 1x 100 / 1000 Base-T Ethernet for Out-of-Band Management 1x RJ45 console port 1x RJ45 Alarm ports for 3 input and 1 output alarms contacts 1x USB port for file uploads and downloads
Synchronization interfaces:	1x RJ45 ports 1PPS+TOD input/output

Mechanical

System weight:	Fully configured chassis: 9.5kg / 20.9lbs
Dimension (H x W x D):	66mm x 445mm x 230mm
Air flow:	Right to Left

Electrical

Power supply DC:	-48V redundant power supply units

Environmental

Operating Temperature:	-40°C to +65°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, 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
Multicast Protocols:	IPv4/IPv6 multicast, PIM-SM/SSM, IGMP v1/v2/v3, MLDv2, MVPN, IGMP snooping
Timing and Synchronization:	IEEE 1588-2008 Precision Time Protocol, ITU-T Profiles for Frequency (G.8265.1 SOOC) and Time/Phase (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, MACSWAP, MPLS Ping /Traceroute, BFD IPv4 & IPv6 Single Hop, BFD IPv4 & IPv6 Multi Hop, Micro-BFD, Seamless BFD, TWAMP Reflector, TWAMP Initiator, Port Mirroring, LLDP, IPFIX (IP Flow Information Export)
Security:	Secure boot, Vendor credential, secured storage, Access Control lists, RADIUS, TACACS+, LDAP, SSH v1/v2, Reverse-path forwarding, IPSec*, IKEv2*, CMPv2, CRL, TLS, 802.1x port-based network access control, 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, PM Job, Zero Touch Provisioning, Telemetry Streaming
CPRI LC:	Radio over Ethernet, CPRI to eCPRI conversion*

Standards and specifications

Safety:	LVD Directive 2014/35/EU, IEC/EN 60950-1, 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 24, EN 55024, EN 50121-1, EN 50121-4, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, ES 201468, DTAG 1 TR 9; 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, ECE-C1.1
Central Office NEBS level III: Outdoor Cabinets:	GR-1089-CORE, GR-63-CORE, SR-3580, ATT-TP-76200, VZ.TPR.9203, VZ.TPR.9305 GR-3108-CORE: Class 2, EN 300 019-1-3 Class 3.2

*Future release