The Router 6471 is a compact and temperature hardened cell site router, designed to enable high quality network service delivery while at the same time lowering operating costs through features such as a completely fan-less mechanical design. The router 6471 provides at small footprint GE and 10GE interfaces with right cost points, and superior synchronization features. It supports VPN services over IP/MPLS networks, service provider SDN, service exposure using NETCONF/YANG and extensive quality of service features. The Router 6471 has strong security features such as IPSec, vendor credential and vendor software authentication ensuring data security even in insecure environments. With 30Gbps of switching capacity, the Router 6471 delivers performance needed to fully support LTE, LTE Advanced, 5G, access sites for years to come.

The compact Router 6471 is part of the Ericsson Router 6000 Series, a radio integrated, service provider SDN enabled and subscriber aware 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 cell sites and 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. All routers in the Ericsson Router 6000 Series run the IP Operating System (IPOS), enabling accelerated feature delivery and operational efficiencies. 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.

**High capacity and compact**
Provides GE, 2.5GE and 10GE support and 30Gbps of switching capacity in an ultra-compact and hardened form factor enabling lower rental costs and lower OPEX.

**Precise and proven synchronization**
LTE-A enhancements such as COMP and e-ICIC 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 6000 series uses merchant silicon and a cost optimized design to lower CAPEX. Its Fan-less and sealed design increases MTBF and removes costly truck rolls every 3 months to inspect the filters, resulting in $1000 yearly OPEX savings/site.

**Strong Security**
Strong and complete security solution for Macro cell, Small Cell and Aggregation in trusted and untrusted environments enables ubiquitous deployments.

**Radio integrated Transport**
Provides Radio aware transport for mobile backhaul enabling improved Quality of Experience for end users. Tight hardware and mechanical integration as part of Ericsson Radio System allows significantly easier cell site deployment and lower overall TCO.
Technical specification for Router 6471

Connectivity

Interfaces: 2x GE / 10GE SFP+ ports
4x GE / 2.5GE* SFP ports
4x 100 / 1000 Base-T RJ45 ports
1x 100 / 1000 Base-T Ethernet for Out-of-Band Management
1x RJ45 console port
1x RJ45 Alarm port for 3 inputs and 1 output alarm contacts
1x USB port

Synchronization interfaces: 1x RJ45 port 1PPS+TOD (ITU-T G.703 Am1d)

Mechanical

System weight: 2.3kg / 5lbs (without fan module) or 2.6kg / 5.7lbs (with fan module)
Dimension (H x W x D): 1RU 41mm x 217mm x 228mm (without fan module)
Air flow: Sealed design, Natural airflow or Front to Back with optional fan module

Electrical

Power supply DC: -48 V, dual feed
Power supply AC: 100-240 V, single feed
Power consumption: Typical 33/35 Watts, Max 55/68 Watts, without/with optional fan module

Environmental

Operating Temperature: -40°C to 55°C (without optional fan module) or -40°C to 65°C (with optional fan module)
Relative Humidity: 5 - 95% Non-condensing

GR-3108-CORE Class 1: Controlled Protected Environments
GR-3108-CORE Class 2: Protected Equipment in Outside Environments
EN 300 019-1-3 Class 3.3: Not temperature-controlled locations

Key features

IP Routing MPLS:
- IPv4, IPv6, BGP-4, MP-BGP, BGP FRR, BGP-LS, IS-IS, OSPF v2/v3, VRRP/v2/v3, LFA/RLFA, RSVP-TE including FRR, LDP, T-LDP, mLDP, Segment Routing, PCEP, Seamless MPLS, CSPF, PBF DHCP relay/Server, NSR support for OSPFv2/v3ISIS/BGP, LDP, mLDP *, EVPN

Ethernet:
- 802.1Q virtual LAN (VLAN), IEEE 802.3ad Link Aggregation Control Protocol, BVI – Bridged Virtual Interface, QinQ, 802.3 Ethernet Ring Protection Switching, Broadcast storm protection, LLDP, Jumbo Frames up to 9600 bytes

Layer-2/Layer-3 Virtual Private Networking:
- L3 MPLS VPNs, 6VPE, Inter-autonomous-system MPLS VPN (options A, B, C), VPWS for E-Line Services, VPLS/H-VPLS for E-LAN Services, Pseudowire redundancy, MEF CE 1.0/2.0 Compliant

Multicast Protocols:
- IPv4/IPv6 multicast, PIM-SM/SSM, IGMP v1/v2/v3, MLDv2, MVPN

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), NTP, SyncE with ESMC, Stratum 3E clock (6471/2), L1 Assist for PTP

Operation and Maintenance:
- IEEE 802.1ag Connectivity Fault Management, ITU-T Y.1731 (DM, SLM and Throughput), Microwave Bandwidth Notification, MACSWAP, MPLS Ping/Traceroute, BFD IPv4 & IPv6 Single Hop, BFD IPv4 & IPv6 Multi Hop, Micro-BFD over LAG, TWAMP Reflector, TWAMP Initiator, Port Mirroring

Security:
- Secure boot, Vendor credential, Secure storage, Access control lists, RADIUS, TACACS+, LDAP, SSH v1/v2, MDS support for routing protocols, Reverse-path forwarding, IGMP filtering, IPSec up to 8Gbps, IKEv2, CMPv2, CRL

Quality of Service:
- Strict-queuing, weighted fair queuing, priority-weighted fair queuing, Multi-tier Hierarchical QoS, 8Gb of packet buffers, RED/Weighted RED, Ingress policing, Egress shaping, 802.1p, MPLS EXP bits, Differentiated Services

Network Management:
- Ericsson Network Manager (ENM), Ericsson OSS-RC, Ericsson ServiceOn Element Manager, CLI, SNMP v2c/v3, NETCONF, YANG models, Syslog, RMON, PM, Job, Zero touch provisioning with auto-integration, Telemetry Streaming*

Standards and specifications

Safety:

EMC:
- EMC Directive 2014/30/EU, EN 300383, EN 301489-1, CISPR 32, EN 55032, CISPR 24, EN 55024, EN 58021-1, EN 58021-4, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 301342-3, EN 62234-1, DTAG Part 15, JEC5-0883/VCCI V-3

ENV:

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

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