



4G End-to-End Mobile Solutions

LTE LightCore Gateway (RN-LCORE-GW)

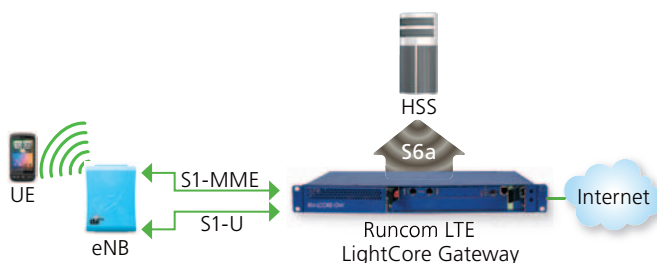
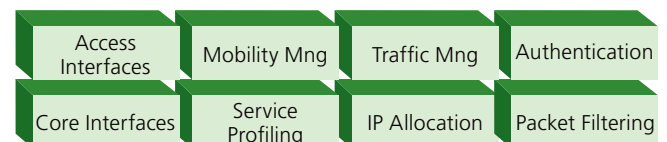
All-in-one network solution for small to medium-size LTE wireless operators

In the competitive wireless communications market, Long Term Evolution (LTE) has raised the bar for small to medium-sized mobile network operators. These service providers seek cost-effective and easy-to-implement solutions to simplify network deployment and operation. Runcom, a leading OFDMA-based fabless semiconductor company, has developed the LTE LightCore Gateway (RN-LCORE-GW) – a cost-effective system that provides a full network solution within one box for LTE wireless networks.

Charging Rules Function (PCRF). However, advanced PCRF functionalities – such as accounting and history – may be provided with a standard interface to an external PCRF system.

Runcom's solution is interoperable with any standard LTE equipment, providing a comprehensive and cost-effective end-to-end solution for wireless operators.

Runcom LTE LightCore Gateway Building Blocks



Specifically geared towards small to medium LTE wireless operators, the LTE LightCore Gateway supports a pay-as-you-grow concept allowing a phased network rollout approach. The LightCore gateway enables handset authentication, IP address allocation, mobility, traffic management, routing and LTE service configuration using its internal modules. This architecture allows for full network operation without additional packet core entities (servers). The end-user service profiles are configured locally, replacing the Policy and

Key Features

- Scalability – Enables seamless growth from 1,000 to 10,000 concurrent users – with 120,000 on the 9U chassis
- Authentication – Includes standard authentication mechanism for mobile handsets (based on non-access stratum (NAS))
- Internal service configuration – Includes the internal service configuration module that defines various user services (plans) without the need for PCRF
- Smooth migration to larger network – Standalone deployment can seamlessly upgrade to full standard LTE wireless network deployment
- Dynamic Host Configuration Protocol (DHCP) – Includes internal DHCP capability to allocate IP address to CPE and users
- Access control list assignment – Enforces network-based access lists on individual end-user traffic

Operational Benefits

- All-in-one LTE network solution
- Cost -effective solution for small to mid-size wireless operators
- Modular pay-as-you-grow concept
- Interoperable with third party equipment

Specifications

General

- **Application:** Fixed and Mobile
- **Supported wireless cells:** LTE, WiMAX 16e, WiMAX 16d, WiFi
- **Standard compliance:** S1-MME, S1-U, S6a, S7 (optional), WiMAX forum open R6, R4 interfaces
- **Order information:** RN-LCORE-GW

Authentication & IP allocation

- **Authentication:** NAS, Internal CPE authentication, NULL authentication, EAP-XXX, Key context caching, MAC/IP authentication, WEB authentication, user behind CPE authentication, User/Device level authentication, AAA proxy
- **IP allocation:** Internal DHCP, DHCP relay, Fixed IP, IP pool
- **Accounting:** Start, stop and interim, accurate time based accounting, service flow statistics
- **Pre-paid:** Simultaneously data, time and application quota

Configuration & performance

- **BS capacity:** Up to 500 BS/eNB/AP
- **Services:** Internal services configuration
- **Subscribers:** Starts with 100 and upgradeable to 10,000
- **Active bidirectional service flows:** Up to 160,000
- **Throughput:** Up to 1 Gpbs (for the low end card)

Network

- 802.1q VLANs, QinQ
- GTP ,Generic Routing Encapsulation (GRE), IPinIP, L2tp
- RIP, OSPFv2, Multicast, source based routing, application based routing, MMS adjustment
- VRRP, AAA redundancy, DHCP redundancy
- Dynamic Packet coloring (upstream/downstream)

Enhanced applications

- Multi wireless clusters support
- Multi users behind CPE/Handset support
- Dynamic bandwidth control
- Self provisioning
- Dynamic IP changing
- SMTP throttling
- EDS query
- Automatic network mapping

Hardware

- **Chassis:** 1U chassis: 1U (h) x 19" (w) Rack mounted, 90 to 264V AC Auto-ranging, Host up to 2 ASN blades
- **Gateway blade:** Ethernet: 1 x copper 1000BaseT Ethernet
- **Optional:** Additional 2 x copper 1000BaseT Ethernet or 2 x optic 1000 Ethernet
- **Serial:** 1 x Serial RS-232 ports RJ-45 Front-IO

Operation & Management

- Telnet
- SNMP
- Remote software download
- Advanced security management

Environmental

- **Ambient temperature:** 0° to 40°C
- **Storage temperature:** -40° to 85°C
- **Humidity:** 95%



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