

# LiteCore

LTE/GSM Core Network for private networks set up easily

LiteCore is a Software-defined compact Core Network for private LTE/IMS and GSM/GPRS.



It combines our YateHSS/HLR, YateUCN and YateSMSC in a small package.

It can be used in war zones because paired with a SatSite you can have your own strong and lasting private LTE/IMS and GSM/GPRS network

## Components

The LiteCore can be used both as a unit in moving and as a rack mountable equipment and has preinstalled the following software components:

- ✓ YateUCN (MSC/VLR, GMSC, gsmSCF, MME/SGW/SGSN, PGW/GGSN, IMS CSCF)
- ✓ YateHLR/HSS (AuC, HLR, HSS, Subscriber management)
- ✓ YateSMSC (SMS store-and-forward, routing, home routed SMS)
- ✓ YateSTP (routing of SS7 messages by Point Code or Global Title)
- ✓ YateDRA (routing of Diameter messages by host, realm, application)
- ✓ YateMMI (Web management interface)

On demand additional components can be installed on the same hardware.

## Features

- ✓ Setup/edit mobile network and component preferences via **MMI management interface**
- ✓ **Minimal monitoring of each network component**, additional YateBTS monitoring possible
- ✓ **Wireshark capture** of communication between components including decrypted IMS traffic
- ✓ **JSON API integration** with any SIM management and CRM systems
- ✓ **JSON and REST API** for sending SMS
- ✓ Can use both **SIGTRAN/SS7 and Diameter** for signaling
- ✓ **Supports both IPv4 and IPv6**
- ✓ **Works both stand alone and with external components**


## Communication protocols

MAP/SS7/SIGTRAN	<ul style="list-style-type: none"> <li>- M2PA or M3UA-ASP over SIGTRAN, SCTP (CRC32)</li> <li>- ITU TCP, ETSI MP v3</li> <li>- ITU or ANSI SCCP and SS7 MTP</li> <li>- E.164, E.212 (ANSI), E.214 (ITU), TT or PC SCCP addressing</li> <li>- Can connect to multiple STP/GW</li> <li>- CAMEL phase 2</li> </ul>
Diameter	<ul style="list-style-type: none"> <li>- 3GPP Applications S6a/S6d, Cx/Dx</li> <li>- SCTP or TCP transport</li> <li>- Can establish or listen for connections</li> <li>- Can connect to multiple Routing Agents</li> </ul>
HTTP	<ul style="list-style-type: none"> <li>- JSON API server for conguration and subscriber management</li> <li>- JSON API for monitoring and information retrieval</li> <li>- REST API client for visited network change notication</li> <li>- JSON and REST API for sending SMS</li> </ul>
SNMP	<ul style="list-style-type: none"> <li>- SNMP v2 or v3 for information retrieval</li> <li>- Traps sending for alarms</li> </ul>
Telnet	<ul style="list-style-type: none"> <li>- Management CLI for each component</li> <li>- Optional SSL and password protection</li> </ul>
Voice interconnect	<ul style="list-style-type: none"> <li>- SIP and RTP</li> <li>- G711, GSM and AMR codecs</li> </ul>
SIP	<ul style="list-style-type: none"> <li>- Supported standards (RFC3261)</li> <li>- Registrar function</li> <li>- B2BUA for calls</li> <li>- RTP (RFC3550) with sideband DTMF (RFC2833)</li> <li>- SMS and USSD over IP</li> </ul>
SMPP	<ul style="list-style-type: none"> <li>- Standard version 3.3</li> <li>- Supports bidirectional communication</li> </ul>
RADIUS	<ul style="list-style-type: none"> <li>- Authorization of voice calls, data sessions and short messages</li> <li>- Postpaid accounting for voice, data and SMS</li> <li>- Prepaid support by re-authorization</li> <li>- Support for 3GPP, Cisco VoIP VSA and Cisco ISG VSA dictionaries</li> </ul>
SMS	<ul style="list-style-type: none"> <li>- Format: SMS PDU (MO and MT)</li> <li>- MAP/SS7 transport (T-PDU format)</li> <li>- SIP MESSAGE transport (SMS over IP, R-PDU format)</li> </ul>
CDR	<ul style="list-style-type: none"> <li>- Flexible file format (default .tsv les) with customizable table headers</li> <li>- Automatic file rotation</li> <li>- Optional file transfer: FTP, SFTP</li> <li>- JSON HTTP push API</li> <li>- RADIUS with 3GPP and Cisco dictionaries</li> </ul>

## Communication interfaces

- ✓ **C interface** (MAP, HLR <-> GMSC)
- ✓ **D interface** (MAP, HLR <-> VLR)
- ✓ **E interface** (MAP, MSC <-> MSC)
- ✓ **F interface** (MAP, MSC <-> EIR)
- ✓ **J interface** (MAP, HSS <-> gsmSCF for USSD)
- ✓ **Gr interface** (MAP, HLR <-> GMSC)
- ✓ **Gc interface** (GTP or MAP, GGSN <-> HSS, optional)
- ✓ **S6a/S6d** (Diameter, MME/SGSN <-> HSS)
- ✓ **S13** (Diameter <-> VLR)
- ✓ **S1 interface** (S1AP & GTP-U, YateENB <-> EPC)
- ✓ **Gn/Gp interface** (GTPv1, SGSN and GGSN)
- ✓ **S5/S8 interface** (GTPv2, SGW and PGW)
- ✓ **Gi/SGi interface** (IP, connects to Public Data Network)

## Hardware Interfaces

 **3.5 kg**



- ✓ 1. Dual Gigabyte ethernet
- ✓ 2. VGA, HDMI and DisplayPort video\*
- ✓ 3. 2 USB 3.0 ports, 1 USB-C port and 4 USB 2 ports
- ✓ 4. 4 serial ports DB9 connector
- ✓ 5. 12V Power supply, 100-240V AC, 50-60Hz (included)

## Physical specifications

### Physical specs LiteCore

#### Dimensions

- ✓ 19.5 cm length
- ✓ 16 cm width
- ✓ 4.5 cm in height

#### Weight

- ✓ 1.5 kg

### Physical specs rack version

#### Dimensions

- ✓ 44 cm length
- ✓ 30 cm width
- ✓ 8.5 cm in height

#### Weight

- ✓ 3.5 kg



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