

# YateUCN

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## **YateUCN - Unified Core Network solution for GSM/3G/LTE**

### **Unified GSM/EPC core network**

The YateUCN is a unified core network solution intended for new LTE networks or for GSM/GPRS/LTE MVNOs.

The YateUCN software-defined core implements the functions and protocols of the LTE/GSM/GPRS core network in software, and uses commodity hardware. It integrates the EPC layers MME, S-GW, P-GW, and PCEF and GSM/GPRS layers GMSC, GGSN, SGSN.

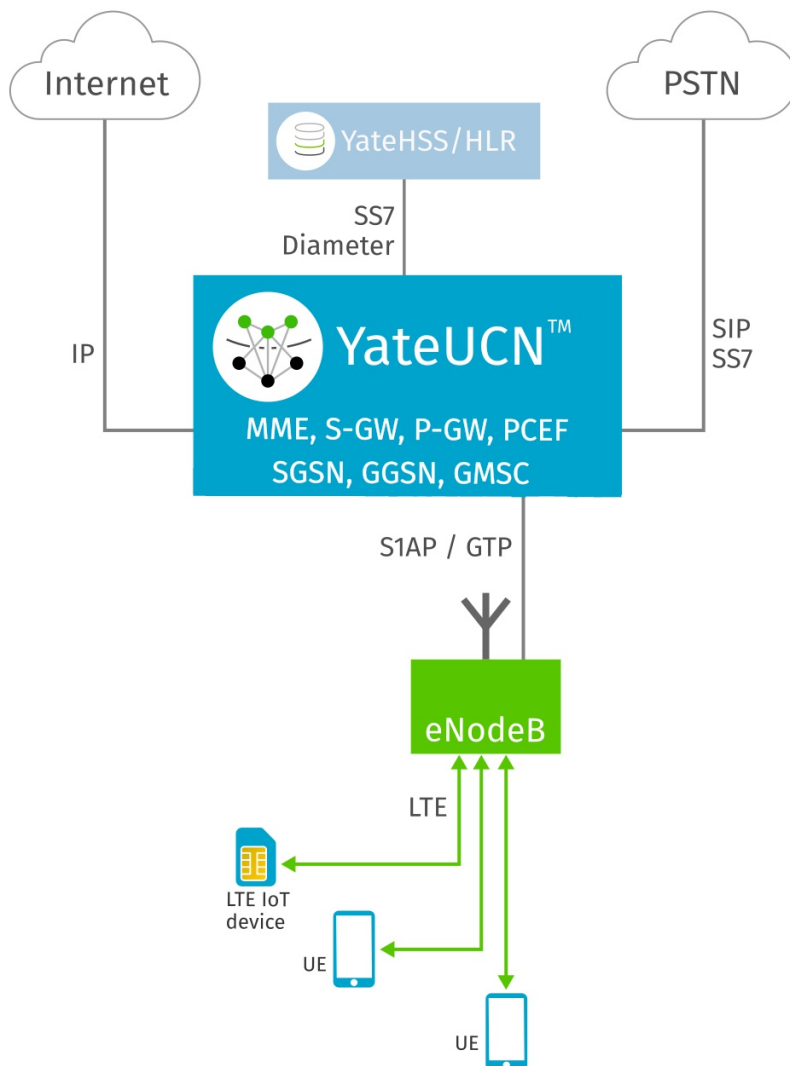
It communicates with the LTE eNodeB over S1AP/GTP protocols and uses a JSON API for configuration and management.

### **Remote access for operations and management**

YateUCN is easy to operate and manage remotely using the Yate Mobile Management Interface (MMI) online. The interface makes it accessible to add a new YateUCN unit, to setup a cluster of YateUCNs, to configure a single YateUCN function (SGW, PGW, MME), to configure YateUCN equipment with all its LTE/GSM/GPRS functions and more. With YateMMI operators can remotely manage their entire network equipment using a single web interface.

## Features & benefits

- ✓ The YateUCN runs on commodity hardware, allowing for a simplified network architecture and lower deployment costs.
- ✓ Enables carriers to deploy LTE networks with reduced initial investment
- ✓ Allows for scaling as you go. You can add more servers or separate the functionality as more users adopt your service.
- ✓ Increases network resiliency; in case of equipment failure you can easily configure another server to take up the functions of the fault node.
- ✓ Has low idle traffic, which allows transport technologies like satellite



## Software Specifications

SS7 connectivity	<ul style="list-style-type: none"> <li>• SIGTRAN, SCTP with CRC checksum</li> <li>• M2UA, M2PA, M3UA</li> <li>• ITU MTP, SCCP, TCAP</li> <li>• ANSI MTP, SCCP</li> <li>• ITU MAP v3</li> <li>• CAMEL phase 2</li> </ul>
Voice interconnect	<ul style="list-style-type: none"> <li>• SIP and RTP</li> <li>• ISUP using external MGCP gateway</li> </ul>
SCCP GTT	<ul style="list-style-type: none"> <li>• E.212 (ANSI)</li> <li>• E.214 (ITU) translation table</li> <li>• E.164</li> </ul>
SGSN/MME	<p>ETSI MAP v3</p> <p>S1AP r11</p> <p>GTP v1</p> <p>Supported operations:</p> <ul style="list-style-type: none"> <li>• SGSN &lt;-&gt; AuC messages (authentication)</li> <li>• SGSN &lt;-&gt; EIR messages (equipment identification, optional)</li> <li>• SGSN &lt;-&gt; HLR messages (data mobility management, roaming)</li> <li>• SGSN &lt;-&gt; GGSN messages (data session)</li> <li>• ENB &lt;-&gt; SGSN messages (LTE control and user data)</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>

Interfaces	<ul style="list-style-type: none"><li>• C Interface (MAP, HLR ↔ GMSC)</li><li>• S1 Interface (S1AP &amp; GTP, YateENB ↔ EPC)</li><li>• Gi Interface (IP, connects to Public Data Network)</li><li>• Gn/Gp Interface (GTP, SGSN and GGSN)</li><li>• Gr Interface (MAP, SGSN ↔ HSS)</li><li>• Gc Interface (GTP or SS7/MAP, interface to HLR) (optional)</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>• File format</li><li>• Rotation interval</li><li>• File transfer: FTP</li></ul>
CODECS and transcoders	<ul style="list-style-type: none"><li>• G.711a, G.711u</li><li>• GSM-FR 06.10</li><li>• iSAC</li><li>• iLBC</li></ul>
Operating system	Linux based