

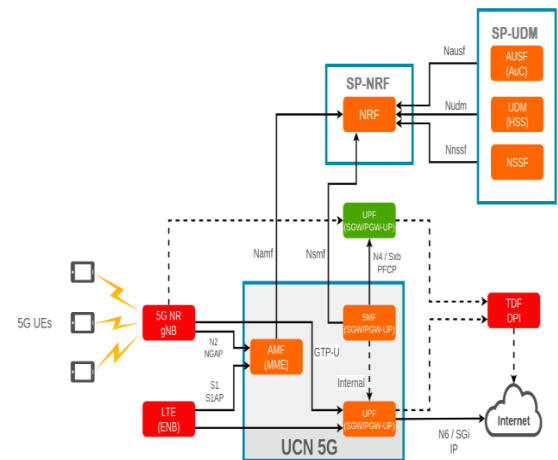


# Spectrum's 2G to 5G Solution

## Remote access for operations and management

UCN5G is easy to operate and manage remotely using the Mobile Management Interface (MMI) online.

The interface makes it accessible to add a new UCN5G unit, to setup a cluster of UCN5Gs, to configure a single UCN5G function (SGW, PGW, SMF, AMF, UPF, SMSF), to configure UCN5G equipment with all its 5G SA/5G NSA/LTE functions and more. With MMI operators can remotely manage their entire network equipment using a single web interface.

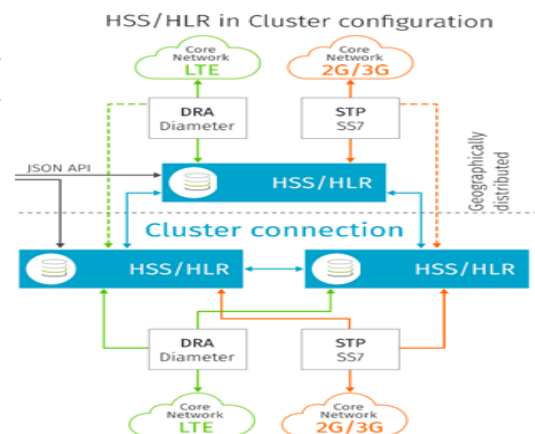


## HSS/HLR/AuC SIM Subscriber Management

The HSS/HLR stores and manages the SIM database for mobile networks. It also manages multiple subscriber identities (from different technologies) in one server, providing seamless services over different networks. It is designed for use in GSM, UMTS, LTE, IMS, WiFi networks or any other type of network that uses MAP or Diameter for authentication.

The HSS/HLR includes a Home Location Register (HLR), an Authentication Center (AuC) (2G/3G) and a Home Subscriber Server (HSS) (4G LTE). The HSS/HLR exports a JSON API for integration with any SIM management and CRM systems. It is capable of interconnecting with all the VLRs implemented in a GSM mobile network, with any MME from a conventional LTE network, or with the UCN™ core network server.

As it is also an AuC, the HSS/HLR authenticates subscribers as they try to connect to the GSM, UMTS, or the LTE networks, to make phone calls, send SMSs and access mobile data.

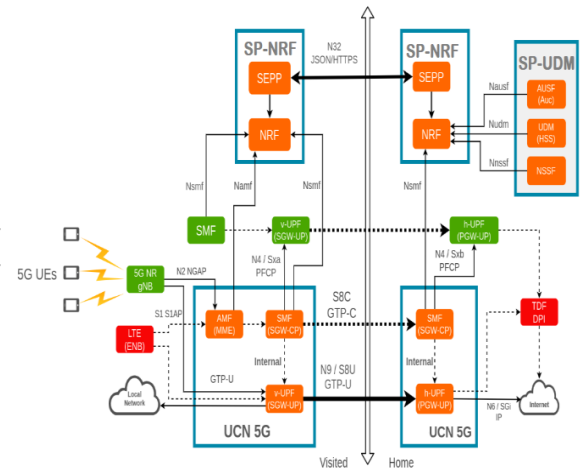


# Spectrum's 2G to 5G Solution

## UDM

The UDM stores and manages the SIM database for mobile networks. It also manages multiple subscriber identities (from different technologies) in one server, providing seamless services over different networks. It is designed for use in GSM, UMTS, LTE, IMS, WiFi and 5G SA / NSA networks or any other type of network that uses MAP, Diameter or CAPIF for authentication.

The UDM for 5G includes Authentication Server Function (AUSF), Unified Data Repository (UDM) and Network Slice Selection Function (NSSF).



For LTE, GSM and 3G Includes a Home Location Register (HLR), an Authentication Center (Auc) (2G/3G) and a Home Subscriber Server (HSS) (4G LTE). The UDM exports a JSON API for integration with any SIM management and CRM systems. It is capable of interconnecting with all the VLRs implemented in a GSM mobile network, with any MME from a conventional LTE network, or with the UCN5G core network server.

As it is also an AuC and AuSF, the USM authenticates subscribers as they try to connect to the GSM, UMTS, LTE, or the 5G networks to make phone calls, send SMSs and access mobile data.

**UDM is easy to operate and manage remotely using the Mobile Management Interface (MMI) online.**

The interface makes it accessible to add a new UDM unit, to setup a cluster of UDMs, to add subscribers, to modify and configure subscribers' profiles and more. MMI's main benefit is the fact that operators can remotely manage their entire network equipment using a single web interface.

# Spectrum's 2G to 5G Solution

## Short Message Service Center (SMSC) for GSM, UMTS and LTE networks

Spectrum SMSC it's a conventional Short Message Service Center with the functions of receiving, forwarding, storing and delivering SMSs in GSM, UMTS, LTE or custom networks. In addition to delivering Subscriber to Subscriber messages it can also implement various applications to Subscriber and Subscriber to Application scenarios.

### A full featured, fully documented SMSC

Easy to operate SMSC solution for MNOs, MVNOs, private networks and labs using a JSON API through MMI web-interface.

SMSC, as well as other Yate solutions, offers a JSON API for configuration that can be used to setup SS7/SMPP interfaces, configure general network settings, and request delivery of SMS and others.

The IP used to access the JSON API is provisioned by MMI (Mobile Management Interface) or can be set by hand.

