Enghouse Networks

PRODUCT OVERVIEW

SMSF for 5G Networks

Although the primary goal of 5G is the provision of faster, broader and more widespread data services, 5G networks must continue to support the SMS service which will remain vital for IoT services, OTA, multi-factor authentication and intercommunication with subscribers of legacy networks.

The 3GPP standards documents for 5G Networks provide for continued support of SMS with a special node called the SMS Function (SMSF) to enable activation of the service and delivery of SMS in the 5G core.

Enghouse Networks SMSF sends and receives SMS to the 5G AMF via the Non-Access Stratum (NAS) and exchanges SMS with legacy SMS servers (SMSC, SM Router, IP-SM-GW) via MAP/SS7 or Diameter SGd interfaces.

It also connects to the UDM via a service-based interface to provision and activate SMS MO/MT services for 5G subscribers.

Many wireless operators will manage hybrid networks following the launch of 5G alongside their 4G and 3G networks and can continue to support SMS via IMS or via diameter-based fallback mechanisms to 3G or 4G. However, for operators with "stand-alone" 5G networks or with network slices dedicated to certain customers, the SMSF will be a crucial element from day 1.

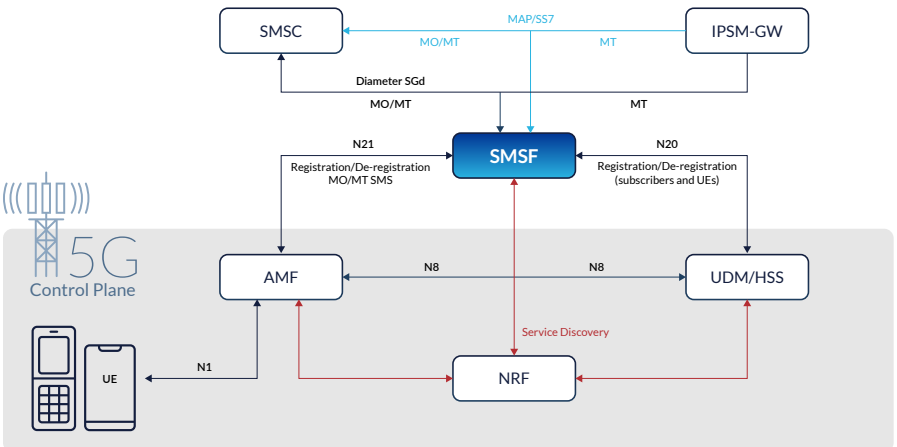

Figure 1: SMSF in the context of SMS interworking between 5 and legacy networks

Key to 5G nodes

UDM: Unified Data Management

SMSF: Short Message Service Function

NRF: Network Repository Function

AMF: Access & Mobility Management Function

SMSF & Diameter SGd

The Enghouse Networks SMSF supports both MAP/SS7 and the Diameter SGd interfaces for receipt of SMS. The SMSF can accept messages from SMS servers (SMSCs, SMS Routers, IP-SM-GWs) via either interface.

The Enghouse Networks SMSC also supports sending SMS via both MAP and SGd interfaces.

If a network operator eventually decides to no longer use MAP/SS7 in their network, they can continue to use the Enghouse SMSC to send SMS to 3G, 4G (LTE), IMS and 5G networks.

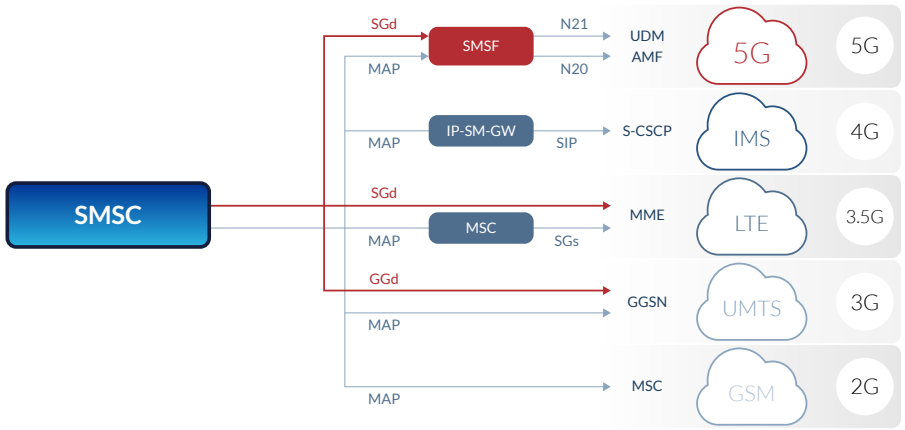

Figure 2: Supported Interfaces for MT-SMS across all generations of network

Features

Subscription Info Management

- Inserts/deletes subscriber context info via Nsmsf_SMService _Activate/Deactivate
- Performs SMS Subscription Data Management via Nudm_SDM_Get

SBI (Service-based Interface) usage

- Processes Namf SBI / Nudm SBI / Nnrf SBI / Nsmsf SBI

SGd Interface (DIAMETER)

- Processes OFR/A (MO-Forward-Short-Message-Request/Answer)
- Processes TFR/A (MT-Forward-Short-Message-Request/Answer)

Roamer Processing

- Manages SEPP interconnection
- Manages PLMN information

Database function

- Caches Registration information
- Monitors DBMS

NFV Support

- SMSF can be deployed as a VNF