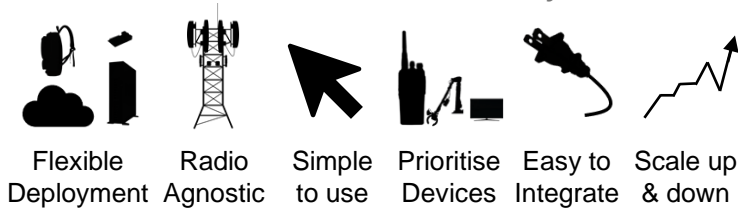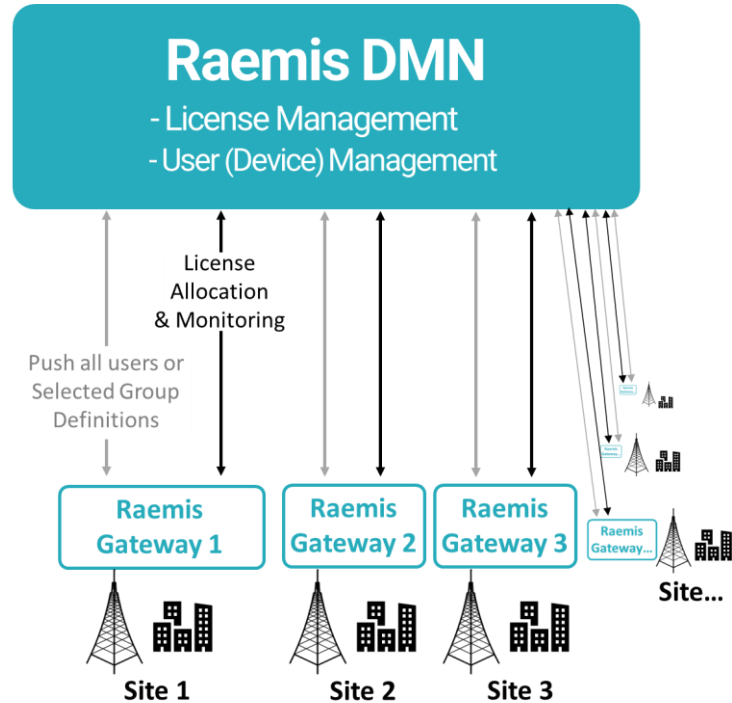# Raemis™
More than just a network core

Druid's 4G & 5G cellular solutions are built on our **Raemis™** technology platform, which is comprised of a 3GPP compliant 4G/5G core, RestAPI and additional functionality.

Flexible Deployment	Radio Agnostic	Simple to use	Prioritise Devices	Easy to Integrate	Scale up & down

As many Gateways as you need

The Raemis™ Distributed Network Manager (DNM) is a central management system for a distributed network of Raemis Gateway systems.

The main features of the Raemis™ DNM are:

- Distributed license management
- Centralized user/device/ management
- Centralized Fault Monitoring
- Centralized Performance Monitoring

The Raemis™ DNM can manage any Raemis system - for example, Raemis™ Private Core Network (PCN), Raemis™ eNodeB Gateway (ENB-GW), and so on.

Raemis™ Main Features

The DMN is part of the Raemis™ core network platform. Behind the open RESTful Application Programming Interface (API), Graphical User Interface (GUI), easy installation and configuration processes, there is a fully functional 3GPP Evolved Packet Core (EPC) and 5G Core (5GC) that includes:

- All the required protocol stack implementations to inter work with the 3GPP base protocols.
- Inter-working with other standardized cellular radios and networks through a 3GPP - defined reference point.
- Orchestration and management applications on top of the open RESTful API.
- A Linux platform with virtualisation, supporting the deployment of Virtual Machines (VMs) and Containers

Raemis™ software is designed to support multiple Radio Access Technologies (multi-RAT):

- 2G/3G/4G in Release 4.x
- 5G Non-Standalone (5G-NSA) beginning with Release 4.4
- 5G Standalone (5G-SA) beginning with Release 4.5

## Scalability

Raemis™ enables scalability on two fronts:

1. It can scale down to a single eNodeB device and a handful of users all in a single VM that has a small computing and memory footprint which means deployments be started with a few users/devices and scaled up

2. The DMN makes the management of many private networks easy, which enables the enterprise to increase the number of private networks deployments in a way that scales with the DMN.

Distributed License Management

In a distributed system that comprises many Raemis Gateways you can manage the licenses of those gateways centrally from Raemis DNM. This greatly simplifies the license management task, as you do not need to request and manage a license for each individual Raemis Gateway system. Instead, you request a license bundle that you import into Raemis DNM.

Manage many private networks centrally
Deploy serving gateways at network sites, then manage them centrally with Raemis™ DMN
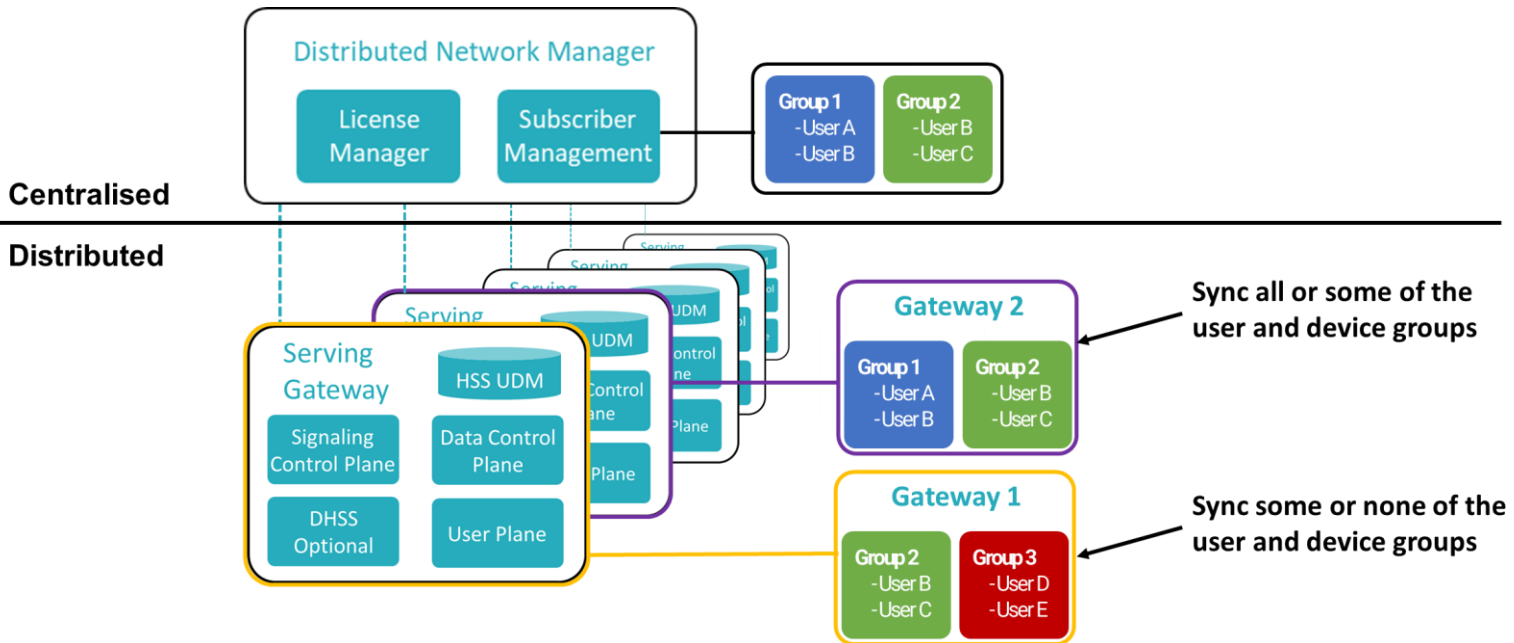
- Raemis DNM enables you to centrally manage users (devices) and to replicate this configuration with active Raemis gateways. You can create users and groups in Raemis™ DNM and specify a Sync Model to push All user and group definitions or selected Groups of users to the Raemis™ Gateway.
- With the Data Plane and Control plane at the edge, you can deliver ultra **low latency (**URLLC) solutions. You can also benefit from **geo-redundancy**, so you have resiliency against catastrophic events. There is also an increased degree of **security as s**ensitive data can be processed and stored at the network edge reducing the risk posed by cyberattacks or data breaches on data moving to and from a centralized data centre.
- To identify users in the system, you must add information for each user. You can add just a single user or you can import a file that contains the details of several users at once. In many cases, Druid provides you with the files that you use to create a batch of users. However, you can also create the file, but you must adhere to the specified format.

The Raemis™ GUI

The Raemis™ DNM GUI has many similarities with the Raemis™ Private Core Network (PCN) GUI and runs in a supported web browser (Google Chrome or Mozilla Firefox only) on a PC connected to the same network as the Raemis™ server. The Users, Groups, Alarms, Systems, and Admin panels provide functionality that is like that of other Raemis™ systems, Raemis™ PCN for example.

The Raemis™ API

The Raemis™ platform exposes a powerful RESTful API that enables application developers to build on top of Raemis™ or integrate external applications with the Raemis™ platform. Druid developed the Raemis™ GUI using the same RESTful API that is available to application developers. Any feature, data, or action that currently available in the Raemis™ GUI is also available using the RESTful API.

Licenses

Druid provides the licenses that you can allocate to each Raemis Gateway in your distributed system. The licenses are provided in the form of a .CSV file. The .CSV file defines the type (micro, small, medium or regional) and the number of each license type available. The license type determines the license capacity, that is, the number of active users supported by the license.

Below are the user/device numbers associated with each license type: