Druid

Fixed Wireless Access

FWA your way

Raemis™

More than just a network core

Druid's Fixed Wireless Access (FWA) solutions are built on our **Raemis**™ technology platform. In use today by WISPs and Enterprises for mission critical environments in the U.S, Asia and Europe, **Raemis**™ is a mature 3GPP compliant 4G and 5G core with unique features designed specifically for Fixed Wireless Access networks.

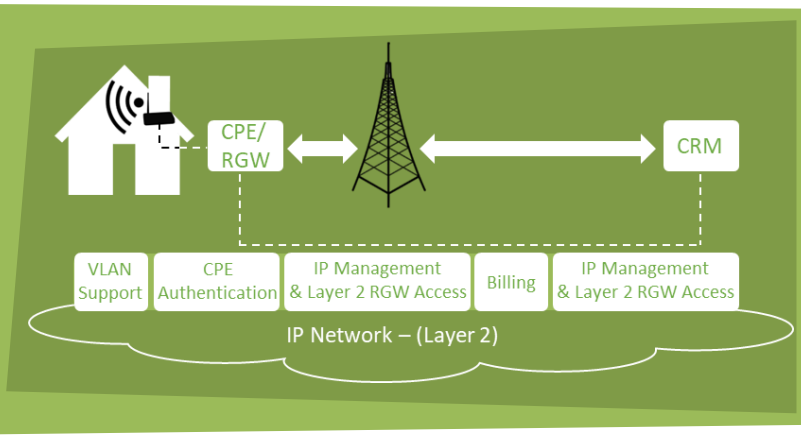
Flexible Deployment | Radio Agnostic | Simple to use | Prioritise Devices | Easy to Integrate | Scale up & down

Raemis™ PCN Main Features

- Low cost of Ownership.
- Simplicity of installation.
- High Availability & High Performance.
- COTS hardware.
- Flexibility of deployment options: edge cores, metro cores, regional and central deployments
- Scales – Grows as your network grows : 100 to 100,000 users.
- A pathway to FWA in 5G.
- Integrates with existing CRM, Management and Monitoring systems.
- IP address management of the CPE is flexible and simple.
- SIM management and User Management.
- Easy to differentiate users by quality or service and maximum throughout

Layer 2 Network Capability

Most cellular network equipment requires highly skilled technicians to configure and maintain, not to mention that integration with existing Service Providers business systems is highly complex or at least expensive. This complexity has made it difficult for Service Providers to harness the tremendous potential of cellular network technology given the cost of ownership and the difficulty in integrating with existing business systems. Druid's **Raemis**™ platform changes all this. Simplicity is at the core of the **Raemis**™ design.



CPE Authentication

The **Raemis**™ platform has the ability to utilise external systems for SIM management. If the service Provider already has a SIM management or Subscriber management system, the **Raemis**™ platform can be easily integrated with these platforms for user profile and CPE management.

Integration with External Systems

The AAA, SNMP and REST API enable simple integration with existing CRM tools and business processes. **Raemis**™ permits external systems to subscribe to an interest in one or more event types that occur in the system. This means any update to the objects in the system will result in an event being sent to the application listening on the URL. This feature is widely used for fault, performance and external system integration.

IP Management

The **Raemis**™ platform provides flexible IP management of CPE, enabling the use of ISPs DHCP, Local Pools, Static IP or using an external CRM assignment to assign the IP address.

Resilient Edge Gateways

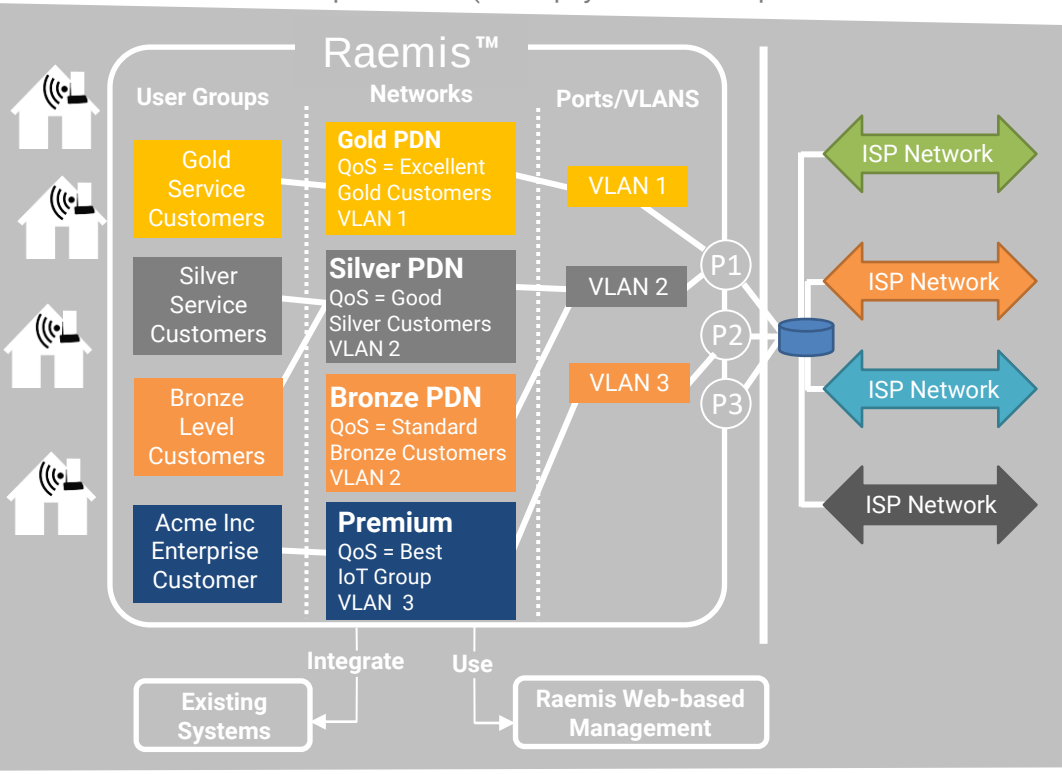
The Edge Gateways enable rapid, simple and flexible ways to architect and deploy a distributed FWA network. Each Edge Gateway is designed to support a number of active users and will have specified downlink data rates. Depending on the deployment and rollout model, the service provider may, over time, deploy a solution that consists of any number of Resilient Edge Gateways from the Central Data Centre right out to the radio tower.

enquiries@druidsoftware.com | www.druidsoftware.com | @druid_software | in /druid-software

Enterprise Slicing

Security & Traffic Separation, Load Balancing, and Configurable QoS

The **Raemis**™ administrator can create multiple Packet Data Networks (PDNs). The **Raemis**™ PDN logical network can be associated with an enterprise VLAN (or the physical network port on the server or a VM).



The diagram to the left illustrates how you can model **Raemis**™ to reflect your business offerings.
This example shows how end devices are assigned to Gold, Silver, Bronze or Enterprise groups.
Each group is assigned to an interface on the service provider's network, where the data for these users will present itself.
Each group is also assigned bandwidth and QoS settings so the devices in the Gold group will have a better bandwidth than the bronze users.
You can also see from the diagram how the data from a specific group of enterprise users could be isolated onto a specific VLAN. Using the GUI or through the REST API, you can integrate your existing tools to manage the service that each customer will receive.

PDNs enable the following functions:

- **Security and Traffic Separation :** In **Raemis**™, you organise users in logical groups, for example by function (doctors, nurses, and so on) or department (sales, human resources, and so on) or any other logical grouping. You then assign that group to the PDN best suited to support that group's needs.
- **Load balancing:** For performance reasons and to avoid traffic bottlenecks, you can use PDNs to spread the network traffic load across the different enterprise VLANs.
- **Quality of Service (QoS) allocation:** You can create PDNs that provide different QoS levels on the 4G network (not the enterprise network) and easily control user access to those PDNs.

The Raemis™ API

Raemis™ exposes a powerful RESTful API that enables application developers to build on top of **Raemis**™ or integrate external applications with **Raemis**™.
Your existing CRM, billing, management and performance tools can be integrated to use the **Raemis**™ API. Some examples are integration to Radius, Sonar, VISP.net, Grafana and Azotel. The RestAPI enables easy integration of the EPC with 3rd monitoring tools. Alarms and faults are visible in the EMS, and can be forwarded as HTTP events to registered applications.

Graphical User Interface (GUI)

The **Raemis**™ GUI uses the RestAPI to access the core software and 3GPP components of the network, hiding its complexity. The GUI facilitates three levels of customisation:

- White labelling: Replacing the **Raemis**™ brand logo and product name.
- Extension Apps: Adding a new panel to the GUI.
- New GUI. Replacing the existing GUI with a customer-developed GUI.

Scalability

- The **Raemis**™ platform works for organizations of any size, from small businesses to large enterprises.
- During the commissioning phase, **Raemis**™ is configured for the number of eNodeB devices (from 1 to 1000) and provisioned users (from 1 to 50,000).
- The **Raemis**™ platform 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.

Fixed Wireless Access Use Cases