Saankhya Labs

RANWiser™

Hardware Agnostic RAN Framework for Truly Open RAN

Revolutionizing the Radio Access Networks

Saankhya Labs (subsidiary of Tejas Networks) is disrupting the wireless communication landscape with next gen solutions for **5G Radio Access Networks.** These include 5G Remote Radio Units, Chipsets and RAN Frameworks. These solutions help the Mobile Network Operators to increase efficiency and reduce the Total Cost of Operations.
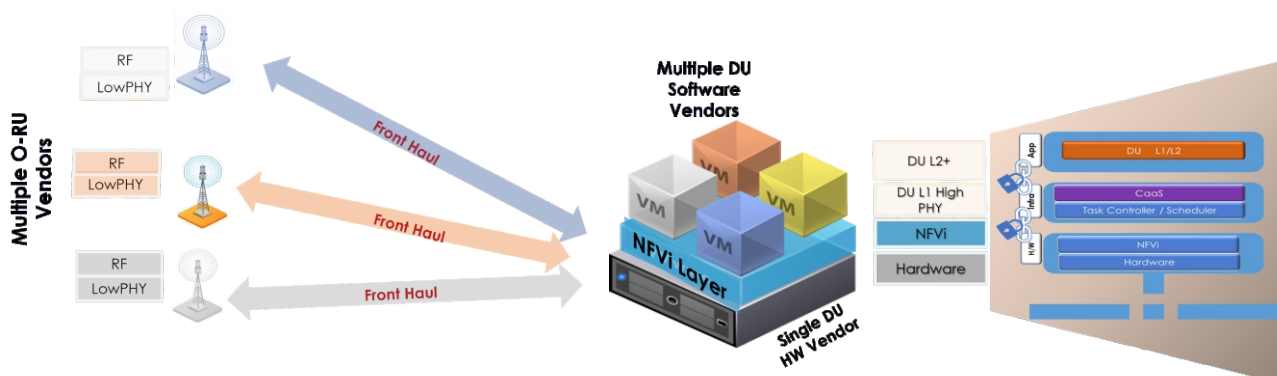
Saankhya Labs **RANWiser™** is a software framework for RAN workloads. The RANWiser disaggregates the DU hardware and software and enables seamless portability of multi-vendor DU software. This enables Mobile Network Operators to deploy **Truly Open RAN Solutions**.

RANWiser™

Decouple the DU Hardware and Software

Open RAN Ecosystem

Open RAN Solutions have disaggregated the Radio Access Network. The L1 layer has been **virtualized and split "horizontally"** into remote radio Units (RUs) and Distribution Units (DUs). This has enabled Mobile Network Operators flexibility of deploying **multi-vendor RAN solutions.** It has led to entry of large number of independent hardware and software vendors.

While the RU ecosystem is diverse there are **limited number of DU hardware vendors.** Most DU vendors use general purpose CPUs and accelerator-based architectures which are not scalable across multiple deployment scenarios. The **COTS DU hardware are not necessarily open.** The DU CNF is closely tied to underlying hardware implementation resulting in **vendor "lock-in".**

RAN Compute as a Resource

RANWiser™ is a software framework for RAN workloads, that is integrated into a Telco cloud infrastructure software. It provides a uniform model for the hardware underneath and lowers the barrier to build portable RAN software.

It is an innovative approach to implement RAN. It treats RAN Compute as a resource, which can be virtualized and decomposed for cloud native deployment. This enables granular RAN resource management.
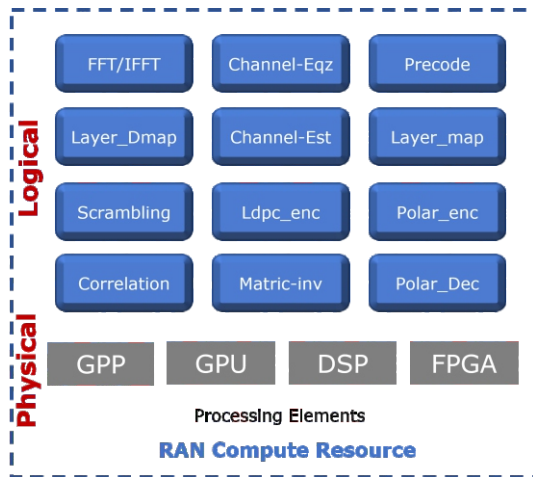
Benefits

- Enables Cloudification
- Advanced Resource management for DU Platforms
  - Provisioning & Orchestration
- Enable scale out and pooling
- Power and Performance gains
- Mapping of logical to physical layers
  - Signal Processing Kernels ⟷ Processing Elements

Components of RANWiser™
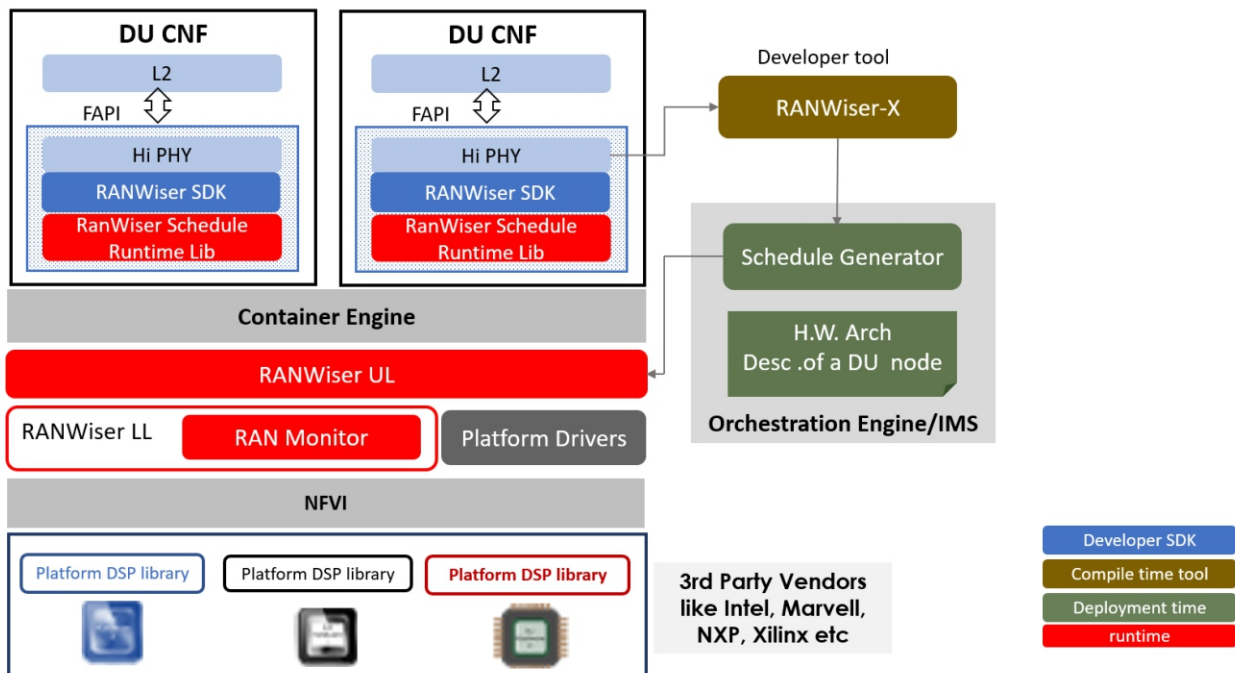
RANWiser SDK for developing platform independent DU HI PHY software

RANWiser-X extracts the Data flow Graph (DFG) from the Hi-PHY C code

Schedule Generator schedules DFG on the processing elements of the DU platform

Hardware Architecture Description for abstracting the underlying hardware details like processing elements, memory hierarchies etc.

RANWiser Runtime interacts with ORAN SMO via ORAN compliant interface

RANWiser Schedule Lib links with HI-PHY code and loads RAN tasks as per the schedule generated by Schedule Generator

RANWiser monitor for monitoring all activities and events on the DU platform

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