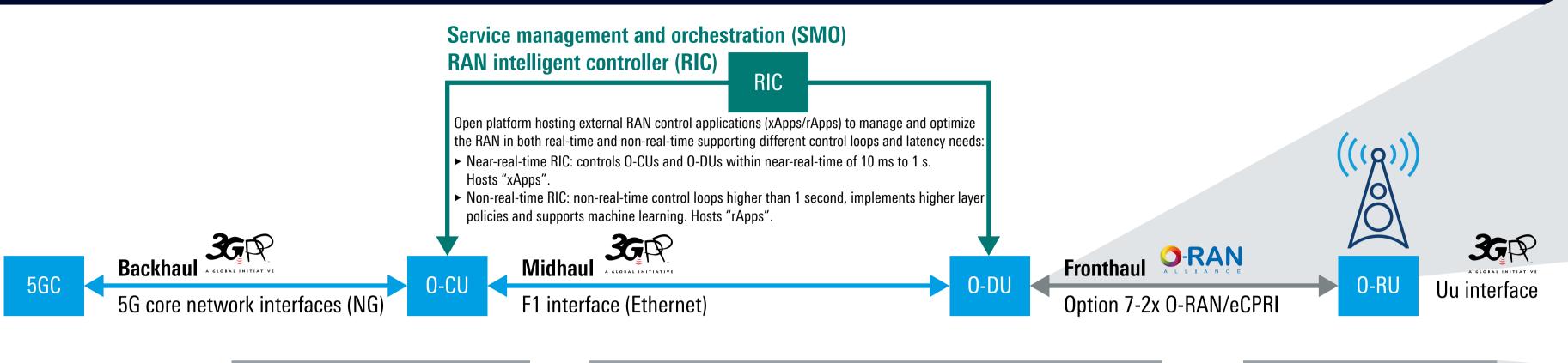
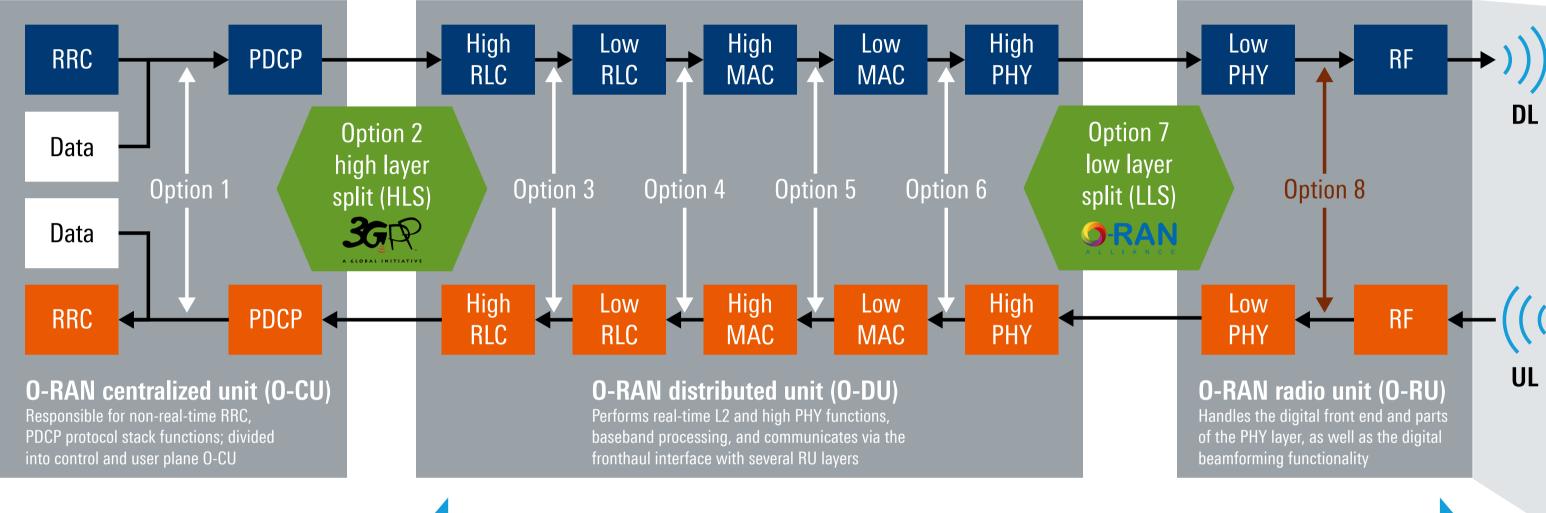
OPEN RAN NETWORK TOPOLOGY

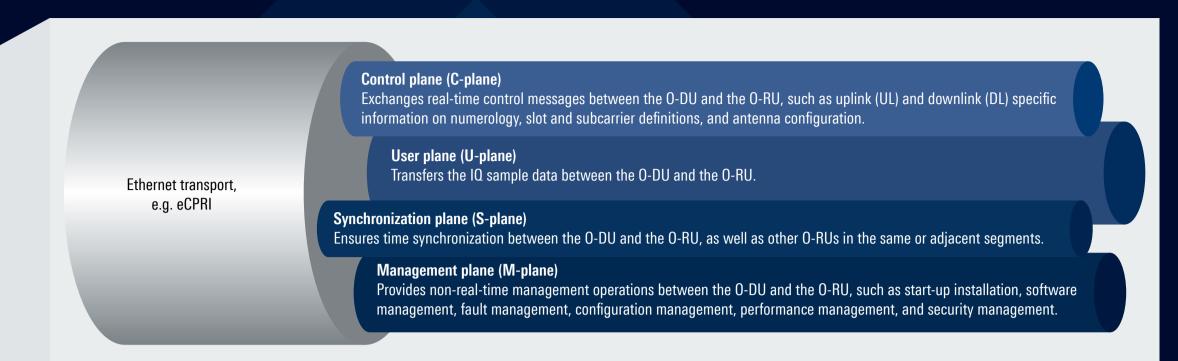




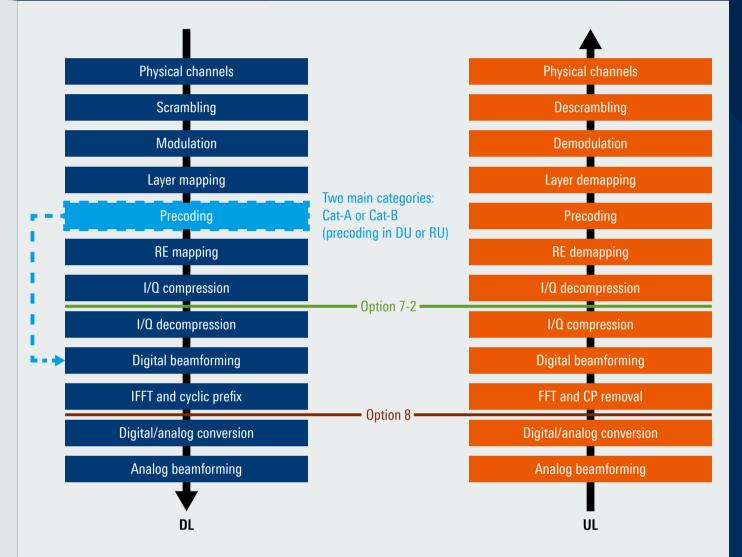


O-RAN.TIFG.E2E-Test — O-RAN E2E testing verifies KPIs of system or O-RAN subsystem

O-RAN fronthaul interface



O-RAN initiative: Lower layer split (LLS)



O-RU categories based on supported **functionality**

- ► Cat-A O-RU: Precoding not supported (done at O-DU); up to 8T8R dual/triple band radios
- ► Cat-B O-RU: Precoding supported; up to 64T64R; massive MIMO supported in DL
- ► Cat-B ULPI-A O-RU: Massive MIMO supported in DL and UL; UL channel estimation/BFW calculation and UL equalizer at 0-RU
- Cat-B ULPI-B O-RU: Massive MIMO supported in DL and UL; UL channel estimation/BFW calculation at O-RU

Test solutions for O-RAN testing

O-RU conformance, regression and production testing

Integrated and fully automated O-RU test setup compliant to 3GPP TS 38.104/ETSI EN 301908-24 and O-RAN ALLIANCE WG4 fronthaul conformance specifications.



R&S®SMW200A (or R&S®SMBV100B) vector signal generator and R&S®FSW (or R&S®FSVA3000) signal and spectrum analyzer



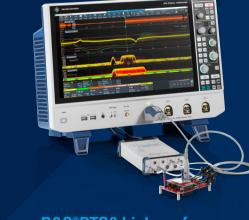
PVT360A performance vector tester



VIAVI TM500 O-RU Tester and **O-RU Test Manager Application**

Network energy saving (NES)

Automated test solution to measure the energy consumption and efficiency of O-RU.



O-RAN WG4.IOT — O-RAN interoperability testing

R&S®RT06 high-performance oscilloscope with R&S®VSE signal analysis software



R&S®NGx power supply



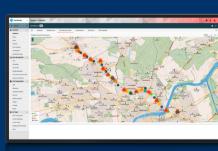
O-RU Test Manager Application

Field testing

O-RAN network performance evaluation and comparison.



QualiPoc Android



SmartAnalytics



O-RAN cell synchronization verification

R&S®5G Site Testing Solution

www.rohde-schwarz.com/wireless/o-ran

ROHDE&SCHWARZ

