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AMDOCS
5G xRAN SOLUTION

New 5G use cases, the agility of network resource deployment and consolidation of network OEMs are fueling a new vendor ecosystem that embraces open-standard, cloud-native networks. Yet for mobile network operators (MNOs), whose success depends on the ability to monetize the technology, this presents a host of challenges. These include identifying strategies to beat the competition, meet unprecedented capacity demands, increase network coverage, win customers and reduce churn – all while minimizing impact on CAPEX and OPEX.

To address these challenges, MNOs are turning to Open RAN technology, which enables rapid service deployment, openness to drive innovation, intelligence to efficiently orchestrate a dynamic network, agility to capture every revenue opportunity, as well as reducing reliance on proprietary hardware to execute CU and DU functions.

Beyond these capabilities, RAN virtualization or cloud-native containerization offers even further benefits by increasing hardware, software and service integration of the service orchestration platform.

The challenge of disaggregated, virtualized solutions

For MNOs to thrive in the next-generation economy, adopting disaggregated, virtualized solutions will be key. However, to do so, they first need to adapt their radio access networks, making them more software-driven by leveraging a variety of solutions and hardware from multiple vendors. But this comes with its own set of challenges. For example, how do you ensure interoperability between the various components? And how do you optimize deployment scenarios where every service provider's network architecture is unique?

To answer these questions, let's take a closer look at the role of systems integrators – those responsible for accelerating consumption and adopting Open RAN architectures to unlock the benefits they promise.

Requirements

Choose a partner to manage the lifecycle and hide the complexity of the new open ecosystem of a multi-vendor, disaggregated mobile access network.

Hide Complexity
Vendor Management
Interoperability F2E-Testing
Automation/Orchestration

Lifecycle Management
Program Management
Network Services
Design to operate

Independency
Choose Best-of-Breed
No Vendor lock-in
No conflict of interest

Reliability & Experience
Network Expertise with TIER 1
Software led automation
ORAN member/TIP certified

Amdocs 5G xRAN solution

Amdocs 5G xRAN solution offers a comprehensive set of open network products and services that minimizes risk during the transition to a disaggregated RAN network where vRAN, Cloud RAN leading eventually to Open RAN represents legitimate technical and business objectives. It is the result of careful evaluation of product technologies, in collaboration with hardware and software vendors across the ecosystem.

Amdocs 5G xRAN solution includes the following services:

- **System integration services:**

  - Validates and benchmarks vendor combinations to deliver flexible and innovative technologies to the network (Amdocs Labs Accelerated Services)

  - Single vendor test labs (vRAN/Cloud RAN) to rapidly evolve to multi-vendor managed integration labs

  - Automated hardware & software release management and testing across vendors

  - Validates and benchmarks all possible business cases, use case scenarios and playbooks

- **5G xRAN deployment services:**

  - Network planning and design to support coverage and capacity needs

  - Accelerated and cost-efficient network deployments for launching new services and network assets

  - Streamlines operations through automation to reduce costs and improve efficiencies

- **Multi-Domain orchestration / Open RAN automation & Service Management Orchestration:**

  - Adapts RAN Intelligent Controller (RIC)-independent x/rApps to enable AI/ML network edge-based optimization solutions to achieve optimal network capacity

  - Multi-domain cloud-native automation with Amdocs Intelligent Networking Solutions (INS) components (inventory, design, orchestration engines, service fabrics, etc.)
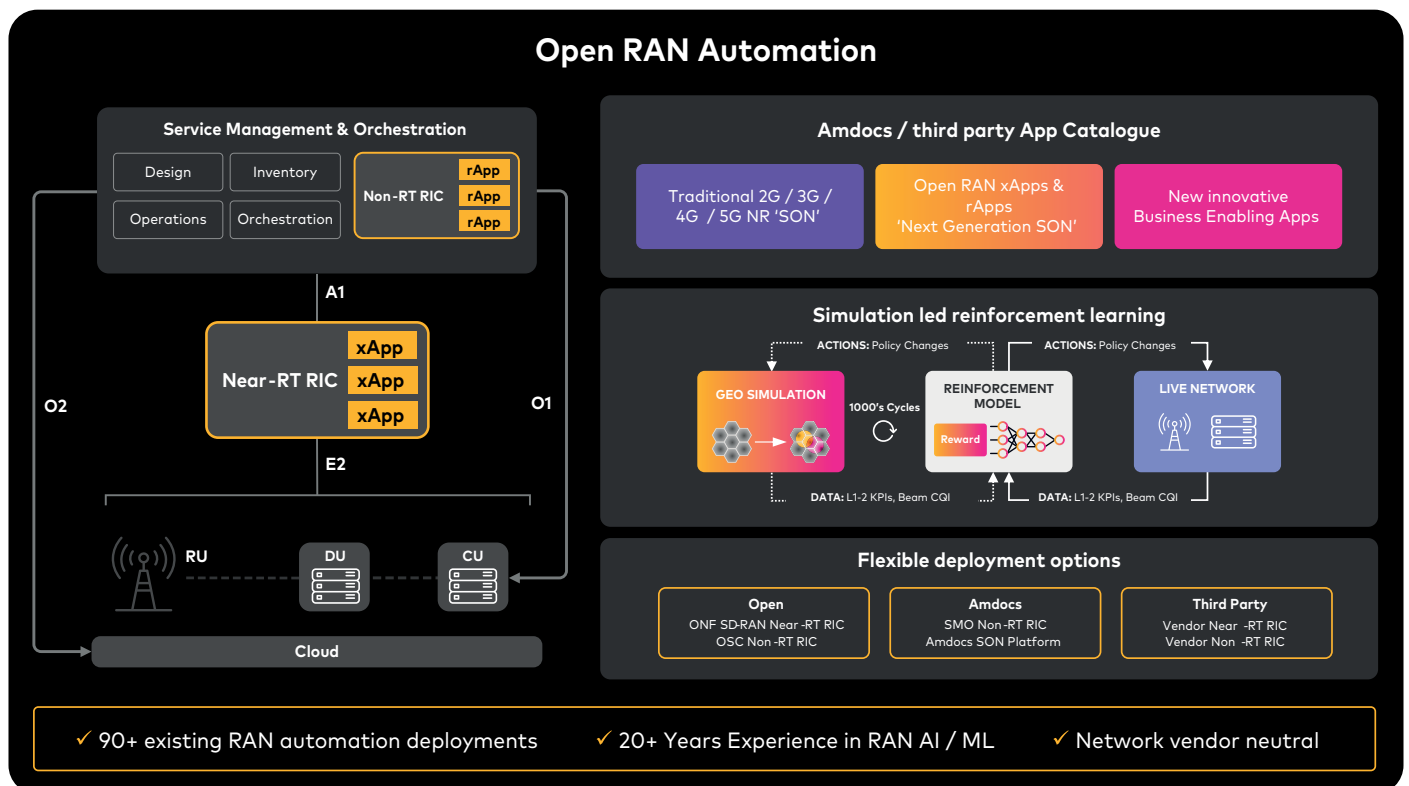

Fig.2: Amdocs 5G xRAN Automation vision

- Integrates SMO with Amdocs INS network and service orchestration to manage the lifecycle of O-RAN NFs operating on virtual (VMs) or physical assets (MEC, PNF, COTS)

- Deploys xAPPs and rAPPs to enable AI/ML edge-based automation for both traditional "SON-like use cases" and high-priority energy requirements such as energy savings

- **Network planning, optimization and management applicable to 5G xRAN/Open RAN**

  - Amdocs Network Capacity Management (NCM) for site capacity expansion prioritization

  - Amdocs Drive Test Analytics (DTA) for measuring and assuring optimal performance prior to launch

  - Amdocs Network Optimization Suite (NOS) as a centralized network management and optimization suite that provides visibility over the customer experience

  - Amdocs Network Performance Management's (NPM) unified data visualization, analysis and reporting interface for enhancing Open RAN efficiency

- Amdocs Backhaul Network Management (BNM) for measuring, analyzing and identifying IP-based bandwidth, latency and compute measures of xHaul (fronthaul, midhaul and backhaul) connectivity interfaces.

The evolution to 5G xRAN

The demand for open-standard, cloud-native networks has led to the development of 5G xRAN, which combines Open RAN and vRAN technologies. 5G xRAN enables MNOs to rapidly deploy services, drive innovation and efficiently orchestrate dynamic networks, all while capturing revenue opportunities. However, the journey from RAN to vRAN, Open RAN and 5G xRAN is not without its challenges. Addressing these challenges demands a partner with the vision, service components and service integration expertise to simplify the MNO's market vision without applying proprietary or lock-in strategies.

Amdocs leads the industry in addressing operational challenges associated with the disaggregation of the RAN domain and integration of a multi-vendor RAN strategy. Our leadership role in the TIP Roma sub-group demonstrates our vision and active participation in advancing the operational readiness of 5G xRAN solutions, as demonstrated here.
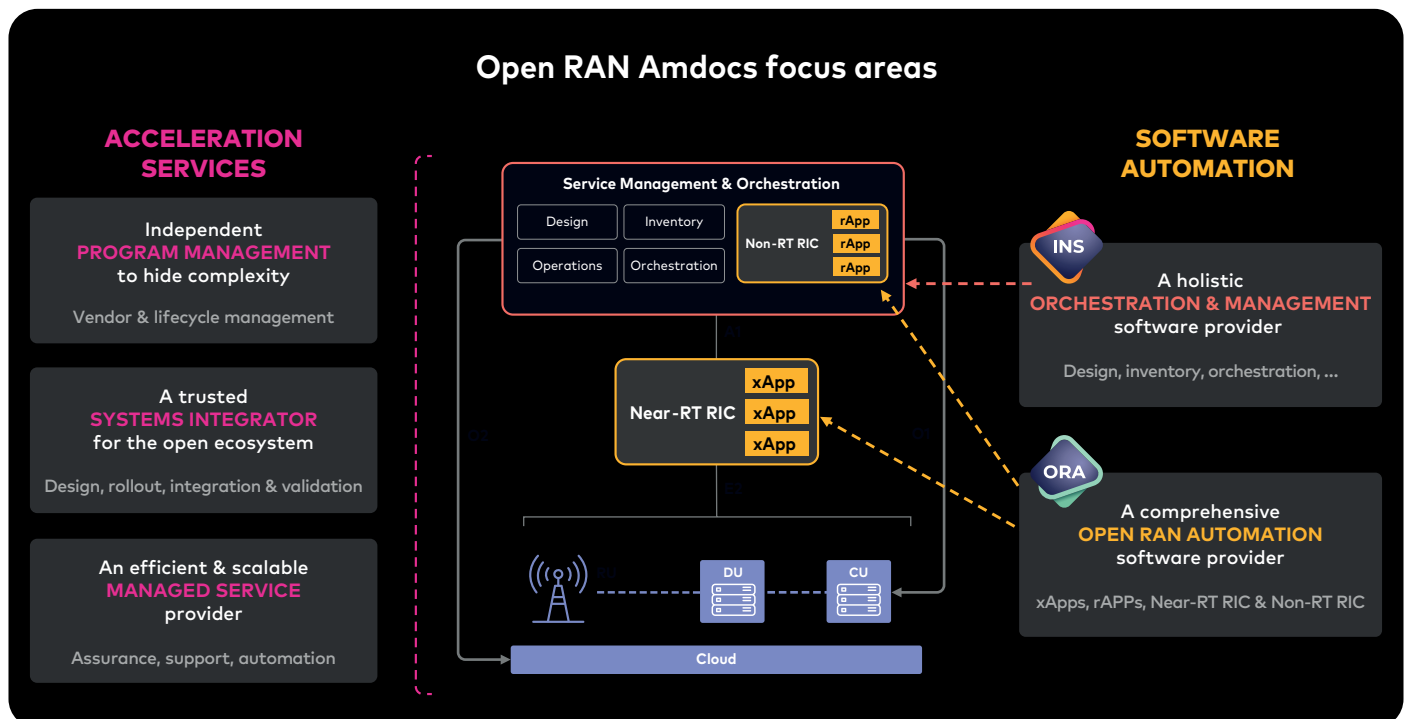

Fg.3: Amdocs 5G xRAN focus on x/rApps

Why Amdocs

Amdocs leverages a deep understanding of existing capabilities and strategies to create tailored solutions that combine our assets with those of the service providers' enterprise customers. Our holistic solution design approach considers enterprise requirements, use cases, future vision, as well as the degree to which the enterprise wishes to manage its network operations. Leveraging our vendor experience, flexible solution blueprints, and mobile private network deployment expertise, we provide a single point of accountability for committed SLAs, while minimizing risks to enhancing the customer experience and improving operational efficiencies with our global delivery and support organization.

For more information on all end-to-end network solutions, visit: **Amdocs Networks**.