

History

telecom value

learned from the data center approach is that after creating reference designs (blueprints which took a little time) there was no additional complex integration needed – software took over, making the integration of the physical components and any upgrades easy. Yes, the hardware components still needed to be placed in the data center, cabled together, etc., but the initial integration was as simple as loading the software a

which happened in the enterprise market in the 2000s. Open RAN is becoming a disruptive trend that moves the telco infrastructure from a static, vertically integrated one with few players using proprietary solutions to a dynamic, horizontal architecture with many hardware and software players, like the innovative, dynamic, and software-driven personal computer and enterprise market.

Why

senior research analyst at IDC, said in a recent interview. He compared the journey to the NFV experience during its early days 12 years ago.

his slide stating integration concerns for Open RAN. At the end of this article, we will hear from mobile operators that have been integrating Open RAN for 5+ years, but for now, let us continue with our data center and software world comparison. Ericsson, or any legacy vendor for that matter, is looking at the integration of

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To integrate Open RAN, a new approach is needed, not from vertically integrated and hardware-centric companies, but from a software-driven, open and open-minded ecosystem of hardware vendors software vendors, system integrators, tower companies, real estate owners, regulators, industry bodies and mobile operators. Integration of Open RAN needs to be built for a software-centric world where software talks to all physical components, at any time, to deliver scalability, innovation and changing the game for how open networks are integrated.

Source: Viavi

What is not going to change is how physical components (towers, antennas, batteries, servers) are installed. What **will** change is that software will make those components smarter and

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Source: *TIP*

In the past, software was tied to a physical element from a particular vendor, which created a vendor lock-

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Model 1 (MNO integrates themselves): Rakuten and Vodafone have proven to the world that overcoming Open RAN challenges is possible but requires strong and active operator involvement -- the in-house vision, skills and capabilities are necessary for integrating new technologies successfully.

Model 23 (a hardware vendor integrates): Dish expects Fujitsu to provide support for radio and antenna integration and to ensure that the radio units and distributed units are fully interoperable.

Model 3 (using a system integrator): In Peru, Telefónica has relied on a Spanish systems integrator called Everis, which has a major presence in Latin America. In the future, the in-house resources will be implementing virtualization based on Whitestack for DevOps style with Continuous Development and Continuous Integration of the software to enable automation. The question is whether all this entails an increase in operational expenditure, especially if problems arise. "That is not the plan," said del Val Latorre, Telefónica's CEO of research and development, at TIP Summit 2019.

Source: ABI research

Main takeaway: It is important to note that even when an operator has the skills to integrate Open RAN, or has SI partners to help, hardware and software vendors need to implement their products as a solution, just like enterprise vendors currently do. This when Open RAN will reach the economics of scale.

How: Implementation and Maintenance Stage

As Open RAN steps in into the commercialization stage, it is clear that the **implementation stage** has been driven by the ecosystem and includes solution planning and design, supply chain management, shipping logistics, component testing, RF optimization and drive testing. Radio access products have much smaller tolerances than in the core network and require extensive testing before deployments. OpenRAN introduces a very foreign concept to MNOs -- a best of breed RAN

Creating one is a work in progress, and this is where TIP and O-RAN Alliance and their members come in: to fulfill system integration, testing, and verification to create approved blueprints and

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changing the way RAN is being procured, new software tools, OSSs, and upskilling workforce to manage software-

The main takeaway: By getting reference designs and blueprints resulting from testing in the integrated Open Test and Integration Center (OTIC) environments and field trials, MNOs can gain more confidence in multi-vendor interoperability and focus their live network efforts on

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