

Introduction to O-RAN Open Source Focus Group (OSFG) and Super Wireless RAN Blueprint (SWRBP)

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*Joint OSC/OSFG-OAI Workshop:
End-to-End Reference Designs for O-RAN
November 14 – 15, 2023*



Basic rationale for O-RAN OSFG and Super Wireless RAN Blueprint SWRP

- The standards most in flux (slowest to evolve) tend to be those for the most futuristic 5G features. These futuristic features, ranging from network slicing to support for programmable networks, also represent *significant security risks*.
- Cannot wait for the formal approval and widespread adoption of standards, hence the need for the O-RAN Alliance™ Super Wireless RAN Blueprint (SWRP) as a *CI/CD methodology*.
- Building upon DARPA OPS-5G, and collaborating with FN 5G SBP, the goal is “a *full architecture* of how to deliver a total solution from end-user device to cloud application destination, replete with high-bandwidth, low-latency, scalable, and cost-effective digital networking infrastructure.”
- The signature security advantage of open source software is *increased code visibility*, meaning that code can be examined, analyzed, and audited, either manually or with automated tools.
- The portability of open source serves, as a desired side-effect, to *decouple the hardware and software ecosystems*, which significantly eases the introduction of innovative hardware into the market (and somewhat paradoxically accelerates commercialization)

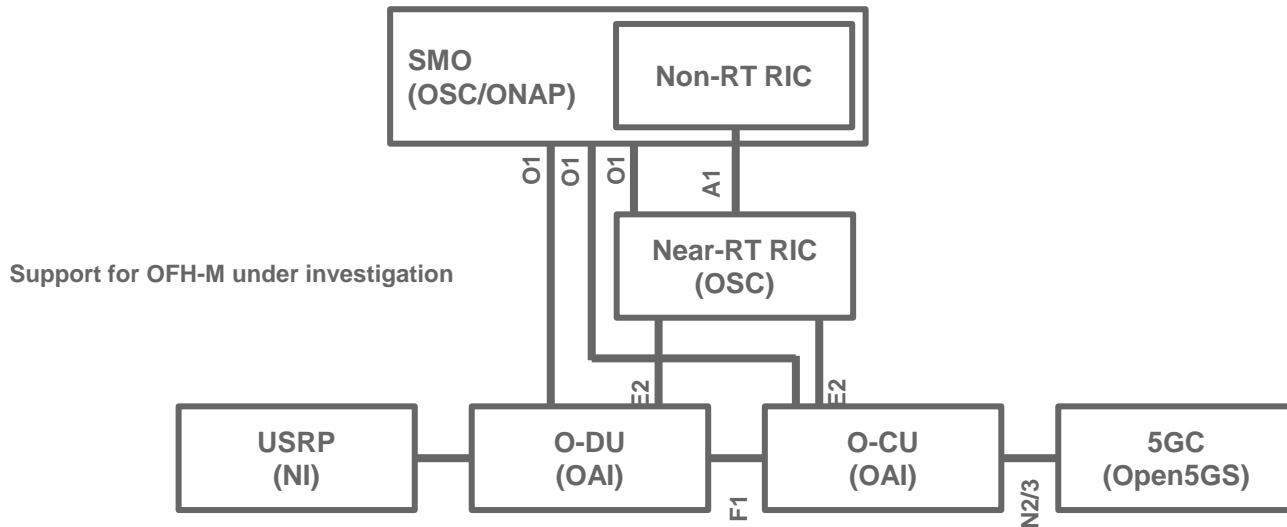
sourced from DARPA OPS-5G and LFN SBP

OSFG update & SWRBP

- SWRBP white paper / roadmap – draft in progress; target date for 1.0 version of WP (roadmap) 4Q 2023
 - Builds upon OSC and 5G SBP (Linux Foundation) and requirements/roadmap from O-RAN, NSF*, add'l sources
 - Initially introduces and integrates models/code/components from OAI (MoU with O-RAN) with OSC/ONAP/ODL
 - Subsequently, introduces and integrates models/code/components from srsRAN, ONF, add'l open-source projects
 - Focus on O-RAN MVPs and advanced use cases that typically traverse all 5G subnets
- OSC <-> OAI demonstrations of increasing complexity to showcase newest developments
 - At O-RAN ALLIANCE F2F meetings beginning with Osaka F2F (June 2023), then Phoenix F2F (Oct 2023), Athens (Feb 2024) and so on
 - At O-RAN PlugFests beginning with Fall 2023 (all regions) in OSC labs or nGRPs (next Generation Research Platform, per O-RAN nGRG RS-08)
- Joint OSC/OSFG-OAI Workshop at Northeastern Univ, Boston MA, 14-15 November 2023
- Preliminary discussions with srsRAN although no MoU with O-RAN exists at this point in time

** NSF, National Science Foundation, an independent agency of the United States government that supports fundamental research and education in all the non-medical fields of science and engineering*

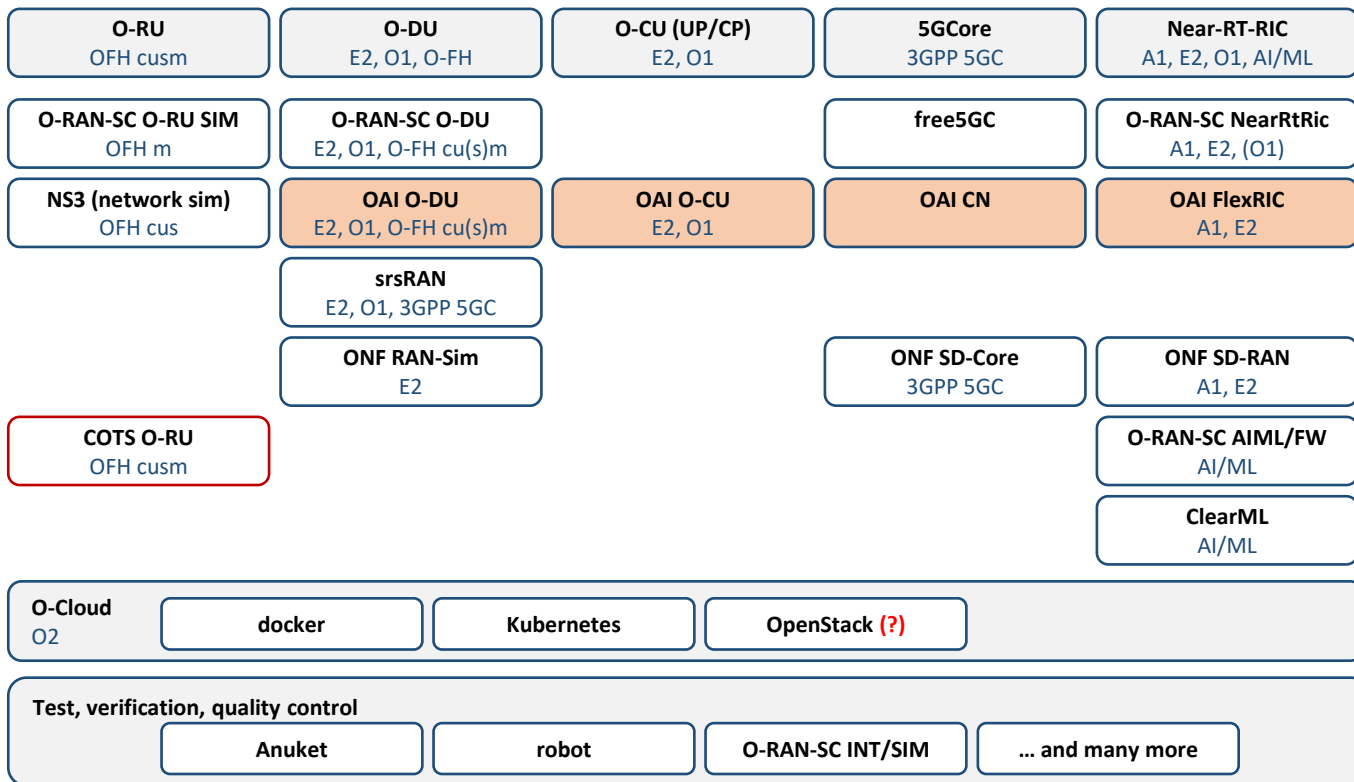
Early iteration of Super Wireless RAN BluePrint (simplified); logos of a few labs across regions



Open-Source Reference Architectures

SWRBP “Super Wireless RAN Blueprint”
with elements from LFN, OSC, OAI, ONF, srsRAN (tbd)

Open-Source Reference Architecture: RAN



Open-Source Reference Architecture: SMO

