O-RAN ALLIANCE Advances Testing and Integration with Successful O-RAN Global PlugFest Fall 2022

Bonn/Germany, December 14, 2023

The O-RAN Global PlugFest Fall 2022 was successfully completed in 6 venues across Asia, Europe, and North America, with 106 participating companies.

O-RAN ALLIANCE global PlugFests represent a major platform enabling efficient progress of the O-RAN ecosystem through well-organized testing and integration. O-RAN Global PlugFest Fall 2022 is the second O-RAN PlugFest this year. In combination with the Spring PlugFest, the 2022 O-RAN Global PlugFests span across 9 venues with 156 participants, of which many participated at more than one venue.

"Testing and integration at O-RAN PlugFests show increasing maturity of O-RAN technology in all regions," said Linsheng Liao, O-RAN TIFG Co-chair and Senior Project Manager of CMRI. "Comparing the PlugFest results year to year, we are pleased to see major progress made by the O-RAN ecosystem in conformance and interoperability tests, as well as more advanced end-to-end and network automation scenarios. O-RAN PlugFests greatly contribute to developing commercially available O-RAN networks."

O-RAN Global PlugFest Fall 2022 in Asia

PlugFest in Japan, hosted by NTT DOCOMO, KDDI, Rakuten Mobile, SoftBank, YRP and YRP R&D Promotion Committee took place at multiple sites in large metropolitan area. Activities focused on:
- Lab tests and field trials of latency assurance with Near-RT RIC for E2E network slicing
- Conformance, IOT, E2E testing, including Open Fronthaul and security verification
- Field tests of mmW backhaul system using O-RAN Fronthaul
- Multi-vendor vRAN integration
- Near-RT RIC demo with xApp and E2 nodes
- Open source demo realizing vRAN application deployment with OpenStack Tacker

In addition to the hosts, participants included **AMD AECG, Anritsu, ComWorth, Dell Technologies, DKK, DZS, Fujitsu, HCL, Keysight Technologies, KYOCERA, NEC, NVIDIA, Red Hat, Spirent, TOYO, VIAVI Solutions** and **Wind River.**

PlugFest in South Korea hosted by LG Uplus focused on:
- 5G O-RAN in-building field trial
- 5G O-RAN Lab validation
- Test scenarios including fronthaul conformance test, E2E test, analysis of fronthaul and midhaul interfaces
- Validation of RIC use case with xApp/rApp and the open interfaces (O1, A1, and E2)

In addition to the hosts, participants included **Ciena, DELL Technologies, ETRI, Innowireless, Juniper Networks, Keysight Technologies** and **Viettel High Technology Industries.**

PlugFest in South Korea hosted by SK Telecom focused on:
- Open Fronthaul interface conformance testing for O-DU and O-RU
- O-RAN specified interoperability testing between O-DU and O-RU

- Evaluation of O-RAN based private 5G systems through O-RAN specified E2E tests
- Performance and functional testing in live indoor environments

In addition to the hosts, participants included **ETRI, Hewlett Packard Enterprise, HFR, Intel** and **Keysight Technologies.**

O-RAN Global PlugFest Fall 2022 in Europe

Deutsche Telekom, EANTC, EURECOM, Orange, TIM, Vodafone and BT have teamed up together with Telecom Infra Project (TIP) to host the **Joint European O-RAN & TIP PlugFest Fall 2022**. The PlugFest was hosted in four European labs, namely EURECOM in Sophia Antipolis, i14y Lab in Berlin, Orange Lab in Paris and TIM Innovation Lab in Torino.

The joint PlugFest has demonstrated complementarities and synergies between O-RAN and TIP as well as between the labs.

Test scenarios focused on:
- Conformance testing of Open Fronthaul interface of O-RU and O-DU
- End-to-end multi-vendor integration with functional and performance testing
- xApps/rApps integration with Near/Non-RT RICs and xApps/rApps functional verification
- O-Cloud platform performance testing

In addition to the hosts, participants included **Aarna Networks, Accelleran, ADVA Optical Networking, Analog Devices, Anritsu, Aspire Technology, Azcom Technology, Calnex Solutions, Capgemini Engineering, Dell Technologies, DZS, Fujitsu, Hewlett Packard Enterprise, highstreet technologies, JMA Wireless, Juniper Networks, Keysight Technologies, Mavenir, Microamp Solutions, MTI, NEC, Net AI, Nokia, Open Networking Foundation, Radisys, Red Hat, Rimedo Labs, Rohde & Schwarz, SIAE MICROELETTRONICA, SOLiD, Spirent, VIAVI Solutions, VMware** and **VoerEir.**

O-RAN Global PlugFest Fall 2022 in North America

PlugFest in North America hosted by CableLabs at the Kyrio OTIC Lab focused on:
- Multi-vendor O-RAN end-to-end system under test, based on the O-RAN E2E test specification, demonstrating cell capacity for signaling and user-plane traffic load. Moreover, the Fronthaul delay impact on user peak throughput was measured using Fronthaul impairment emulators.
- Demonstration of O-CU interoperability, based on the O-RAN IOT test specifications, verified traffic scenarios across emulated F1 and Xn interfaces, as well as the open F1 and Xn protocol implementation. In addition, the O-CU demonstrated successful interoperability for F1AP and XnAP global, elementary, and mobility procedures.
- Near-RT RIC testing for conformance to the O-RAN E2 interface specification (E2AP, E2 SM, E2 SM RC, and E2 SM KPM procedures) were verified following the E2 test specification. Moreover, a QoS xApp was integrated and tested.

In addition to the hosts, participants included **Calnex Solutions, Capgemini Engineering, Lumentum Holdings, Radisys Networks, Sunwave Communications, VIAVI Solutions** and **Xena Networks.**

PocFest in North America hosted by UNH-IOL, hosted by AT&T and DISH, took place in four labs:
- University of New Hampshire InterOperability Lab
- TIP Community Lab at Meta, Menlo Park CA
- POWDER Lab and NSF PAWR SITE with the University of Utah

- COSMOS Lab and NSF PAWR SITE with the Rutgers University, Columbia University, NYU Wireless

Activities focused on testing of conformance and performance of O-RU devices, measurements of energy saving and efficiency, integration of AI/ML for resource pooling and slicing, testing of RIC, xApps, SMO, and end-to-end interoperability testing.

In addition to the hosts, participants included **AMD, Anritsu, Calnex, DZS, Fujitsu, HCL, Intel, Keysight Technologies, NEC, Radisys, Rohde & Schwarz, VIAVI Solutions, VVDN, VMware, Vodafone, Wind River** and **Xena.**

About O-RAN ALLIANCE

The O-RAN ALLIANCE is a world-wide community of more than 330 mobile operators, vendors, and research & academic institutions operating in the Radio Access Network (RAN) industry. As the RAN is an essential part of any mobile network, the O-RAN ALLIANCE's mission is to re-shape the industry towards more intelligent, open, virtualized and fully interoperable mobile networks. The new O-RAN specifications enable a more competitive and vibrant RAN supplier ecosystem with faster innovation to improve user experience. O-RAN based mobile networks at the same time improve the efficiency of RAN deployments as well as operations by the mobile operators. To achieve this, the O-RAN ALLIANCE publishes new RAN specifications, releases open software for the RAN, and supports its members in integration and testing of their implementations.

For more information, please visit www.o-ran.org.

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