

Open RAN - ARTS

Jonny Miller



Department for
Digital, Culture,
Media & Sport

**UK
5G**

**Innovation
Network**

'O-ART' project in a nutshell

ORAN Advanced Radio Test System

In partnership between AceAxis & MAC

An O-DU Emulator/O-RU tester to support integration and ORAN badging compliance.

The O-ART would provide a standardised, cost-effective, off-the-shelf solution that covers many of the key RF measurements along with the Open RAN optical interface all in a single unit.

It will be a solution ideal for development, qualification and manufacturing environments designed to lower the cost of all tests (development, integration, performance, certification, regulatory, factory and deployment) while increasing speed, yield and field reliability



Our Impact on the market



Open RAN interfaces are clearly defined. Using these interfaces, along with 3GPP definitions creates the opportunity for the O-ART to become the trusted industry standard for developing 5G radios



Allows radio developers to focus on their areas of expertise, the O-ART will reduce barriers to entry and encourage 5G radio supply chain diversification



System integrators can be confident that a radio tested on the O-ART will meet their interface requirements, allowing faster transition to the true plug and play deployment scenarios envisioned by Open RAN



Standardised test solution will encourage new entrants to focus on innovation of the radio, antenna and RAN SW whilst supporting fast development and integration of radios



By using O-ART as a validation check before a radio is brought into an integration or network testing lab (such as the SONIC Lab) it will speed up the integration between the Open RAN DU and the Open RAN RU

How are we doing it?



Reducing Total Cost of Ownership

- Designed from COTS modules and sourced using a multi-CoO approach to reduce RnD, Integration, Compliance and Manufacturing costs for ORAN developers



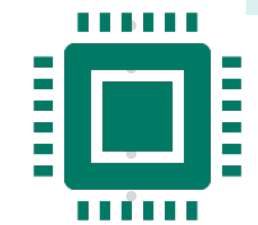
Modulated playback and capture

- Playback and capture of modulated 4G LTE, 5G-NR and custom waveforms via TRx ports and eCPRI interface.



Monitoring

- Receive notifications of any alarms generated by the O-RU under test via the M-Plane



Hardware Ready

- To support the ever growing needs of the market the we have ensured our HW is future ready giving you the edge and agility to adapt quickly to change.
- Roadmap to support LTE/NR/NB-IoT demodulation to remove expensive test equipment licenses in development



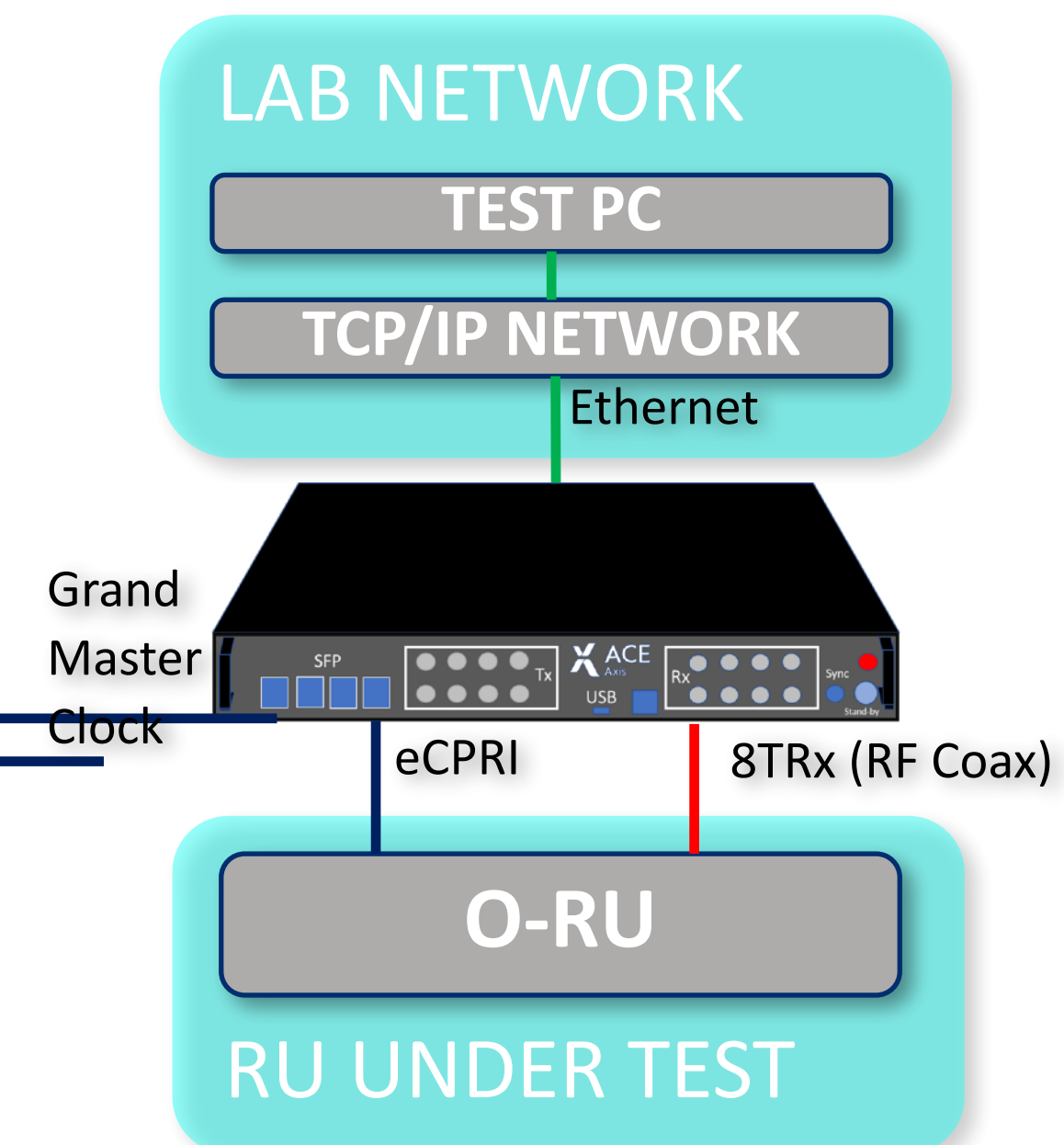
M-Plane NETCONF

- Provide the O-RAN M-Plane NETCONF client connectivity to configure and control the O-RU Under Test



CUS-Plane

- Provides the required CUS-Plane signaling to the O-RU Under Test, via eCPRI

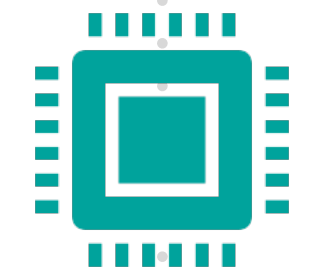


Collaboration possibilities with O-ART



Work closely with ORAN Integration labs to provide HW solutions to:

1. Act as an enabler and catalyst for integration activities and provide a reference standard for faster fault finding.
2. Get feedback from leading customers on what their pain points are so we can bring online features within the O-ART platform to support



Engage with O-RU and O-DU OEMs to offer:

1. An OTS solution for RnD and Integration tasks
2. Offer a Design as a Service^{DaaS}/Test as a Service^{TaaS} solutions for manufacturing and qualification challenges



Offer higher layer (Layer 3+) ORAN developers:

1. An OTS solution for that “last mile of RF”
2. Support with TaaS activities so they can show end to end compliance of their solution