ECSite, Inc., a trailblazer in cutting-edge telecommunications software, is thrilled to unveil an innovative solution that will redefine the approach to deployment, management, and maintaining O-RAN Radio Units (RUs). This specialized software focuses on the O-RAN RU over the M-Plane (Management Plane), facilitating not only radio health assessments but also software upgrades, alarm monitoring, and installation validation.

In the world of O-RAN, network providers deploy networks, positioning the RU at the cell site and the Distributed Unit (DU) either centrally or cloud-hosted. The fiber link between the RU and the DU, known as the 'fronthaul' or 'transport' network, may sometimes be unavailable or insufficient when RUs are set up at the cell site. This prevents the technicians from validating RU functionality on-site, leading to potential delays in network commissioning and repeated site visits, adversely affecting scalability, growth, cycle time, and revenue for operators.

The demand for a field solution that empowers installers to validate O-RAN-based RUs before departure from the job site—without waiting for data transport to be accessible—is thus evident.

ECSite is broadening its range of field services software to tackle this issue, thereby enhancing the speed of 5G infrastructure installation and testing and decreasing costs. Use of ECSite's RUConnect™ software to oversee and observe field installations of O-RUs via M-Plane will enable on-site personnel to validate installations prior to departure, removing the need for time-consuming and costly return trips. This represents a substantial efficiency improvement from conventional methods, where validation could only be done after fronthaul availability and DU activation, sometimes a months-long process, post-installation.

About ECSite

Launched in 2019 by RF, fiber and test automation experts from the silicon valley, ECSite has worked with wireless and wireline operators and integrators in providing advanced automation solutions for highly technical data collection and management for all digital infrastructure deployments. RUConnect™, ECSite's one-click O-RU verification platform, O-RAN Radio commissioning, site acceptance and report tool.

Product Features

- Portable Windows app

- RUConnect™ allows field engineers to validate Open RAN Radio - Customer (Operators)

- O-RU device details display

- O-RU device information

- O-RU software management

- O-RU file management

- O-RU alarms management

- Remote operation and management

- Validation of M-Plane conformance tests in field, labs, OTIC centers

- Repeatable, consistent, scalable test methodology

- Advanced cloud-based search and reporting in custom formats

- Ability for OEMs to run custom scripts and custom M-plane extensions

- RUConnect is modular, maximizing the usability and flexibility in providing network intelligence

- Built on the foundations of O-RAN mission : promote openness and interoperability

Supported Operations

- RUConnect™ used for addressing below deployment pain points in the field

- RUConnect™ used to perform basic operation on radio using M-Plane interface.

- The current version of tool supports.
  - ORAN-WG4.MP.0-v07.01
  - O-RU connect.
  - Netconf over SSH/TCP
  - Netconf Call home
  - O-RU information retrieval
    - File management
    - File download
    - File upload
    - File retrieval
  - Software Management
    - Software download
    - Software installation.
    - Software activation.
  - RU reset
  - Alarm management
  - Sync data to cloud
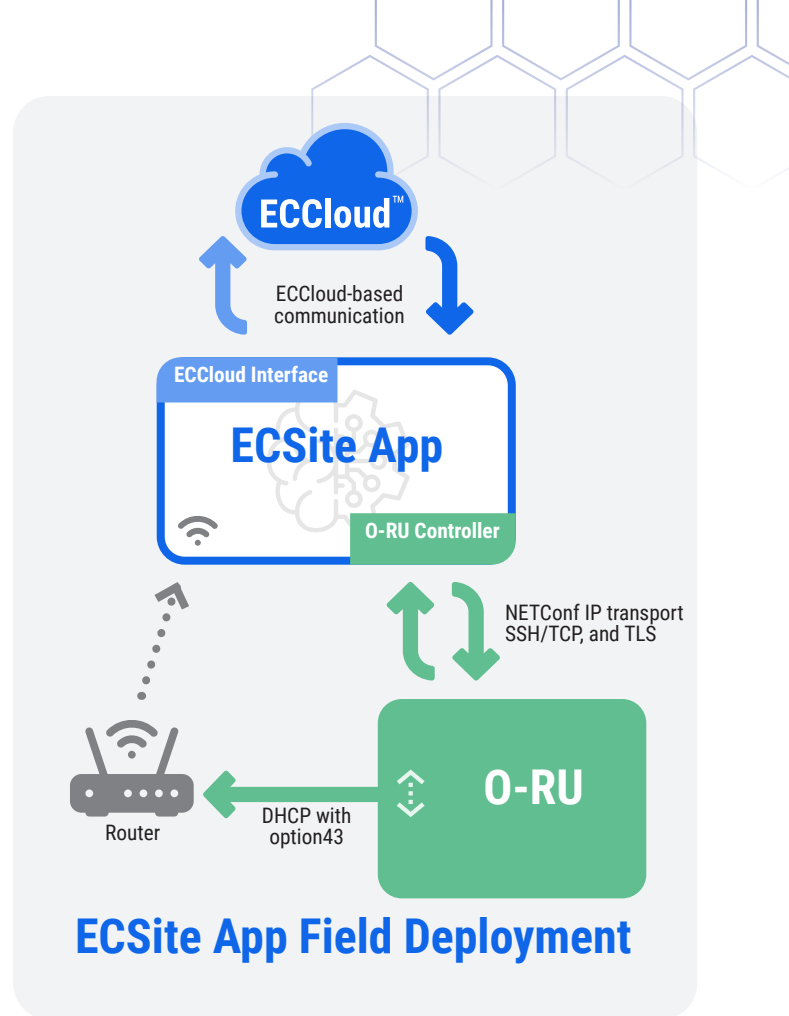 - Connectivity status and device location map

Device Integration

- Keysight O-RU Emulator RUSim

Analytics

ECSite's AI-powered analytics engine provides rich and interactive visualizations and dashboards with self service capability on the cloud portal for users at every level.

- Displays call home parameters includes RU IP, RU Mac, Status

- Displays Device capabilities include Band number, compression, maximum carrier BW, etc.

- Displays device information including availability state, HW Rev, Manufacturer date, etc.

- Displays Module version

- Displays the PA status, PA temperature, temperature measurements of device, FPGA, HW, Antenna status, IQ channel status in dBFs, and dBm

- Displays software management analytics

- Displays active alarm list

- Syncs the information to the cloud

ECSite App Field Deployment

Architecture

- Cloud agnostic
- Windows app
- Secure cloud portal
- Analytics dashboards
- Real-time connectivity status and device location

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