O-RAN A1 Policies in ONAP

KEY INFORMATION

Gerrit: repo: https://gerrit.onap.org/r/admin/repos/ccsdk/oran
Meetings: https://wiki.o-ran-sc.org/display/RICNR/Meetings & ONAP/O-RAN-SC/SMO Meetings
Email List: ONAP "discuss" mailing list: onap-discuss@lists.onap.org
Related work in OSC: https://wiki.o-ran-sc.org/display/RICNR

JIRA (Epics):

- CCSDK-2475 - Getting issue details... STATUS
- CCSDK-2476 - Getting issue details... STATUS
- CCSDK-2991 - Getting issue details... STATUS
- CCSDK-3229 - Getting issue details... STATUS
- CCSDK-3463 - Getting issue details... STATUS
- CCSDK-3617 - Getting issue details... STATUS
- CCSDK-3809 - Getting issue details... STATUS
- CCSDK-3909 - Getting issue details... STATUS
- CCSDK-3965 - Getting issue details... STATUS

Requirements (Older):

- REQ-38 - Getting issue details... STATUS (Frankfurt)
- REQ-352 - Getting issue details... STATUS (Guilin)
- REQ-457 - Getting issue details... STATUS (Honolulu)
- REQ-722 - Getting issue details... STATUS (Istanbul)
- REQ-1045 - Getting issue details... STATUS (Jakarta)
- REQ-1256 - Getting issue details... STATUS (Kohn)
- REQ-1391 - Getting issue details... STATUS (London)

PROPOSALS BY RELEASE

The following table shows the progression of the O-RAN A1 Policy functions by release.

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<td>A1 Adapter in ONAP</td>
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The **O-RAN Alliance** defines a new management interface "A1" for Radio Access Network (RAN) Management. This interface interconnects a new logical "Non-RealTime RAN Intelligent Controller (Non-RT-RIC)" function in the Service Management & Orchestration (SMO) layer with a new logical "Near-RealTime RAN Intelligent Controller (near-RT-RIC)" function in the RAN. This new A1 interface allows the Non-RT-RIC to provide Policy Guidance to the RAN (near-RT-RIC) to steer its operation. These policies are defined by the O-RAN Alliance as "A1 Policies". The specifications for the A1 Interface, including A1 Policy support, can be found on the [O-RAN Alliance Specifications portal](https://docs.onap.org/projects/onap-ccsdk-oran/en/latest/).

New functions to support A1 Policies have been added to ONAP. The A1 Policy functions are Orchestration and Automation functions for non-real-time intelligent management of RAN functions. The primary goal of the A1 Policy functions is to support non-real-time radio resource management, higher layer procedure optimization, policy optimization in RAN, and providing guidance, parameters, policies and AI/ML models to support the operation of Near-RealTime RIC (RAN Intelligent Controller) functions in the RAN to achieve higher-level non-real-time objectives.

A1 Policy functions form part of a Non-Realtime RIC as defined by O-RAN Alliance. Non-Realtime RIC functions include service and policy management, RAN analytics, and model-training for the Near-RealTime RICs. The ONAP A1 Policy work provides concepts, specifications, architecture and reference implementations for A1 Policy support as defined and described in the O-RAN architecture.

As shown in the Component Architecture diagram below, the A1 Policy functions exist within the **ONAP** eco-system, leveraging existing infrastructure to support non-real-time control of the RAN (Radio Access Network).

**Functional view of ONAP A1 Policy functions**
The figure above shows a functional view of the A1 Policy functions in ONAP.

GERRIT

- (ONAP) A1 Policy functions: https://gerrit.onap.org/r/admin/repos/ccsdk/oran
- (OSC) sim/a1-interface: https://gerrit.o-ran-sc.org/r/admin/repos/sim/a1-interface