Non-RealTime RIC in O-RAN Software Community

OSC Non-RealTime RIC project (NONRTRIC)

Update to O-RAN Alliance F2F meeting

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O-RAN SC: Non-RealTime RIC (NONRTRIC)

PTL: John Keeney – Ericsson Software Technology
Wiki: https://wiki.o-ran-sc.org/display/RICNR
JIRA: https://jira.o-ran-sc.org/projects/NONRTRIC/issues
Gerrit:
  - nonrtric: https://gerrit.o-ran-sc.org/r/admin/repos/q/filter:nonrtric (13 repos)
  - portal/nonrtric-controlpanel: https://gerrit.o-ran-sc.org/r/admin/repos/portal/nonrtric-controlpanel
  - sim/a1-interface: https://gerrit.o-ran-sc.org/r/admin/repos/sim/a1-interface
Docs:
  - nonrtric: https://docs.o-ran-sc.org/projects/o-ran-sc-nonrtric
  - portal/nonrtric-controlpanel: https://docs.o-ran-sc.org/projects/o-ran-sc-portal-nonrtric-controlpanel
  - sim/a1-interface: https://docs.o-ran-sc.org/projects/o-ran-sc-sim-a1-interface
Email List:
  - OSC "discuss" mailing list: https://lists.o-ran-sc.org/g/discuss: discuss@lists.o-ran-sc.org
  - Please use hashtag #nonrtric
Meetings: https://wiki.o-ran-sc.org/display/RICNR/Meetings
NONRTRIC: Architecture – OSC Release G
OSC G Release (Dec ‘22):

1: R1 Service Exposure & Management
2: R1 Data Management & Exposure
3: rApp Manager
5: Sample use cases (rApps)
6: Testing, Maintenance & Housekeeping
NONRTRIC: Dev. Priorities for OSC Release G (Dec '22)

1: R1 Service Exposure & Management

- Demonstrate Service Exposure enforcement enabling service isolation & exposure
  - Create/apply K8S configurations to isolate platform services and rApp microservices, then enforce secure controlled access between services
  - Demonstrate fine-grained service-specific access control & exposure enforcement for non-microservice parts of rApps
- Demonstrate 3GPP CAPIF-aligned Service Registry & Exposure Manager
  - Registry for service producers & consumers - support service discovery
  - Extend to trigger service sandboxing & exposure set-up at service registration time
  - Extend to provide necessary tokens/credentials etc. to access service (exposure) for authenticated consumers

R1 Specification in this area continues. All work here is pre-spec. We will evolve as specifications mature.
NONRTRIC: Dev. Priorities for OSC Release G (Dec '22)

2: R1 Data Management & Exposure

• Align with emerging proposals for R1-DME where possible
• R1 DME Data Catalog:
  • Extend current Information Coordinator Service to act as a Data Catalog
  • .. as proposed in O-RAN WG2 R1-DME discussions
• R1 Data delivery & filtering (kafka & REST)
  • Securely subscribe & manage subscription to filtered data (e.g. PM data, data for ML training, etc.)
  • Demonstrate O1-PM (RAN->rApp), A1-EI jobs (rApps->RAN) & arbitrary data jobs (e.g. rApp->rApp)
  • Demonstrate end-to-end flow of filtered O1-PM(Bulk) from RAN to rApp
NONRTRIC: Dev. Priorities for OSC Release G (Dec '22)

3: rApp Manager

• Build on ONAP “Automation Composition” model & platform to implement rApp use cases
• Demonstrate controlled on-boarding & LCM rApps with & without µService
  • Coordinate investigation with ONAP to investigate support for ASDs in rApp model & LCM
• Overlap with Service Exposure work to examine role of an rApp Manager to support controlled exposure & LCM of µService and non-µService parts of an rApp
  • ... requires use cases

O-RAN specification work continues. All work here is pre-spec. We will evolve as specifications mature.
NONRTRIC: Dev. Priorities for OSC Release G (Dec ’22)


• Small extensions to A1-Policy & A1-Enrichment-Information specs continue
• Southbound: A1 Interface
  • Evolve A1-Policy Management Service & Information Coordinator Service (A1-EI)
• Northbound: R1-A1(P) & R1-DME Interfaces
  • Evolve A1-Policy Management Service & Information Coordinator Service as R1 discussions continue
NONRTRIC: Dev. Priorities for OSC Release G (Dec ’22)

5: Sample use cases (rApps)

- Requirements Drivers for rApp/R1 development
- High degree of cross-project integration activity

1. O-DU Slice Assurance (RSAC Mandated)
2. O-RU-FH recovery (RSAC Mandated)
3. Healthcheck / Hello-World (RSAC Mandated)
4. ONAP 5G-SON (rApp/platform support for existing ONAP use case)
5. Grow existing set of “Hello World” test cases in NONRTRIC test suite
6: Testing, Maintenance & Housekeeping

- Continually growing Function Test & Integration Test environment (as capabilities are added)
- Integration
  - Support integration, deployment & configuration of SMO/Non-RT-RIC related functions & usecases in OSC Integration env.
- Project coordination, Backlog grooming, Documentation, Delivery, Reporting, Repo management, Quality assurance, Cross-project alignment, Community demos, O-RAN Standardization support, etc.