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2024 RIC Forum Guide

RIC Forum Vision

Authentic xApp and rApp demonstrations to showcase the current state of Open RAN RIC xApps and rApps.

1 Introduction

The National Telecommunications and Information Administration's Institute for Telecommunication Sciences (NTIA/ITS), in collaboration with U.S. Department of Defense FutureG & 5G Office, is hosting a Forum where radio access network (RAN) Intelligent Controller (RIC) Application (App) vendors and universities can demonstrate the current state of the Open RAN RIC App market.

The event provides a venue for the demonstration of viable RIC Apps and their use cases for the purposes of technical knowledge sharing. Presenters will showcase authentic RIC App demonstrations (not simulations) that measure and display the effects of their xApps or rApps on a 5G Open RAN network.

The 2024 RIC Forum will be held March 27–28, 2024, in Dallas-Fort Worth, Texas. Up to 10 proposals will be selected for developers to demonstrate Apps addressing the following use cases:

- Energy saving
- Traffic steering
- Wild card

This document describes the event schedule, App use cases, application process, and logistics.

2 Event Overview

The RIC Forum will consist of keynote presentations, panel sessions, and a RIC Showcase. A draft agenda (subject to change) is provided below.

Wednesday, March 27, 2024

Time	Topic	Lead
8:00 a.m.	Check-in	
8:30 a.m.	Welcome	
8:40 a.m.	Keynote #1	
8:55 a.m.	Presentation #1	Presenter #1
9:30 a.m.	Presentation #2	Presenter #2
10:05 a.m.	Break	
10:20 a.m.	Presentation #3	Presenter #3
10:55 a.m.	Presentation #4	Presenter #4
11:30 a.m.	Presentation #5	Presenter #5
12:05 p.m.	Lunch	
1:15 p.m.	Panel Session	Lab Panel
1:35 p.m.	Panel Session	Technical Panel
2:35 p.m.	RIC Showcase	Presenters #1–5
5:00 p.m.	End / Networking	

Thursday, March 28, 2024

Time	Topic	Lead
8:00 a.m.	Welcome	
8:10 a.m.	Keynote #2	
8:25 a.m.	Presentation #6	Presenter #6
9:00 a.m.	Presentation #7	Presenter #7
9:35 a.m.	Break	
9:50 a.m.	Presentation #8	Presenter #8
10:25 a.m.	Presentation #9	Presenter #9
11:00 a.m.	Presentation #10	Presenter #10
11:35 a.m.	Lunch	
12:45 a.m.	Panel Session	Stakeholders
1:45 p.m.	RIC Showcase	Presenters #6–10
4:00 p.m.	End / Networking	

Each presenter will have approximately 30 minutes to describe their App and demonstrate its impact on a 5G network.

Presentations must be live (real-time) and include the following elements:

- A main presenter appearing in-person (on the stage)
- Live video stream of the App deployment(s)
- Actual, non-simulated RIC and App(s)
- Dynamic network changes triggered by the RIC App

The following elements are not allowed in presentations:

- On-site equipment (other than a laptop)
- Simulated RIC and App(s)
- Video recordings

The live video stream of the App deployment(s) may include remote presenters.

Presentations will be live streamed to remote attendees of the RIC Forum.

Each presenter will also participate in a RIC Showcase, to facilitate interaction between presenters and attendees one-on-one. Various types of showcase elements are acceptable *(e.g.*, in-person equipment, live streams from remote locations, and supplemental video recordings). Each Showcase time slot is limited to five presenters, to provide attendees with ample time to speak with each presenter.

The RIC Forum will include three panel discussions and two keynote speeches. Keynote speakers will be announced at a later date.

3 App Use Cases

3.1 Presenter Guidance

One goal of the RIC Forum is to demonstrate Apps with use cases that address specific Department of Defense (DoD) needs. Two of those App use cases, energy saving and traffic steering, have well-recognized commercial applications for Mobile Network Operators (MNOs) that continue to drive development and testing. To be considered by the selection committee, an applicant's submitted App must support either energy saving or traffic steering, or both. There is also a "wild card" category for alternative App use cases that an applicant deems relevant and viable. Note: Any applicants submitting proposals for a "wild card" App use case must describe the specific scenario and how it applies to DoD and enterprise use cases.

The RIC Forum will accept applications for Near–Real Time RIC and xApp(s), Non–Real Time RIC and rApp(s), or a combination of both. Using as reference the use cases identified in the National Spectrum Consortium (NSC) papers *Report on U.S. Resources and Capabilities for Accelerating Open RAN* and *Report on Open RAN Use Cases*, the RIC Forum will focus primarily on the following two options. Each presentation must focus on only one use case.

- Examples of energy saving
    - Power and use management to extend the operation of a remotely deployed, self-powered gNodeB (gNB). That is, optimizing for off-grid–deployed gNBs. This may include optimizations of system for battery life, solar availability, diesel generator fuel delivery schedules, wind power availability, and weather variability.
    - Power and use management of a portable (e.g., man-packable, airborne, or vehicle mounted) gNB to maximize its effectiveness on the tactical edge.

  - In both cases above, an additional goal would be lowering Size Weight and Power (SWaP).
  - Operation of low capacity gNB deployments. DoD operations may not have a high user count relative to a commercial system.
  - Optimization for different mixes of user endpoints between sensors, smartphones, and low-latency mobile applications, such as autonomous systems.

- Examples of traffic steering

  - Detection and response to interference, not just to traffic loading.
  - Inclusion of spectrum steering (*e.g.*, optimization of the tactical gNB to its present spectrum environment) as another dimension of traffic steering.
  - Directionality control to avoid interference or unintended reception (e.g., to prevent eavesdropping).
  - Demonstrations of the ability to move traffic in response to interference that may be due to the presence of incumbent systems, or due to intentional or unintentional emitters (*e.g.*, jamming sources).
  - Traffic steering to optimize quality of service (QoS) for specific users or different mixes of devices (*e.g.*, sensors, smartphones, autonomous systems).

- Wild card use case

  - Specify “wild card” to propose a use case that does not fit the above categories.
  - Describe the scenario and why it is relevant to DoD and commercial applications. Explain why your use case should be considered in addition to or instead of the above use cases.

Note: To provide data that an App employs in its decisions and actions, presenters may wish to consider data sources external to a 5G network—for example, spectrum sensor networks, such as those employed in Citizens Broadband Radio Service (CBRS) Spectrum Access Systems (SAS).

4 Application and Selection Process

4.1 Application

To apply, complete the application template (white paper) and send it via email to ricforum@ntia.gov. The application must be received by 7:00 p.m. Eastern Time (ET) on Monday, October 23, 2023. There is no fee to apply. This event is open to applicants world-wide; however, the following rules apply:

- An applicant may be a university or corporation; or an individual or group of individuals ("team").
- Multiple affiliations may partner on one application.
- An individual or team leader (if multiple individuals enter as a team) must be at least age 18 at the time of notification.

- There are no restrictions on the applicant country or place of origin, with the exception that individuals or entities on the Entity List in Supplement No. 4 to Part 744 of the U.S. Export Administration Regulations (EAR) are barred from participating in the RIC Forum.

4.2 Selection Process

A panel of technical experts will evaluate white paper applications using a 5-level Likert scale, where 5 = excellent, 4 = good, 3 = fair, 2 = poor, and 1 = bad. The overall application rating will be computed as the average across all evaluators and criteria.

The following criteria will be used to select participating presenters:

- High application ratings
- Meets the definition of the App use case options defined in Section 3.1: energy saving, traffic steering, or wild card
- [*If selecting the wild card option*] Relevance to and feasibility of achieving DoD and enterprise goals
- Diversity of solutions (*e.g.*, technical strategy, network demonstration)
- Realism of the network and traffic data used to showcase the App
- Adherence to goals of Open RAN technology (*e.g.*, different vendor for RIC and App is desirable)

The selected presenters will be announced publicly by Monday, November 13, 2023.

All remaining qualified applicants, if any, will be placed on a waiting list. If a selected presenter cannot attend due to unforeseen events, a waitlisted applicant may be invited to participate.

5 Logistics

5.1 Location

The specific venue for this event will be announced in the fall of 2023. It is anticipated to be a ballroom-type space in a hotel in the Dallas-Fort Worth metropolitan area.

5.2 Travel/Lodging

A block of hotel rooms will be made available to all attendees. Attendees are responsible for paying their own travel and lodging expenses. Academic presenters may request assistance from the RIC Forum organizers to cover travel costs.

5.3 Registration/Food

The event is free to attend. However, only light beverages (*e.g.*, water, tea) will be provided. This is due in part to U.S. government regulations on agencies providing food for government conference attendees. Food for purchase will be available near the venue.

5.4 Inbound Shipping

Shipping in advance of the event is highly encouraged. More details on shipping location, tracking, and storage will be provided at a later date. Academic presenters may request assistance from the RIC Forum organizers to cover shipping costs.

5.5 Setup

The RIC Showcase room will be available the day before the Forum (Tuesday, March 26) for equipment setup. Each developer's demonstration area will include two tables, two chairs, up to 7500 W power, 100 Mbps internet bandwidth, and a large monitor (two can be made available upon request). Once the final list of presenters is announced, ITS will work with each developer to tailor their Showcase area to their needs.

5.6 Teardown

The RIC Showcase room will be available for packing from 4:00 p.m. ET on Thursday, March 28, until 12:00 p.m. ET on Friday, March 29.

5.7 Outbound Shipping

The host venue is expected to provide assistance with outbound shipping. More details will be provided at a later date.