RIC Applications (RICAPP)

PTL | Summary | Project | Weekly Meeting | Demos | Jira for RICAPP | PTL | Summary | Project | Weekly Meeting | Demos | Jira for RICAPP

- Architecture
- Current xApps
- Repos and committers
- RICAPP Meetings
- Writing xApps
- On-boarding and Deploying xApps
- xApp evaluation using simulators (Amber Release)
- xApp ideas

RIC Applications	
PTL	Sunil Kumar Singh
Summary	This includes open source sample xAPPs and platform applications that can we used for integration, testing, and demonstrations.
Project	Repos and Committers ric-app/ad - Anomaly Detection xApp (C-D release - HCL) ric-app/bouncer - xApp for RIC performance benchmarking (D release - HCL) ric-app/hw - HelloWorld C++ demo xApp including a demo E2 SM (HelloWorld SM) (B-D releases - AT&T) ric-app/hw-go - HelloWorld go demo xApp (D release - Samsung) ric-app/hw-python - HelloWorld python demo xApp (D release - Samsung) ric-app/lp - Load Prediction xApp (D release - CCMC) ric-app/mc - Measurement Campaign xApp (B-D release - AT&T) - note: This xApp depends on input feed (X2 events in protobuf format) that is currently not provided by any open source xApp. (Note: com/gs-lite contains the GS-Lite stream processing library used by MC). ric-app/qp - QoE Prediction xApp (trivial versions in earlier releases, real ML in D release - AT&T, HCL) ric-app/ts - Traffic Steering xApp (B-E releases - AT&T, UTFPR) ric-app/kpimon-go - KPI Monitor xApp uses an extended version of the E2 KPM SM to collect metrics from E2 Node (C-D releases - Samsung) scp/ric-app/ssp - Signal Storm Protection xApp (on hold due to patent issue - Samsung) **NOTES**: • Repositories that are indicated as **scp/** repositories are repositories maintained by the ORAN Alliance and licensed under the ORAN Specification Code Project under licenses that are different from the licensing of the ORAN Software Community Project. For questions concerning an ORAN Specification Code Project code or documentation, please contact the ORAN Alliance. • The following repos are obsolete and no more maintained: ric-app/admin, ric-app/kpimon, ric-app/ml

Weekly Meeting

Project meetings

RIC project meetings are open to the public and held on Tuesdays at noon UTC. World Time Zone Map

Zoom 1 Info:

- Join from PC, Mac, Linux, iOS, or Android: https://zoom.us/j/9644759813
- Meeting ID for dial-in: **9644759813**

UTC-time	**Tuesday 13:00**	https://zoom.us/j/9644759813
New York (EDT / UTC-4)	Tuesday 09:00	+1 669 900 6833 // +1 646 558 8656 // 855 880 1246 (Toll Free) // 877 369 0926 (Toll Free)
Paris (CEST / UTC+2)	Tuesday 15:00	+33 7 5678 4048 // +33 1 8288 0188 // 805 082 588 (Toll Free)
Beijing (CST / UTC+8)	Tuesday 21:00	+86 10 87833177 // +86 10 53876330 // 400 616 8835 (Toll Free) // 400 669 9381 (Toll Free)
Tokyo (JST / UTC+9)	Tuesday 22:00	+81 524 564 439 // +81 3 4578 1488 // 0 800 100 5040 (Toll Free)
Helsinki (EEST / UTC+3)	Tuesday 16:00	+358 341092129
Other international numbers	World Time Zone Map	International numbers available: https://zoom.us/u/acyy3hylQi

Demos

Pendulum Video of Near Real Time RIC in Action

MC-xAPP demo

Your browser does not support the HTML5 video element

Jira for RICAPP

Key	Summary	T	Created	Updated	Due	Assignee	Reporter	P	Status	Resolution
RICAPP-224	F1AP gnbDuConfigurationUpdate parser		Oct 03, 2023	Oct 03, 2023		SANDEEP KUMAR	SANDEEP KUMAR		TO DO	Unresolved
RICAPP-222	ASN decoders for kpm ran function description and asn encoders for action definition format1 and format3		Oct 03, 2023	Oct 03, 2023		SANDEEP KUMAR	SANDEEP KUMAR		TO DO	Unresolved
RICAPP-216	This bouncer is written using C++ xApp framework functionality and have E2AP 2.0 , E2SM KPM 2.0 , E2SM RC 1.0.3 support.		Jun 28, 2023	Jun 28, 2023		SANDEEP KUMAR	SANDEEP KUMAR		DONE	Done
RICAPP-106	Hello World xApp docker image missing		May 18, 2020	Dec 01, 2022		Shraboni Jana	Lusheng Ji		IN PROGRESS	Unresolved
RICAPP-186	TS crashes on startup with CrashLoopBackOff		Feb 09, 2022	Feb 09, 2022		Alexandre Huff	Alexandre Huff		DONE	Done
RICAPP-178	RMR is not forwarding messages from E2T to E2M		Oct 19, 2021	Oct 19, 2021		Unassigned	dhiraj verma		DONE	Done
RICAPP-116	Traffic Steering Bronze flow does not complete		Jun 08, 2020	Oct 06, 2020		Ron Shacham	Lusheng Ji		DONE	Done

RICAPP-115	Hello World crashes when processing policy CREATE message		Jun 03, 2020	Jun 11, 2020	Shraboni Jana	Lusheng Ji	⏫	DONE	Done
RICAPP-110	Hello World xApp fail to start		May 26, 2020	Jun 08, 2020	Shraboni Jana	Lusheng Ji	⏫	DONE	Done
RICAPP-113	QP xApp descriptor rmr data port name not recognized		Jun 02, 2020	Jun 04, 2020	Chris Lott	Lusheng Ji	⏫	DONE	Done
RICAPP-114	QP Driver xApp descriptor rmr data port name not recognized		Jun 02, 2020	Jun 04, 2020	Chris Lott	Lusheng Ji	⏫	DONE	Done
RICAPP-104	QP driver xapp needs to process sdl get return values		May 12, 2020	May 12, 2020	Chris Lott	Ron Shacham	⏫	DONE	Done
RICAPP-48	RICAPP Alarm list		Jan 21, 2020	Apr 28, 2020	Matti Hiltunen	Matti Hiltunen	⏫	TO DO	Unresolved
RICAPP-232	hw-rust xapp for i-release		Dec 19, 2023	Feb 12, 2024	Abhijit Gadgil	SUNIL SINGH	^	IN PROGRESS	Unresolved
RICAPP-111	Change QP xApp port to 4560		Jun 02, 2020	Dec 18, 2023	Chris Lott	Ron Shacham	^	IN PROGRESS	Unresolved
RICAPP-107	Mock QoE predictor (qp) xApp for demo and testing purposes		May 21, 2020	Dec 18, 2023	Chris Lott	Ron Shacham	^	IN PROGRESS	Unresolved
RICAPP-108	QPDriver needs static route table, xapp-descriptor needs updating		May 21, 2020	Dec 18, 2023	Chris Lott	Ron Shacham	^	TO DO	Unresolved
RICAPP-19	Traffic steering xApp		Jan 07, 2020	Oct 30, 2023	Ron Shacham	Matti Hiltunen	^	IN PROGRESS	Unresolved
RICAPP-47	QP Driver xApp		Jan 21, 2020	Jan 20, 2023	Tommy Carpenter	Matti Hiltunen	^	DONE	Done
RICAPP-179	Some important bug fixes and debug support need to be inherited from Submgr Master branch to Dawn branch		Nov 05, 2021	Jan 20, 2023	Anssi Mannila	Anssi Mannila	^	DONE	Done

Showing 20 out of 234 issues

Recent space activity



SUNIL SINGH
RICAPP Meetings updated Mar 26, 2024 view change



Hamed Ahmadi
InFlux DB schema (E Release) commented Feb 20, 2024

Thoralf Czichy
RICAPP Meetings updated Dec 05, 2023 view change

Space contributors

- SUNIL SINGH (2 days ago)
- Thoralf Czichy (114 days ago)
- subhash kumar singh (556 days ago)
- Matti Hiltunen (646 days ago)
- Alexandre Huff (827 days ago)
- ...

Chirag Gandhi
KPI Monitor xApp commented Apr 16, 2023

jacem jacem
Writing xApps commented Apr 04, 2023

PTL | Summary | Project | Weekly Meeting | Demos | Jira for RICAPP | PTL | Summary | Project | Weekly Meeting | Demos | Jira for RICAPP

- Architecture
- Current xApps
- Repos and committers
- RICAPP Meetings
- Writing xApps
- On-boarding and Deploying xApps
- xApp evaluation using simulators (Amber Release)
- xApp ideas

RIC Applications	
PTL	Sunil Kumar Singh
Summary	This includes open source sample xAPPs and platform applications that can we used for integration, testing, and demonstrations.
Project	Repos and Committers ric-app/ad - Anomaly Detection xApp (C-D release - HCL) ric-app/bouncer - xApp for RIC performance benchmarking (D release - HCL) ric-app/hw - HelloWorld C++ demo xApp including a demo E2 SM (HelloWorld SM) (B-D releases - AT&T) ric-app/hw-go - HelloWorld go demo xApp (D release - Samsung) ric-app/hw-python - HelloWorld python demo xApp (D release - Samsung) ric-app/lp - Load Prediction xApp (D release - CCMC) ric-app/mc - Measurement Campaign xApp (B-D release - AT&T) - note: This xApp depends on input feed (X2 events in protobuf format) that is currently not provided by any open source xApp. (Note: com/gs-lite contains the GS-Lite stream processing library used by MC). ric-app/qp - QoE Prediction xApp (trivial versions in earlier releases, real ML in D release - AT&T, HCL) ric-app/qp-driver -QP driver xApp - collects input data for QP from SDL layer (B-C releases - functionality merged in the QP xApp starting D Release - AT&T, HCL) ric-app/ts - Traffic Steering xApp (B-D releases - AT&T, Parana University) scp/ric-app/kpimon - KPI Monitor xApp uses an extended version of the E2 KPM SM to collect metrics from E2 Node (C-D releases - Samsung) scp/ric-app/ssp - Signal Storm Protection xApp (on hold due to patent issue - Samsung) **NOTES**: • Repositories that are indicated as **scp/** repositories are repositories maintained by the ORAN Alliance and licensed under the ORAN Specification Code Project under licenses that are different from the licensing of the ORAN Software Community Project. For questions concerning an ORAN Specification Code Project code or documentation, please contact the ORAN Alliance. • The following repos are obsolete and no more maintained: ric-app/admin, ric-app/kpimon, ric-app/ml

Weekly Meeting

Project meetings

RIC project meetings are open to the public and held on Tuesdays at noon UTC. World Time Zone Map

Zoom 1 Info:

- Join from PC, Mac, Linux, iOS, or Android: https://zoom.us/j/9644759813
- Meeting ID for dial-in: **9644759813**

UTC-time	**Tuesday 13:00**	https://zoom.us/j/9644759813
New York (EDT / UTC-4)	Tuesday 09:00	+1 669 900 6833 // +1 646 558 8656 // 855 880 1246 (Toll Free) // 877 369 0926 (Toll Free)
Paris (CEST / UTC+2)	Tuesday 15:00	+33 7 5678 4048 // +33 1 8288 0188 // 805 082 588 (Toll Free)
Beijing (CST / UTC+8)	Tuesday 21:00	+86 10 87833177 // +86 10 53876330 // 400 616 8835 (Toll Free) // 400 669 9381 (Toll Free)
Tokyo (JST / UTC+9)	Tuesday 22:00	+81 524 564 439 // +81 3 4578 1488 // 0 800 100 5040 (Toll Free)
Helsinki (EEST / UTC+3)	Tuesday 16:00	+358 341092129
Other international numbers	World Time Zone Map	International numbers available: https://zoom.us/u/acyy3hylQi

Demos

Pendulum Video of Near Real Time RIC in Action

MC-xAPP demo

Your browser does not support the HTML5 video element

Jira for RICAPP

Key	Summary	T	Created	Updated	Due	Assignee	Reporter	P	Status	Resolution
RICAPP-224	F1AP gnbDuConfigurationUpdate parser		Oct 03, 2023	Oct 03, 2023		SANDEEP KUMAR	SANDEEP KUMAR		TO DO	Unresolved
RICAPP-222	ASN decoders for kpm ran function description and asn encoders for action definition format1 and format3		Oct 03, 2023	Oct 03, 2023		SANDEEP KUMAR	SANDEEP KUMAR		TO DO	Unresolved
RICAPP-216	This bouncer is written using C++ xApp framework functionality and have E2AP 2.0 , E2SM KPM 2.0 , E2SM RC 1.0.3 support.		Jun 28, 2023	Jun 28, 2023		SANDEEP KUMAR	SANDEEP KUMAR		DONE	Done
RICAPP-106	Hello World xApp docker image missing		May 18, 2020	Dec 01, 2022		Shraboni Jana	Lusheng Ji		IN PROGRESS	Unresolved
RICAPP-186	TS crashes on startup with CrashLoopBackOff		Feb 09, 2022	Feb 09, 2022		Alexandre Huff	Alexandre Huff		DONE	Done
RICAPP-178	RMR is not forwarding messages from E2T to E2M		Oct 19, 2021	Oct 19, 2021		Unassigned	dhiraj verma		DONE	Done
RICAPP-116	Traffic Steering Bronze flow does not complete		Jun 08, 2020	Oct 06, 2020		Ron Shacham	Lusheng Ji		DONE	Done

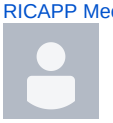
RICAPP-115	Hello World crashes when processing policy CREATE message		Jun 03, 2020	Jun 11, 2020	Shraboni Jana	Lusheng Ji		DONE	Done
RICAPP-110	Hello World xApp fail to start		May 26, 2020	Jun 08, 2020	Shraboni Jana	Lusheng Ji		DONE	Done
RICAPP-113	QP xApp descriptor rmr data port name not recognized		Jun 02, 2020	Jun 04, 2020	Chris Lott	Lusheng Ji		DONE	Done
RICAPP-114	QP Driver xApp descriptor rmr data port name not recognized		Jun 02, 2020	Jun 04, 2020	Chris Lott	Lusheng Ji		DONE	Done
RICAPP-104	QP driver xapp needs to process sdl get return values		May 12, 2020	May 12, 2020	Chris Lott	Ron Shacham		DONE	Done
RICAPP-48	RICAPP Alarm list		Jan 21, 2020	Apr 28, 2020	Matti Hiltunen	Matti Hiltunen		TO DO	Unresolved
RICAPP-232	hw-rust xapp for i-release		Dec 19, 2023	Feb 12, 2024	Abhijit Gadgil	SUNIL SINGH		IN PROGRESS	Unresolved
RICAPP-111	Change QP xApp port to 4560		Jun 02, 2020	Dec 18, 2023	Chris Lott	Ron Shacham		IN PROGRESS	Unresolved
RICAPP-107	Mock QoE predictor (qp) xApp for demo and testing purposes		May 21, 2020	Dec 18, 2023	Chris Lott	Ron Shacham		IN PROGRESS	Unresolved
RICAPP-108	QPDriver needs static route table, xapp-descriptor needs updating		May 21, 2020	Dec 18, 2023	Chris Lott	Ron Shacham		TO DO	Unresolved
RICAPP-19	Traffic steering xApp		Jan 07, 2020	Oct 30, 2023	Ron Shacham	Matti Hiltunen		IN PROGRESS	Unresolved
RICAPP-47	QP Driver xApp		Jan 21, 2020	Jan 20, 2023	Tommy Carpenter	Matti Hiltunen		DONE	Done
RICAPP-179	Some important bug fixes and debug support need to be inherited from Submgr Master branch to Dawn branch		Nov 05, 2021	Jan 20, 2023	Anssi Mannila	Anssi Mannila		DONE	Done

Showing 20 out of 234 issues

Recent space activity



SUNIL SINGH
RICAPP Meetings updated Mar 26, 2024 view change



Hamed Ahmadi
InFlux DB schema (E Release) commented Feb 20, 2024

Thoralf Czichy
RICAPP Meetings updated Dec 05, 2023 view change

Space contributors

- SUNIL SINGH (2 days ago)
- Thoralf Czichy (114 days ago)
- subhash kumar singh (556 days ago)
- Matti Hiltunen (646 days ago)
- Alexandre Huff (827 days ago)
- ...



Chirag Gandhi
KPI Monitor xApp commented Apr 16, 2023



jacem jacem
Writing xApps commented Apr 04, 2023